NOTES ON SOME ORIENTAL SAPROMYZID FLIES (DIPTERA), WITH PARTICULAR REFERENCE TO THE PHILIPPINE SPECIES

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For many years I have taken a great interest in the family Sapromyzidæ, collecting the species assiduously in Scotland, where they occur in great numbers, and during the past decade I have devoted much time to a consideration of the generic groupings. Recently I published several papers on the American and Australian forms, and at my request Dr. J. C. H. de Meijere has submitted for examination types or paratypes of most of his Oriental species,[1] along with specimens of a number of other species from the same region described by different authors. This material, coupled with a large collection from Formosa sent to me by Dr. Walther Horn, has enabled me to arrive at a definite conclusion as to the generic positions of these species and the specific identities of many Philippine species submitted to me for identification by the late Prof. C. F. Baker.

The work on the genera of the family by Dr. F. Hendel [2] appeared at a time when generic concepts in the group were much broader than they are to-day, a fact clearly shown by the acceptance then of but 22 valid genera, as compared with 76 in the same author's generic synopsis published in 1925. Unfortunately the broad concepts laid down in 1908 have influenced most workers on the family so that species have been described in the genus *Lauxania* which have very little in common with the genotype. While I do not favor the erection of a large number of monobasic or poorly represented genera in any group, I feel that a careful consideration of structural characters by a competent taxonomist ought to result in a well ordered segregation of related forms in genera, or subgenera, the distribution of which throughout the various faunal regions can not fail to be of interest and value in affording data upon the relationships and

[1] For list, see Tijds. Ento., vol. 60, 1918, p. 345.
[2] Genera Insectorum, fasc. 68, 1908.

origin of these groups, and their connections with others found in the same faunal regions. In other words, I consider that a genus should contain closely related forms, how close being a matter for decision by a number of competent workers, and not a heterogenous collection of diverse forms, so that the occurrence of a species of such genus will have more significance than where a member of a heterogenous concept occurs.

The most comprehensive paper on Philippine Sapromyzidae is that by Dr. R. Frey which appeared in 1927.[3] It contains records of 54 species, 27 of them new to science. I have gone carefully over this paper and have succeeded in identifying a number of the species in the material in my possession, but several are yet unknown to me. In the present paper I indicate certain synonyms as the result of Doctor Frey's work and also relocate some of his species. The genera unknown to me are briefly discussed also.

While all of the systematic entomological work on Philippine species has up to the present been done by European and American workers, it is certain that in the near future some capable Philippine students will undertake this work; and in the present paper I have attempted to utilize the most dependable characters for the separation of the species so that even without access to type specimens it may be possible for a careful and efficient worker to confidently identify those included in this paper.

The reason for introducing so many extralimital species in the key is that, though as yet unrecorded from the Philippines, it is not at all certain that many of them do not occur there, because the collecting that has been done has been by no means intensive, and the fact that about twice as many species are known from the Nederland Indies as are recorded from the Philippines appears to me a safe premise from which to deduce that many more Philippine species have yet to be discovered, and probably many of these will be identical with species occurring in adjacent or even distant islands in the same region.

The figures of the male hypopigia are presented as the most dependable specific indices, and this series is the most extensive ever published for this family.

The original intention was to publish this paper in the Philippine Journal of Science, but this plan was changed by the death of Prof. C. F. Baker and the acquisition of his collection by the United States National Museum. To make the collection as complete as possible, I waive any claim to the type specimens of the Philippine species collected by Professor Baker and deposit them in the National Collection.

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[3] Acta Soc. Faun. Flor. Fennica, vol. 56, No. 8, pp. 44.

Subfamily CELYPHINAE

This group has usually been given distinct family rank, but I consider it is merely a subfamily of Sapromyzidae, distinguished by the very large convex scutellum, which usually covers the entire abdomen and gives the insects a beetle-like appearance, and is with one exception without marginal or discal bristles. With the discovery of the new genus *Idiocelyphus* described herein the claim to family distinction of the group is very much weakened as in it the scutellum is very much smaller than usual and it has four well-developed bristles. Many of the species are metallic blue or violet colored, quite distinct from any in the other subfamily, but some are almost entirely testaceous, a color predominating in the Sapromyzinae. I have recently briefly discussed the family characters in "Entomologische Mittelungen" (1927, page 160), but did not at that time have access to the new genus above mentioned. In addition to the characters mentioned in that paper it appears worth noting that while there are no distinct bristles on the frontal field there are four very fine minute hairs which appear to me to represent the two pairs of orbital bristles usually present in Sapromyzinae. One of these pairs of fine hairs is situated near the margin on upper half and represents the upper pair of orbitals, while the other is near anterior margin and each hair is about as far from eye as from each other and incurved. In this subfamily we find also the only case where the cross vein separating the discal and posterior basal cells of the wings is absent in Sapromyzidae, but it is not invariably so in the group, being confined to three species previously placed in *Spaniocelyphus* and the single species of *Idiocelyphus*. The presence or absence of this cross vein has been utilized as a generic character in related families and is generally considered as of considerable importance in classification so I have deemed it proper to separate the three species first above mentioned from the typical forms of *Spaniocelyphus*.

The five genera at present known to me may be distinguished as below.

KEY TO THE GENERA

1. A distinct cross vein separating the discal and posterior basal cells of wing ---------- 2.
   No cross vein separating discal and posterior basal cells of wings ---------- 4.
2. Arista very slightly widened at base, the widest portion not more than one-fourth as wide as third antennal segment; vertex rounded; postvertical bristles absent ---------- **Paracelyphus** Bigot.
   Artista very conspicuously widened on more than its basal half, leaf-like, its greatest width almost, or quite, as great as that of third antennal segment ---------- 3.

3. Vertex rounded, postvertical bristles absent or microscopic. **Celyphus** Dalmann.
   Vertex sharply carinate above and slightly raised behind ocelli; postvertical bristles usually represented by microscopic hairs.. **Spaniocelyphus** Hendel.
4. Scutellum much longer than thorax, and without bristles; mesonotum without central bristles and the margin with but two, which are confined to the postsutural section..... **Acelyphus**, new genus.
   Scutellum not longer than thorax, with two bristles on disk near base and two on margin near apex; mesonotum with several pairs of dorsocentral and one pair of acrostichal bristles in front of scutellum, the humeral and notopleural bristles also present..... **Idiocelyphus**, new genus.

ACELYPHUS, new genus

Generic characters.—Most closely related to *Spaniocelyphus*, distinguished from it by the presence of a well-developed pair of postvertical bristles, the lack of a cross vein separating the discal and posterior basal cells of wing, and the much broader abdomen, which has the tergites evenly rounded over sides and without a slight suture about at the part where they curve over. In *Spaniocelyphus* there is a rather evident suture on each side of each tergite which divide it into three almost equal portions.

Genotype.—Acelyphus politus, new species.

There are but three species known to me, which may be distinguished as below.

KEY TO THE SPECIES

1. Entire disk of scutellum and mesonotum with dense erect miscroscopic pile; length of scutellum not over 1.5 as long as its greatest width; hypopygium as Figures 5 and 6..... stigmaticus (Hendel).
   Scutellum without dense erect microscopic pile, its length distinctly over 1.5 as long as its greatest width..... 2.
2. Scutellum smooth except for the widely separated piliferous depressions; hypopygium as in Figures 9 and 10; mesonotum without microscopic erect pile except on extreme anterior margin..... politus, new species.
   Scutellum with regular close stipplelike punctures in addition to the piliferous depressions; mesonotum with dense erect microscopic pile on entire surface..... repletus, new species.

ACELYPHUS POLITUS, new species

Male and female.—Prevailing color tawny yellow, deeply overlaid with metallic violet-blue. Legs tawny yellow. Apices of palpi deep black.

Frons about 1.5 as wide as long, the vertex not very sharply carinate, almost rounded except just behind the ocelli and near each eye, the two pairs of verticals and the postverticals well developed; flattened part of the arista fully twice as long as the apical hairlike parts; palpi much dilated at apices, spoon shaped. Scutellum without pronounced punctures, with almost imperceptible

shallow depressions at bases of the very fine sparse hairs which occur over the entire surface. Hypopygium as Figures 9 and 10. Inner cross vein of wing a little beyond middle of discal cell; marginal cell not as wide as submarginal at apex, the second vein not very abruptly bent forward at apex.

Length, 4 mm.

Type.—Male, *allotype*, and 14 *paratypes*, Mount Maquiling, Luzon (C. F. Baker).

Type.—Cat. No. 41084, U.S.N.M.

Two of the paratypes are immature and appear to the naked eye almost uniform fulvous in color, but there is a very evident violet-blue tinge on the scutellum when they are viewed from behind.

ACELYPHUS REPLETUS, new species

Male and female.—A darker species than the preceding one, more purplish than violet blue, with the same colored palpi.

Head similar to *politus*. A very striking character apart from the double punctuation of the scutellum, is the presence of dense erect miscroscopic pile on the mesonotum. Similar pile occurs on the mesonotum and entire scutellum of *stigmaticus*, but there is no indication of such pile on the scutellum, and only a vestige of it on the extreme anterior margin of mesonotum, in *politus*. Inner cross vein beyond middle of discal cell; second vein rather abruptly bent forward at apex.

Length, 4 mm.

Type.—Female, Wai Lima, Sumatra, 1912 (Karny and Siebers), in author's collection; *allotype*, male, and three *paratypes*, Singapore, Straits Settlements (C. F. Baker), in United States National Museum.

Allotype.—Male, Cat. No. 41087, U.S.N.M.

There is a possibility, but no certainty, that some of the smaller species of this group described as belonging to *Celyphus* may be referable here.

ACELYPHUS STIGMATICUS (Hendel)

Spaniocelyphus stigmaticus HENDEL, Suppl. Ent., No. 3, 1914, p. 93.

This species has occurred only in Formosa up to the present, but it may be found in other sections of the Orient. It was described when the genus *Spaniocelyphus* was erected, but *scutatus* Wiedemann was selected as the genotype.

IDIOCELYPHUS, new genus

General characters.—Head similar to that of *Spaniocelyphus*, the vertex rather sharp, with four bristles and a pair of small, but distinct, postverticals; oscellars lacking; antennae as in *Spaniocelyphus;*

clypeus projecting more than in the other genera, angular in profile. Thorax with one pair of quite well developed prescutellar dorsocentrals, and from one to three much shorter pairs in front of them, becoming progressively shorter anteriorly; the other bristles consist of: 1 humeral, 2 notopleurals, 1 supra-alar, 2 postalars, one pair of prescutellar acrostichals, and one mesopleural; scutellum not longer than thorax on dorsum, gradually widened from base to middle, from there slightly narrowed, and broadly rounded at apex; basal bristles situated on disk, separated by about one-third of the width of scutellum, and not over one-fourth from base, the apical pair situated on extreme edge about one-third from apex, and upwardly directed. Legs as in the other genera, but the hind tibia has a strong, black, slightly curved, apical ventral spur which is almost as long as hind metatarsus. Wings as in the other genera, the discal cell not separated from basal cell by a cross vein.

Genotype.—The following species.

IDIOCELYPHUS BAKERI, new species

Shining brownish testaceous; clypeus violet-blue in front; dorsum of head and thorax with a violet tinge, the abdomen more bluish; all bristles black. Palpi with their apices narrowly black. Wings yellowish hyaline. Halteres yellow.

Frons smooth, subquadrate, with a pair of fine convergent hairs close to middle of disk; basal segment of antennae a little longer than second, bare below, third slightly tapered apically, about 1.5 as long as first and second combined; basal wide portion of arista not as wide as third antennal segment and a little longer than it and also than apical hair-like portion; cheek higher than width of third antennal segment; palpi not dilated. Thorax smooth on dorsum, with fine black hairs on mesonotum; scutellum smooth, without hairs, but with dense microscopic pile which is present also on thorax. Fore femur with two or three posteroventral bristles.

Length, 3.5 mm.

Type and three *paratypes*, Mount Maquiling, Luzon, P. I. (C. F. Baker).

Named in honor of the collector.

Type.—Male, Cat. No. 41073, U.S.N.M.

This genus supplies a connecting link between the Celyphinae and Sapromyzinae, the small size of the scutellum, and the presence of scutellar bristles, showing an approach to some genera in the latter subfamily. No other species in Celyphinae has scutellar bristles.

Genus PARCELYPHUS Bigot

I have before me two species of this genus, one of which appears to be undescribed. They may be distinguished as below.

KEY TO THE SPECIES

1. Metallic dark blue species, with decided violet tinge, legs black, bases of tarsi yellow; scutellum with a shallow furrow on each side at base in addition to the one along marginal rim, the surface elsewhere smooth; posterior notopleural bristle present_____ sumatrensis van der Wulp.

Testaceous yellow species, the legs concolorous, scutellum with an almost imperceptible bluish tinge, without furrow at base except the marginal one, its surface irregularly rugose, or coarsely wrinkled; posterior notopleural bristle absent_____ testaceus, new species.

PARACELYPHUS SUMATRENSIS van der Wulp

Paracelyphus sumatrensis VAN DER WULP, Compt. rend. Soc. Ent. Belg., p. 297, 1884.

This species must be very similar to *hyacinthus* Bigot, differing mainly in the color of the antennae, which are entirely black as against the yellow color of those of *hyacinthus*, though the third segment in the latter is brownish or fuscous.

Length, 6 mm.

Locality, Wai Lima, Sumatra, 1921 (Karny and Siebers).

PARACELYPHUS TESTACEUS, new species

This species is about the same size and build as the preceding one, but is readily distinguished by the general testaceous color, even the antennae and legs being pale. While the pale metatarsi of *sumatrensis* are distinctly thickened they are not at all thickened in *testaceus*. Other characters as in the key.

Length, 6 mm, width 4 mm.

Type, Mount Maquiling, Luzon (C. F. Baker); *paratypes*, one, Manila, (G. Compere); four, Tangcolan, Bukidnon; two, Butuan, Mindanao; one Mount Banahao; one, Davao, Mindanao; one, Samar Island; all in the Philippines (C. F. Baker).

Type.—Cat. No. 41087, U.S.N.M.

The first mentioned paratype has a label on it bearing the notation 'This is always to be noticed round orange or lemon trees. Compere.'

Genus CELYPHUS Dalmann

Until recently all the species of the subfamily except those assigned to the preceding genus were located in *Celyphus*, but a few years ago Hendel proposed the removal of certain species to the new genus *Spaniocelyphus*, and this division is adopted herein as indicated in the generic key. It is not possible, however, to definitely decide the generic position of some of the previously described species. Those I now have before me, or can definitely locate, are included

in the keys given herein. All the material in the Baker collection, now a part of the collections of the United States National Museum, has been used in connection with this paper.

KEY TO THE SPECIES

1. Frons with only the outer, outwardly curved, vertical bristles present, and these very weak; thickened part of arista about 1.5 as long as third antennal segment, the apical hairlike portion about one-third as long as the wide portion; head and thorax fulvous yellow, scutellum violet-blue, slightly wrinkled on sides ..... **bisetosus**, new species.
   Frons with four quite strong and distinct vertical bristles; the wide part of arista but little longer than third antennal segment, the apical hair-like part fully half as long as the wide part; scutellum distinctly wrinkled on most of its surface ..... 2.
2. Face with a black mark between each antenna and eye ..... 3.
   Face without a black mark between each antenna and eye ..... 4.
3. Both thorax and abdomen fulvous yellow, with distinct violet tinge; apical portion of arista not as long as the wide basal part, the latter not as wide as third antennal segment ..... **puncticeps**, new species.
   Thorax fulvous yellow, with slight violet or blue tinge, the scutellum entirely metallic blue; apical part of arista at least as long as the wide basal part, the latter as wide as third antennal segment ..... **aurora** Karsch.
4. Species entirely testaceous in color, no conspicuous blue tinge present; cheek with a blue mark below eye ..... **difficilis** Malloch.
   Thorax fulvous, with a distinct blue tinge, scutellum metallic blue. **obtectus** Dalmann.

CELYPHUS PUNCTICEPS, new species

Male and female.—Testaceous yellow, with a very pronounced violet-blue tinge on entire dorsum; the face with a deep black spot between each antenna and eye.

Structurally similar to *obtectus*, but the arista narrower at base. Scutellum irregularly punctured basally as in *obtectus*.

Length, 5 mm.

Type, male, *allotype*, and two *paratypes*, Singapore, Straits Settlements; *paratypes*, one, Penang; two, Porto Princess, Palawan (C. F. Baker.

Type.—Cat. No. 41083, U.S.N.M.

This species appears to be close to *karschi* Bigot, but without an examination of the type specimens it is impossible to be certain of most of the species described by the older authors.

CELYPHUS BISETOSUS, new species

Female.—Head and thorax shining fulvous yellow, with a faint bluish tinge; scutellum dark metallic violet-blue; abdomen dark castaneous above, yellow below. Antennae fulvous yellow; palpi yellow at bases, deep black on the apical broadened portions. Legs fulvous yellow, femora darker, fore pair brown. Wings yellowish hyaline. Halteres dull yellow.

Vertex with a small outwardly curved bristle close to upper angle of each eye; antennae about as long as width of frons, basal segment slender, and about twice as long as second, third a little longer than first, as wide as, and about two-thirds as long as, the broad part of arista, the hairlike portion of latter but little longer than second antennal segment; cheek about half as high as eye; palpi much broadened, leaflike, at apices. Thorax smooth. Scutellum wrinkled at base. Legs normal.

Length, 5.75 mm.

Type.—Cotschin, India. (In author's collection.)

CELYPHUS DIFFICILIS Malloch

Celyphus difficilis MALLOCH, Ent. Mitt., vol. 16, p. 161, 1927.

This species was described in the paper of mine already referred to herein, and is known only from Formosa.

CELYPHUS AURORA Karsch

Celyphus aurora KARSCH, Berlin, Ent. Zeitschr., vol. 28, p. 173, 1883.

This species is brownish testaceous, with a conspicuous metallic blue sheen on face and frons, all of dorsum of thorax and scutellum, most pronounced on latter. The most noticeable character for distinguishing the species is the deep black mark on each side of face between antenna and eye. The arista is as broad on basal portion as width of third antennal segment and the apical hairlike portion is as long as it and quite long haired. The frons in the specimen before me is not depressed, but almost even and rounded on vertical margin, and the four vertical bristles are well developed. The abdomen and fore femora are testaceous. The scutellum is wrinkled on basal half only.

Length, 5.5 mm.

Locality, Langkat, Sumatra (Deut. Ent. Inst.).

CELYPHUS OBTECTUS Dalmann

Celyphus obtectus DALMANN, Anal. Ent., p. 32, 1823.

This species is very similar to the preceding one, but the head and thorax are more pronouncedly yellow testaceous and less tinged with blue, the scutellum is deeper blue and there are no dark spots on face. The frons is slightly depressed at vertex and the arista is different in structure, as stated in the key.

Length, 4.5 mm.

Locality, Ceylon (Dr. W. Horn).

Genus SPANIOCELYPHUS Hendel

This genus is limited in this paper to those species which have a sharp vertex without well-developed postvertical bristles, and the discal and posterior basal cells of wing separated by a distinct cross vein. In addition to these characters all species available to me have the palpi much less dilated at apices than have the species of *Acelyphus*, and there is a pseudosuture on each side of each abdominal tergite which divides the surface into three almost equal portions and causes them to bend rather sharply over, almost angularly so, in sharp contradistinction to those of *Acelyphus*. The frons is also shorter than it is in *Acelyphus*.

There appear to be five species in the material before me only three of which I consider are already described, though it is possible some of the others are among those so imperfectly described by some of the older authors that they can not be reliably identified.

Genotype.—Celyphus scutatus Wiedemann.

KEY TO THE SPECIES

1. Scutellum shallowly and coarsely pitted on almost the entire surface, only the the apex smooth ..... 2.
   Scutellum entirely smooth or with but faint traces of shallow pitting basally ..... 3.
2. Apical section of superior forceps of male hypopygium long, tapering to tip (figs. 1 and 2); Philippine species ..... **scutatus** Wiedemann.
   Apical section of superior forceps of male hypopygium short and broad, somewhat boot shaped (figs. 2 and 3); Formosan species. **formosanus** Malloch.
3. Anterior margin of thorax, including the humeri and propleura, fulvous; hypopygium of male as Figures 4 and 5 ..... **sumatranus**, new species.
   Thorax entirely metallic blue, not fulvous anteriorly except sometimes on the propleura ..... 4.
4. Face and frons entirely deep metallic blue ..... **nigrocoeruleus**, new species.
   Head fulvous, with blue tinge on face and frons ..... **laevis** van der Wulp?

SPANIOCELYPHUS SCUTATUS Wiedemann

Spaniocelyphus scutatus WIEDEMANN Aussereur. Zweifl. Ins., vol. 2, p. 601, 1830.

I have before me many specimens of this species from the Philippines, and present figures of the male hypopygium of one of these specimens. (Figs. 1, 2.)

Localities, Manila; Mount Maquiling, Luzon; Davao, Mindanao; and Tangcolan, Bukidnon (C. F. Baker); Rangoon, Burma, March, 1927 (F. J. Meggitt.)

SPANIOCELYPHUS FORMOSANUS Malloch

Spaniocelyphus formosanus MALLOCH, Ent. Mitt. vol. 16, p. 161, 1927.

This Formosan species was described in my paper already referred to herein. I present now figures of the hypopygium of the male. (Figs. 3, 4.)

SPANIOCELYPHUS SUMATRANUS, new species

Male.—Head shining fulvous yellow, with a slight purplish tinge on face and frons, no dark marks on face or cheeks; third antennal segment darkened above; palpi slightly darkened at apices. Thorax metallic blue, dorsum deep blue, humeral angles and extreme anterior margin fulvous; scutellum metallic blue, deep purple from base to beyond middle on disk, the apex blue. Abdomen black, with an aeneous or purplish tinge. Legs dull fulvous or tawny yellow, the mid and hind femora infuscated. Wings yellowish hyaline, quite noticeably yellow at apices.

Vertical margin quite sharp, ocelli in carina; the type has no vertical bristles remaining, but in the paratype there is a weak inner vertical on each side; face concave below middle in profile; labrum quite broadly exposed; antennae distinctly shorter than width of frons, basal segment hardly longer than second, third about as long as basal two combined; flat part of arista fully as long as third segment and about as long as the apical hairlike portion. Scutellum smooth except for a few widely separated shallow piliferous punctures. Inner cross vein of wing close to middle of discal cell; marginal cell as wide as submarginal at apex, the second vein almost rectangularly bent forward at apex. Hypopygium as Figures 7 and 8.

Length, 4 mm.

Type, Wai Lima, Sumatra, 1921 (Karny and Siebers); *paratype*, Kepahiang, Sumatra, 1,960 feet, November-December, 1925 (H. C. Kellers.)

Type.—In author's collection.

Paratype.—Cat. No. 41085, U.S.N.M.

SPANIOCELYPHUS LAEVIS (van der Wulp)

Celyphus laevis VAN DER WULP, *Tijdschr.* v. Ent., vol. 22, p. 53, 1881.

Specimens which appear to belong to this species are very similar to *scutatus*, differing essentially only in having the mesonotum and scutellum less punctate, the latter being evidently punctate only at base laterally.

Localities, one specimen, Los Banos, 13 specimens, Mount Maquiling, Luzon (C. F. Baker).

SPANIOCELYPHUS NIGROCOERULEUS, new species

Female.—Head glossy black, with a blue tinge, frons at anterior lateral angles, cheeks, and lower part of occiput, brownish yellow, upper occiput dark brown; antennae, aristae, and palpi, fuscous. Thorax and scutellum glossy black, with a blue tinge, abdomen concolorous. Legs brownish yellow, coxae and mid and hind femora

fuscous, tibiae triannulate with fuscous, most evident on hind pair. Wings grayish hyaline. Knobs of halteres fuscous.

Frons about twice as wide as long, raised behind and in front centrally, all vertical bristles present but small; facial depression a little below middle; arista with the basal portion about twice as long as apical. Thorax and scutellum absolutely smooth, each with some scattered microscopic hairs. Fifth abdominal sternite about twice as wide as long. Wings normal.

Length, 4.5 mm.

Type.—Cat. No. 41086, U.S.N.M. Cuernos Mountains, Negros (C. F. Baker).

This is the darkest colored species now known to me. If *nigrifacies* de Meijere belongs to this genus it may be distinguished from it by the much smaller size, 2.5 mm. in length, and the dark steel-blue color of the frons.

Subfamily SAPROMYZINAE

Dr. F. Hendel has recently published a key to the genera of the entire family exclusive of the Celyphinae,[4] and Dr. R. Frey has in addition to this published a generic key to the species known to him[5] so that it appears almost unnecessary to give a generic key in this paper. There are however some differences of opinion as to the validity of certain of the genera and some elucidation is required to make matters clear to anyone intending to make a more intensive study of the Philippine or Oriental fauna.

Doctor Frey erected 6 new genera in his paper and so far as possible I have dealt with these in the text following. Certain of Doctor Hendel's genera I can not accept, and one or two others are given a different interpretation so that some notes at least are required to explain these points.

Genus STEGANOPSIS de Meijere

This genus in the strict sense is confined to the Eastern Hemisphere. There is a closely related form in the Americas and to make clear the distinctions between the two segregates I include the latter in the key given below. I incline to the opinion that *Steganolauxania* is entitled to no more than subgeneric distinction. All species of the genus known to me are included in the key.

KEY TO THE SPECIES

1. Anterior pair of orbital bristles directed backward; frons uniformly shining; face smooth and glossy, convex above middle (America).
   Subgenus **Steganolauxania** Frey, **latipennis** Coquillett.
   Anterior pair of orbital bristles directed inward; frons not uniformly shining ..... 2.

[4] Encycl. Entomol., Diptera, vol. 2, fasc. 3, 1925.
[5] Acta Soc. Faun. Flor. Fennica, vol. 56, No. 8, 1927.

2. Longest hairs on arista not as long as width of third antennal segment; thorax with two series of intradorsocentral hairs; palpi black at apices; wings browned, more noticeably so along costa, their apices usually narrowly whitish from tip of second to tip of fourth vein; frons dull yellow, with a large velvety black ocellar mark, and brownish marks at bases of the orbital bristles; face usually with a large violet-black spot on each side; halteres yellow ..... 3.

Longest hairs on arista more than twice as long as width of third antennal segment ..... 5.

3. Wing tip not whitish hyaline; face unspotted; second wing vein not very close to costa ..... divergens Frey.

Wing tip whitish hyaline; face spotted; second wing vein close to costa .. 4.

4. Abdomen largely glossy blackish; fore tibia at middle, and hind femora basally, more or less darkened; hypopygium as Figure 11. melanogaster (Thomson).

Abdomen normally glossy testaceous yellow; fore tibia and hind femora not darkened; hypopygium as figure 12 ..... convergens Hendel.

5. Wings entirely yellowish hyaline; head yellow, marked as in the two next preceding species, but the palpi entirely yellow; legs yellow, a small dark preapical ventral mark on fore femur, and the apical four segments of fore tarsi dark; face smooth and glossy, evenly convex; intradorsocentral hairs biseriate ..... minor (de Meijere).

Wings conspicuously infuscated; thorax and abdomen black, pleura with, or without, a large yellow mark above; legs more extensively black; palpi and halteres fuscous; intradorsocentral hairs quadriseriate ..... 6.

6. Head largely yellow, face entirely so; second wing vein not closer to costa than to third vein ..... divergens Frey.

Head largely or entirely black, face not entirely yellow; second wing vein nearer to costa than to third vein ..... 7.

7. Thoracic dorsum and pleura black, the former with series of spots and vittae, and the pleura with spots and streaks, of black color on a gray-dusted ground; face not rugose; wings fuscous, with irregular hyaline markings on disk, a rather large round hyaline spot beyond middle of first posterior cell, and a small one below it, and the narrow apices most conspicuous; inner cross vein about one-third from apex of discal cell (Australia) ..... annulipes Malloch.

Thoracic dorsum black, with or without gray dusted vittae, but without black dots; wings not marked as above, the inner cross vein close to middle of discal cell ..... 8.

8. Fore legs entirely black ..... 9.

Fore legs not entirely black ..... 10.

9. Mesopleura yellow; apices of wings not hyaline ..... bakeri Bezzi.

Mesopleura black; apices of wings hyaline ..... aterrima Frey.

10. Frons opaque yellow, the ocellar spot and a spot on each side at upper eye margin opaque black; tip of wing not hyaline; mid and hind tibiae yellow. pusilla Frey.

Frons black; other characters not as above ..... 11.

11. Center of frons entirely glossy black, ocellar spot and a large mark at anterior margin on each side velvety black; apex of wing hyaline; mid and hind tibiae pale, with black annuli; pleura and fore metatarsus black. buruensis Malloch.

Center of frons not entirely glossy; pleura on upper half, and the fore metatarsus yellow ..... 12.

12. Thoracic dorsum unicolorous black, sometimes faintly gray vittate anteriorly ..... **pupicola de Meijere.**
Thoracic dorsum with 10 or 12 complete narrow pale gray-dusted vittae. **multilineata de Meijere.**

STEGANOPSIS CONVERGENS Hendel

Steganopsis convergens HENDEL, Suppl. Ent., vol. 2, p. 102, 1913.

I suspected that this species might be the same as *melanogaster* (Thomson), but the male hypopygia are entirely distinct as shown in Figures 11 and 12. The only other distinctions are those listed in the foregoing key.

I have not seen *melanogaster* from outside of Australia, but *convergens* occurs in Formosa and the Philippines. I have a male from Cuernos Mountains, Negros (C. F. Baker).

It appears evident to me that *Pachycerina apicalis* Bezzi is this species. Frey considers that the first name for the species is *curvinervis* (Thomson).

STEGANOPSIS MINOR (de Meijere)

Steganopsis minor DE MEIJERE, Tijdschr. v. Ent., vol. 57, p. 237, 1914 (*Pachycerina*).

I have examined a specimen of this species sent to me by Doctor de Meijere and find that it belongs to this genus and not to *Pachycerina* in which it was described, and in which Frey retained it. It is known to me from Java, but Frey records it from Banahao, Luzon.

STEGANOPSIS BAKERI Bezzi

Steganopsis bakeri BEZZI, Philippine Journ. Sci., vol. 8, p. 315, 1913.

This species is unknown to me. Recorded only from Los Banos, P. I.

STEGANOPSIS DIVERGENS Frey

Steganopsis divergens FREY, Acta Soc. pro Fauna et Flora Fennica, vol. 56, No. 8, p. 10, 1927.

As I have not seen this species and am uncertain of some of the characters of it I have inserted it in two places in the key.

Described from Mount Banahao, Luzon.

STEGANOPSIS PUSILLA Frey

Steganopsis pusilla FREY, Acta Soc. pro Fauna et Flora Fennica, vol. 56, No. 8, p. 13, 1927.

Described from Limay, Luzon.

STEGANOPSIS MULTILINEATA de Meijere

Steganopsis multilineata DE MEIJERE, Tijdschr. v. Ent., vol. 67, 1924, p. 53.

I have examined the type specimen of this species sent to me by Doctor de Meijere and consider *undecimlineata* Frey is synonymous with it.

Frey described his species from Banahao, Luzon, and Kolambugan, Leite.

This species and *pupicola* occur also in Ceylon (W. Horn).

Genus LYPEROMYIA Frey

This genus is unknown to me. It is closely allied to *Steganopsis*, being distinguished mainly by the presence of four equally strong pairs of dorsocentral bristles, one sternopleural, shorter second wing vein, and narrower frontal triangle.

Genotype.—Lyperomyia calopus Frey.

LYPEROMYIA CALOPUS Frey

Lyperomyia calopus FREY, Acta Soc. pro Fauna et Flora Fennica, vol. 56, No. 8, p. 15, 1927.

A black species, with gray-dusted spot on each orbit near antennae, yellow third antennal segment, and black fore legs, the latter with coxae, and a broad ring at middle of femora, yellow, apical third of tibia white, mid and hind legs yellow, coxae entirely, mid femora with exception of apices, hind femora entirely, and apices of tarsi, black. Wings yellow, bases brown, veins somewhat brownish clouded.

Described from Mount Polis, Luzon.

Genus XANGELINA Walker

This genus has a peculiarly shaped head (Figs. 13 and 14), the frons being very steep, the face broad and evenly, though slightly, convex and glossy, and the divisions below the eye exceptionally distinct. The anterior orbitals in *basiguttata* are almost indistinguishable microscopic hairs, and are incurved, while the ocellars are lacking. The thorax has four pairs of dorsocentral bristles and acrostichals, the anterior pair of each being in front of the suture; there are two distinct sternopleurals; and the wing is as in *Sapromyza* Fallen. There is no anteroventral comb on the fore femur, and all the tibiae have the preapical dorsal bristle distinct, the one on hind pair being long and fine.

XANGELINA BASIGUTTATA Walker

Xangelina basiguttata WALKER, Proc. Linn. Soc. London, vol. 1, p. 32, 1857.

A shining testaceous yellow species, with two black spots on apex of scutellum, and a black mark at apex of auxiliary vein of wing; inner cross vein of wing faintly clouded.

Length, 4.5 mm.

I have seen the species from Java, submitted by Doctor de Meijere.

Hendel does not include this genus in his key, in which it runs to *Sciasmomyia* Hendel, though evidently distinct from it, the latter having two pairs of equally long backwardly bent orbitals and a pair of strong ocellars, in addition to other differentiating characters. The African species *Lauxania submetallica* Loew belongs to *Xangelina*.

PLEURIGONA, new genus

Generic characters.—This genus will run down in Hendel's key to genera to *Ichthyomyia* de Meijere, but it is readily distinguished therefrom by the small conical projection of the propleura directly over the fore coxa, the lack of a propleural bristle, the much less prominent face, biemarginate vertical margin, lack of ocellar bristles, and the pronounced downward curvature of the apical section of the fourth wing vein. This last character distinguishes it also from any other genus of the family known to me at this time.

Genotype.—The following species.

PLEURIGONA CURVINERVIS, new species

Male.—Shining testaceous yellow, the type specimen greasy but with evidences of two dark submedian lines on anterior half of mesonotum. Wings quite noticeably yellow, veins brown, apices of first, second, and third, darker, but without a surrounding cloud.

Frons about 1.5 as wide as long in center, the vertex sharp and with a shallow emargination on each side of the ocellar triangle, posterior ocelli on edge of vertex, the four vertical and two postvertical bristles quite well developed, ocellars lacking, both pairs of orbitals very weak and short, upper pair at almost their own length from eyes, the shorter anterior pair even farther from eyes; orbits not differentiated; surface of frons bare; face broad and evenly convex, shining, about 1.75 as high as frons; cheek about two-thirds as high as eye, the hairs fine and rather long; basal antennal segment very short, third about twice as long as wide; arista with sparse hairs, the longest about as long as width of third antennal segment; palpi slender. Thorax seen from the side pronouncedly arched, with 1 or 2+3 or 4 pairs of dorsocentrals and 2+4 pairs of acrostichals; the presutural, notopleural, and humeral bristles, quite fine, no sternopleural visible in type; scutellum pronouncedly convex, with four fine bristles. Abdomen short, the hypopygium small. Fore femur without an anteroventral comb; fore and hind tibiae with the preapical dorsal bristle quite long and fine, the mid tibia with that bristle short and strong. Inner cross vein at middle of discal cell; outer cross vein close to middle of wing; marginal cell rather wide and uniform, the second vein roundly curved forward at apex; third

vein straight; fourth very conspicuously curved down from near middle of its apical section, the first posterior cell fully twice as wide at apex as at outer cross vein; costa as in *Sapromyza*.

Length, 5 mm.

Type.—Cat. No. 41075, U.S.N.M. Mount Maquiling, Luzon (C. F. Baker).

The head in this genus is very similar to that of *Xangelina* Walker, but in the latter the frons is not so sharp, nor is it biemarginate, and the upper orbital is long and strong, while the stigmatal region is also normal, with a strong bristle, and the fourth vein is but slightly divergent from third apically.

Genus AMPHICYPHUS de Meijere

This monobasic genus is readily distinguished from any other in the subfamily by the presence of an unequal pair of strong curved black spurs at apex of hind tibia on its anteroventral side, the longest of which is fully half as long as the basal segment of hind tarsus. The hairs on the entire insect including those on the legs are very long and almost bristle-like, the third antennal segment tapers to the apex, the arista is short haired, the anterior orbital bristles are incurved, the scutellum is slightly tumid at bases of the apical bristles, and the costa has only fine hairs, no short black setulae being evident.

AMPHICYPHUS RETICULATUS (Doleschal)

Ensina reticulatus DOLESCHAL, Natur. Tijdschr v. Nederl. Indie., p. 412, 1856.

Locality, Mount Maquiling, Luzon (C. F. Baker).

This species has been recorded from the Dutch East Indies and Australia, but this is the first record of its occurrence in the Philippines.

EUPROSOPOMYIA, new genus

Generic characters.—Head in profile as in Figure 15, the face shining, and with a subconical production, below the level of which there is a transverse impression. The frons is similar to that of *Prosopomyia* Loew, having both the pairs of orbitals bent backward, and the surface with rather dense short hairs. In the type the ocellars are bent backward, but this may be due to injury. From *Prosopomyia*, to which genus it runs in Hendel's recent key, the genus may be distinguished by the presence of several strong bristles close to the lower hind margin of each eye. These bristles are not on a callosity, which is the case in *Australina* Malloch, and the latter genus has the frons more than twice as long as wide and

sparsely haired. The apices of the wings in the type specimen are damaged, but I believe the costa is the same as in *Homoneura*.

Genotype.—The following species.

EUPROSOPOMYIA MACULOSA, new species

Male.—Head testaceous, frons opaque, with ocellar spot brown, and two brown submedian stripes which curve round the anterior extremities of the orbits and extend between those and the eyes; face glossy, with 9 black spots. One between and above the antennae, one between each antenna and eye, and a larger one between and below antennae, all velvety, a large glossy one on lower central part of convexity, and two on each side of it, the lower one not so glossy as the upper; a brown streak along the transverse impression; antennae and palpi testaceous yellow. Ground color of thorax testaceous, largely obscured by fuscous markings, the dorsum with six subcontiguous vittae and the lateral margins fuscous, humeri with a central dark mark; pleurae largely fuscous; scutellum dark on each side and in center. Wings fuscous, with a pale mark on each side of inner cross vein, and the hind margin narrowly hyaline, the hyaline part bidentate in second posterior cell, and very narrow round apex of wing. Halteres yellow.

Frons about 1.5 as long as wide, slightly widened anteriorly; arista sparsely short haired. Thorax with three pairs of postsutural dorsocentrals and about six series of intradorsocentral hairs, the median two series strong posteriorly; scutellum subconvex; both sternopleurals strong. Abdomen stout; hypopygium as Figure 16. Legs stout; fore femur with an anteroventral comb and short, rather irregular posteroventral bristles; mid tibia with one long and one short apical ventral bristle; hind femur with some preapical anteroventral setulae; fore and hind tibiae with short preapical dorsal bristle. Inner cross vein a little beyond middle of discal cell; penultimate section of fourth vein about four-fifths as long as ultimate section.

Length, 4 mm.

Type.—Cat. No. 41601, U.S.N.M. Cuernos Mountains, Negros (C. F. Baker).

Genus PROSOPOPHORELLA de Meijere

This genus is readily distinguished by the shape of the head, which when seen from in front is as Figure 17, the process on middle of lower margin of face, and the angular production of the cheeks being unique in this family. Another outstanding character is the presence of short hairs on the disk of the scutellum. Both pairs of orbitals are bent backward, and, though the face is noticeably convex, it is not at all shining but entirely dull. The ocellars are long, postver-

ticals short, and the arista short haired. Thorax with three pairs of postsutural dorsocentral bristles and one sternopleural. Legs rather long, fore and mid femora very much attenuated apically, the former with an anteroventral comb, fore and mid tibiae and tarsi slender, the preapical dorsal bristle distinct only on the hind tibiae.

The genus is monobasic.

PROSOPOPHORELLA BUCCATA (de Meijere)

Prosopophora buccata DE MEIJERE, Tijdschr. v. Ent., vol. 53, p. 144, 1910.

Male.—Head testaceous. Thorax black, shining, pleura brownisb and with some patches of whitish dust. Abdomen shining black. Legs testaceous. Wings ıfuscous, ẃith the following hyaline marks: An almost complete fascia proximad of the inner cross vein, a short fascia from costa to fourth vein proximad of outer cross vein, a quadrate mark at middle of first posterior cell, and another just proximad of it in second posterior cell, a mark over outer cross vein, and one at wing tip.

Length, 4.5 mm.

Habitat, Nederland Indies.

Genus PACHYCERINA Macquart

The characters cited by Hendel in his recently published key to the genera for the separation of this genus from *Physogenia* Macquart consist of the position of the anterior pair of orbitals, more closely placed than posterior pair in *Physogenia* and equally widely separated in *Pachycerina*, the differently haired aristae, shortly and densely haired in *Pachycerina* and longer and more sparsely haired in *Physogenia*, with slight differences in the form of face and occiput. Only the first mentioned character appears to be of any use for distinguishing the genera as represented in the species before me. The only species of *Physogenia* which I have available now is *ferruginea* Schiner, and in the male of it the mid tarsus has the basal segment thickened, which is not the case in any of the species of *Pachycerina* available to me now. In my paper on Sumatran Sapromyzidae, which has already been referred to, I separated *leucochaeta* de Meijere from the other species previously included in this genus, erecting the genus *Melanopachycerina* for it and two other species. Doctor Frey retained this species in *Pachycerina*, but he also retained *Steganopsis minor* (de Meijere) in the genus so that he did not apparently have a very clear concept of the generic characters.

I can not determine to what genus *Pachycerina cyaneostoma* Frey belongs, but am doubtful if it belongs here. The following key will serve to distinguish the species of the genus now known to me from the Orient.

KEY TO THE SPECIES

1. Hairs on arista rather dense and not erect, the longest not as long as basal width of third antennal segment ..... 2.
   Hairs on arista not dense, erect, and the longest very distinctly longer than basal width of third antennal segment ..... 5.
2. Face without dark discal spots; a deep black velvety spot between each antenna and eye; third antennal segment shorter than usual, not over twice as long as its basal width; seventh abdominal tergite with a pair of black spots ..... sigillata (de Meijere).
   Face with a pair of dark discal spots above middle; no black spot between each antenna and eye; third antennal segment elongate, about four times as long as its basal width ..... 3.
3. Thorax with two series of intradorsocentral hairs, and four or five fine brownish lines on dorsum; fore femur entirely yellow; abdomen with a pair of small round black spots on seventh tergite ..... javana Macquart.
   Thorax with four series of intradorsocentral hairs, and ten fine black lines on dorsum; fore femur with a black apical mark; abdomen without a pair of black spots on seventh tergite ..... 4.
4. Abdomen broadly deep black on dorsum, narrowly yellow on sides. decemlineata de Meijere.
   Abdomen entirely yellow ..... flaviventris, new species.
5. Facial spots very small and pale brown in color; wings quite intensely yellow along costa ..... sexlineata de Meijere
   Facial spots larger and deep black; wings not more noticeably yellow along costa than elsewhere ..... parvipunctata de Meijere.

PACHYCERINA JAVANA Macquart

Pachycerina javana MACQUART Dipt. Exot., Suppl. 4, p. 274, 1850 (*Sapromyza*).

The largest species known to occur in the Orient, readily distinguished from its allies by the characters listed in the key. The male has a pair of very long basal hypogygial forceps which taper apically, and extend forward below abdomen to well in front of its middle.

I have before me a series of specimens from Baguio, Benquet Province (C. F. Baker).

PACHYCERINA FLAVIVENTRIS, new species

This species is very similar to *decemlineata*, being the same in color except in having abdomen entirely yellow. The details in the above key are sufficient to insure its recognition.

The outer partial black vitta behind suture of thorax, as well as the two black pleural vittae, so distinct in *decemlineata*, are not visible in the type of *flaviventris*, and the pair of black spots on face are smaller than in that species.

Type.—Cat. No. 41697, U.S.N.M.; Mount Maquiling, Luzon Province (C. F. Baker).

The other species listed in key I have seen only from Java; the species *sigillata* was described as a *Lauxania*, but an examination of

the type sent to me by Doctor de Meijere discloses that it belongs here. I do not know *latifrons* Thomson which Frey lists in this genus. He suggests its being the same as *ocellaris* Kertesz, but does not record it from the Philippines. As already indicated I have not seen *cyaneostoma* Frey, which is a black species with a large yellow pleural mark and pale bases to the tarsi, and suspect that it does not belong here. It is from the Philippines.

Genus MELANOPACHYCERINA Malloch

This genus is distinguished from *Pachycerina* by the possession of 4 pairs of dorsocentral bristles (1+3), and a preapical anteroventral comb on the fore tibia. There are three species assigned to the genus as below.

KEY TO THE SPECIES

1. Ocellar bristles quite large, divergent and forwardly directed; frontal orbits glossy black, sharply differentiated from the velvety black interfrontalia, narrowest just in front of ocelli, and gradually widened to anterior margin at which point each is wider than the space between them; fore femur with at least two bristles on apical half of posteroventral surface. leucochaeta (de Meijere).

   Ocellar bristles indistinguishable; interfrontalia not narrower at anterior margin than in front of ocelli; fore femur with one posteroventral bristle 2.

2. Face bicolored, black and fulvous, with a conspicuous transverse depression on lower half; posthumeral bristle about as long as the dorsocentrals; fore legs entirely black except the coxae and knees albiseta (Hendel).

   Face entirely glossy black, evenly and prominently convex; posthumeral bristle very short and weak; fore legs with apical halves of tibiae, and the coxae, white, the femora yellow at bases, darkened at apices, basal halves of tibiae and all of tarsi black varipes Malloch.

MELANOPACHYCERINA LEUCOCHAETA (de Meijere)

Pachycerina leucochaeta DE MEIJERE, Tijdschr. v. Ent., vol. 57, p. 256, 1914.

This species occurs in the Nederland Indies and Formosa, and Doctor Frey records it from the Philippines.

It is a conspicuous black species about 5 mm. in length, with hyaline wings.

The other species occur in the Nederland Indies and should be found in the Philippines. I consider *Camptoprosopella angustilimbata* de Meijere is *albiseta*.

Genus LAUXANIELLA Malloch

One species from Formosa has been assigned here, *tenuicornis* Malloch. It is very similar in general appearance to *M. leucochaeta*.

Genus CALLICLYPEUS Frey

This genus was distinguished from *Pachycerina* by Frey principally by the shorter third antennal segment, which is not much over twice as long as wide, and were it not for the fact that the description further indicates that the anterior pair of dorsocentral bristles is proximad of the suture I would not hesitate to consider it merely a synonym of that genus as *Pachycerina sigillata* has a similar short third antennal segment. However, without having access to the genotype, I can not determine the status of the concept and accept it provisionally as distinct.

CALLICLYPEUS BOETTCHERI Frey

Calliclypeus boettcheri FREY, Acta Soc. pro Fauna et Flora Fennica, vol. 56, No. 8, p. 19, 1927.

This species appears to be very similar to *Pachycerina sigillata* de Meijere in color, the principal distinction lying in the absence of the pair of black marks on the face in *sigillata*, only the spots between the antennae and eyes being present. The black spots on the seventh abdominal tergite of *sigillata* are not present in *boettcheri*, though the abdomen is darkened apically.

Locality.—Mumungan, Mindanao.

Genus PHOBETICOMYIA Kertresz

This genus was erected for the reception of *Lauxania lunifera* de Meijere. Frey, in his recent paper on Philippine Sapromyzidae, has included also *Lauxania ornatipennis* de Meijere, and *boettcheri* Frey. The latter is the type species of *Poecilomyza* a new subgenus of *Homoneura* erected in the present paper, and *ornatipennis* belongs to another subgenus of *Homoneura*.

I have besides *lunifera* another Philippine species of *Phobeticomyia* before me.

The genus is readily distinguished by the slight, but evident, central bulbosity of the glossy face, backwardly directed anterior orbitals, and wing venation. The latter is similar to that of *Homoneura*.

KEY TO THE SPECIES

Wing with a hyaline fascia at extreme apex, and about four hyaline spots in second posterior cell in addition to the one on outer cross vein (fig. 18). **lunifera** (de Meijere).

With a hyaline fascia at about its own width from apex, and no hyaline spots in second posterior cell except the one on outer cross vein (fig. 19). **preapicalis**, new species.

PHOBETICOMYIA LUNIFERA (de Meijere)

Phobeticomyia lunifera DE MEIJERE, Tijdschr v. Ent., vol. 53, p. 134, 1910 (*Lauxania*).

Frey records this species from Port Bauga, Mindanao.

PHOBETICOMYIA PREAPICALIS, new species

In addition to the wing markings being distinct this species differs from *lunifera* in having the face glossy black, with a faint central vertical yellow stripe. In *lunifera* the face is glossy black, with the entire lower margin, and a broad V-shaped mark on middle, yellow.

Length, 3.5 mm.

Type, male, and one *paratype*, both lacking the third antennal segment, Singapore (C. F. Baker). In author's collection.

Genus TRYPANEOIDES Tonnoir and Malloch

This genus is distinguished from all others except *Melinomyia* Kertesz by the presence of two strong bristles on the mesopleura, one on upper hind margin, and the other, which is directed downward, close to middle of disk (the latter sometimes duplicated). From *Melinomyia* it may be distinguished by the presence of two sternopleurals, and the conspicuously marked wings. The costa is the same as in *Homoneura*, both orbitals are bent backward, the thorax has 1+3 strong pairs of dorsocentral and acrostichal bristles, the abdomen has sparse erect setulose hairs, and at apices of all tergites quite conspicuous bristles; there is always at least one conspicuous bristle a little beyond middle of anteroventral surface of hind femur; the intra-alar bristle is weak or absent; and the fore femur has no anteroventral comb.

The genotype, *guttata* Tonnoir and Malloch, is found in New Zealand. Below I present a key to the Oriental species known to me.

KEY TO THE SPECIES

1. Abdomen glossy black, entirely without markings; three clear spots on costa of wing between apices of first and second veins; arista rather long haired ..... 2.
   Abdomen brownish or fuscous, with conspicuous gray-dusted spots or markings, and sometimes with brown spots; at least four clear spots on costa between apices of first and second veins ..... 6.
2. Wing with at least two complete clear fasciae in addition to some isolated clear spots ..... 3.
   Wing without uninterrupted clear fasciae, sometimes with transverse series of clear spots ..... 5.
3. Wing with two clear fasciae, one just proximad of inner cross vein, and sometimes narrowly enclosing it, and the other at about its own width beyond outer cross vein, terminating on costa before apex of second vein, the clear mark on costa between the fasciae not extending over second vein ..... **bicincta** (de Meijere).
   Wing with three complete clear fasciae, the third one extending across the wing from apex of second vein, between the second one and the apical clear spot ..... 4.

4. A clear fasciform mark on costa between the first and second fasciae extending over third vein and faintly to fourth_____ sumatrana Malloch.
   No clear mark on costa between first and second fasciae.
   tricincta Malloch.
5. Wing with but two clear spots in submarginal cell, one close to inner cross vein and the other on costa between apices on second and third veins.
   pulchripennis (de Meijere).
   Wing with three clear spots in submarginal cell, the additional one being about one-third from apex of cell_____ fenestrata (de Meijere).
6. Not more than 10 dark spots and blotches between fifth vein and margin of wing_____ 7.
   Not less than 20 dark spots and blotches between fifth vein and margin of wing_____ 10.
7. Mesopleura with two discal bristles, one above the other_____ 8.
   Mesopleura with only one discal bristle_____ 9.
8. The four clear spots on costa between apices of first and second veins subequal in size and quite large; eight clear spots in first posterior cell including the large one at apex; length 2.5 mm____ tephritina (de Meijere).
   More than four clear spots in marginal cell, some very small and others much larger; about 12 clear spots in first submarginal cell including the large one at apex; length 4 mm_____ major, new species.
9. Two clear spots between apices of second and third veins against costa, the additional one touching tip of third vein and very small; 14 or 15 clear spots in first posterior cell, including the large one at apex.
   hyalipuncta Malloch.
   One clear spot between apices of second and third veins against costa; about eight clear spots in first posterior cell, including the large one at apex_____ octomaculata Malloch.
10. Wing narrower than usual, apical hind margin slightly irregular in outline, outer cross vein distinctly less than half as long as ultimate section of fourth vein, the pale markings on wing pale brown except the anterior portions of the spots along costa, and the narrow hind margin, which are clear_____ morio (de Meijere).
    Wing much broader than usual, conspicuously irregular in outline along apical hind margin, outer cross vein bisinuate, much more than half as long as ultimate section of fourth vein, all the pale wing markings clear, reduced to mere dots or short streaks on most of disk.
    trypetiformis (de Meijere).

I have seen but one species of this genus from the Philippines, the above key being based upon material supplied by Doctor de Meijere and collected by Mr. E. Jacobson in Java and Sumatra, and by Doctor Toxopeus in Buru. Possibly species of the genus were sent to the late Dr. M. Bezzi by Prof. C. F. Baker, as I know he did send material in this family and also Trypetidae, with which latter family the species may be readily confused.

Doctor Hendel has stated in a recent paper that *fenestrata* de Meijere belongs to the genus *Trypetisoma* Malloch. The latter has no discal mesopleural bristle and the costa is the same as in *Sapromyza*. There is a close resemblance between the wings of *Homoneura picta* (de Meijere) and *Homoneura trypetoptera* (Hendel), and cer-

tain species of *Trypaneoides*, but I have seen both these species and they belong to *Homoneura*.

Sapromyza perpunctata Lamb, from the Seychelles Islands is apparently a species of this genus related to *octopunctata* Malloch.

TRYPANEOIDES MAJOR, new species

Female.—Black, with dense yellowish gray dust and marked with dark brown. Face with a transverse brown line on upper part, and a biarcuate line of same color near lower margin which connects with a spot on each parafacial at vibrissal angle; antennae brownish yellow, darker below; palpi yellow, fuscous at apices; frons dark at bases of bristles. Thoracic dorsum and pleura with numerous irregular dark brown marks. Abdomen with rather large pale gray dusted spots on hind margins of tergites, a bristle in each spot except the central one which has a bristle on each side of it. Legs testaceous, femora largely brown basally, hind pair dark brown at extreme tips, hind tibia with a narrow dark brown band near base. Wings dark brown, with numerous hyaline spots, four rather large unequal spots and one or two much less distinct streaks in marginal cell, one spot against costa in apex of submarginal cell, preceded by 4 minute dots, then a large oblong spot the inner extremity of which is almost above outer cross vein, and a smaller spot near base of cell; first posterior cell with 12 or 13 clear spots, some very small; 4 or 5 spots in second posterior cell, and about 8 in discal cell, the latter mostly fused in pairs, none of the spots in either cell touching outer cross vein; the apical spot in anal field isolated, the others connected. Knobs of halteres dark brown.

Arista very short haired; orbitals strong. Thorax as in the other species, but the mesopleura with two discal bristles. Each tergite with one series of long erect bristles. Hind femur with about three anteroventral bristles on apical half.

Length, 4 mm.

Type.—Cat. No. 41132 U.S.N.M. Baguio, Benquet Province, P. I. (C. F. Baker).

The type bears the number 19391, which indicates that another specimen was sent to some specialist for identification.

Genus MINETTIA Robineau-Desvoidy

There are three segregates of this genus in the material before me. One of these (*Minettiella*, new subgenus) has but one well-developed sternopleural bristle, the arista pubescent or short haired, frons entirely shining, and the face flat. The other two segregates have two sternopleural bristles, the frons largely or entirely dull, the arista longer haired, and most of the species have the face with

two slight, but distinct, rounded elevations on lower part. The last two segregates I retain in *Minettia*, the one with the facial elevations being the typical form. In the following key I include all species known to me from the Orient, some of them being dependably separable only by the structure of the male hypopygia.

KEY TO THE SPECIES

1. Sternopleura with but one distinct bristle; arista pubescent or very short haired; frons entirely shining; face flat (**Minettiella, new subgenus**)__ 2.
   Sternopleura with two distinct bristles; arista distinctly haired, the shortest hairs at least as long as half the width of third antennal segment; frons largely dull; face usually with two slight elevations below_____ 3.
2. Dorsocentral bristles 1+3, acrostichals 1+4; mesopleura with an isolated anterior bristle below middle_____ **atratula** (de Meijere).
   Dorsocentral bristles 0+2 or 0+3, acrostichals the same; mesopleura without an isolated anterior bristle below middle_____ **atrata** (de Meijere).
3. Face without distinguishable elevations below; male hypopygium with a stout, tubelike, downwardly projecting central process, and without heavily chitinized inner hooks (Fig. 20); arista short haired_____ 4.
   Face with a quite noticeable elevation on each side below; male hypopygium without a tubelike central process, usually with two or four strong black chitinous hooks or spines, which are more or less curved, and generally asymmetrical; arista plumose_____ 5.
4. Large species, fully 5 mm. in length; hind tarsus with the basal segment slightly compressed in both sexes; ocellar bristles about twice as long as anterior orbitals_____ **tubifera** Malloch.
   Smaller species, about 4 mm. in length; hind tarsus with basal segment normal in structure in both sexes; ocellar bristles about as long as anterior orbitals_____ **hoozanensis** Malloch.
5. Bases of wings quite distinctly blackened; knobs of halteres black; abdomen with distinct dusting on dorsum_____ 6.
   Bases of wings not blackened; knobs of halteres black; abdomen entirely shining black, without distinct dusting; hypopygium as Figures 21 and 22. **nigrohalterata** Malloch.
   Bases of wings not darkened; knobs of halteres yellow; abdomen shining black, with grayish dusting evenly distributed_____ 8.
6. Abdomen reddish testaceous, with evenly distributed grayish dusting. **rufiventris** (Macquart).
   Abdomen black, with grayish dusting, and a dark brown transverse band in middle of each tergite_____ 7.
7. Hind tibia with a distinct preapical dorsal bristle; male hypopygium as Figure 23_____ **fuscofasciata** (de Meijere).
   Hind tibia without a preapical dorsal bristle; male hypopygium as Figure 24. **quadrispinosa** Malloch.
8. Wings grayish hyaline; anterior one of the postsutural pairs of dorsocentrals as close to suture as posterior pair is to hind margin; hypopygium as Figure 25_____ **obscura** (de Meijere).
   Wings, halteres, and squamae and their fringes, honey yellow; anterior pair of postsutural bristles much farther from suture than posterior pair is from hind margin_____ 9.

9. Basal portion of male hypopygium (eighth tergite) with the apical lateral arms hinged and furcate, or with internal tooth (Fig. 26).
luteitarsis (de Meijere).

Basal portion of male hypopygium with the apical lateral arms connected with the basal part by a narrow neck, not hinged to it, and sharp at apex (Fig. 27)---------- philippinensis, new species.

MINETTIELLA, new subgenus

This subgenus is erected for the reception of two species, both of which are glossy black, with immaculate wings, yellow halteres, and characters as given in key.

Subgenotype.—Lauxania atratula de Meijere.

Neither species is amongst those before me from the Philippines, though it is very probable that one or both may occur there.

Subgenus MINETTIA Robineau-Desvoidy

In his paper on Philippine Sapromyzidae Doctor Frey gives the subgeneric name *Euminettia* to the segregate of *Minettia* in which there are no elevations on the face, naming *lupulina* Fabricius as genotype. I rather doubt the possibility of distinguishing the segregates by this character, as the elevations, while quite noticeable in some species, are very inconspicuous in others and it is very difficult, if not impossible, to draw the line anywhere. The same author erects the subgenus *Calominettia* for the South American species *geminata* Fabricius. The latter he distinguished from *Euminettia* by the divergent apical scutellar bristles, a rather variable character.

There are but two species of those listed in the key amongst those before me from the Philippines, though undoubtedly more occur there.

MINETTIA RUFIVENTRIS (Macquart)

Minettia rufiventris MACQUART Dipt. Exot. Suppl. 3, p. 68, 1847.

This species appears to be very widely distributed in the Orient, occurring in Formosa, the Nederland Indies, etc. I have before me one specimen from Imugin, N. Viscaya (C. F. Baker), and Frey records it from Luzon.

MINETTIA PHILIPPINENSIS, new species

Male and female.—Similar to *luteitarsis* (de Meijere) in coloration. Black, the face and frons whitish dusted, the former most densely so; thorax with brownish dust and four faint vittae on dorsum; abdomen shining, without dusting; wings yellowish hyaline, almost honey yellow; halteres honey yellow. The legs are pitchy black, with the bases of tibiae slightly yellowish and the tarsi yellow.

Structurally similar to *luteitarsis*, the frontal bristles all strong, arista with long hairs; thorax with three pairs of dorsocentrals, the

anterior pair well behind the suture, and shorter than the second pair; lower anterior part of mesopleura with the hairs long and setulose. Hypopygium as Figure 27.

Length, 6 mm.

Type, male and *allotype*, Mount Maquiling, Luzon Province; paratype male, Butuan, Mindanao (C. F. Baker).

The species of this genus in the Orient present very good characters in the structure of the male hypopygia for their separation, but these characters have not been used to any extent in describing the species from this or any other region and it is difficult to distinguish some of them on color alone, as they are very similar in appearance. A comparison of the figures of the hypopygia in this paper indicates, if the structure of these organs indicates anything, that there are four groups in the lot: *tubifera*, *nigrohalterata*, and *philippinensis*, representing separate types, and *obscura*, *quadrispinosa*, *luteitarsis*, and *fuscofasciata* another. Only *tubifera* lacks the facial elevations. It is noteworthy that the American species with elevations on the face, and also the genotype of *Minettia*, have entirely different hypopygia from this oriental group, there being no heavily chitinized inner hooks present. It is, of course, impossible to find correlated genital characters in the females, so that no groups can be based upon the structure of the male hypopygia, no matter how distinctive this may be.

Genus SAPROMYZA Fallén

I have before me at this time 16 oriental species of this genus which is not so abundantly represented here as in some other regions. Of these species one belongs to a segregate which I consider is entitled to subgeneric distinction, and it is treated thus herein. To facilitate identification of the species I present a diagnostic key.

KEY TO THE SPECIES

1. Fore femur with an anteroventral comb of minute black bristles apically; thorax black, with two broad submedian white-dusted vittae, and three pairs of strong dorsocentral bristles, the anterior pair close to suture; abdomen black, with a yellowish dorsocentral line on apical three or four tergites, and apices of all tergites white dusted; wings grayish hyaline, base and outer cross vein slightly fuscous clouded.

albocincta (de Meijere).

Fore femur with an anteroventral comb of minute black bristles apically; thorax yellow, with four pairs of dorsocentral bristles (1+3); abdomen yellow, with a large blackish mark on each side of each tergite except the basal one, which gives the dorsum the appearance of having a broad blackish vitta on each side; wings yellowish hyaline, outer cross vein and apices of veins 2, 3, and 4, conspicuously clouded with fuscous.

omei, new species.

Fore femur without an anteroventral comb of minute bristles; thorax and abdomen not colored as above; outer cross vein not clouded---------- 2.

2. Thorax with three pairs of dorsocentral bristles ..... 3.
Thorax with two pairs of dorsocentral bristles ..... 6.

3. Wings broadly brown on costa from base to apex of third vein; species shining yellow in color, abdomen with a large deep black spot on each side of each tergite; thorax with four fuscous vittae, the submedian pair extending over the sides of scutellum, the others on notopleural sutures, and a fuscous streak over upper margin of sternopleura; legs yellow, with the apices of all femora, all of fore tibiae and tarsi, and extreme bases of mid and hind tibiae, fuscous ..... **conspicua** Malloch.
Wings entirely hyaline; species not marked as above ..... 4.

4. A deep black mark between base of each antenna and eye; ocellar bristles small; prescutellar acrostichals strong ..... **deceptor** Malloch.
No black mark between each antenna and eye ..... 5.

5. Anterior orbital bristles not much shorter than posterior pair and but little closer to them than the latter are to vertical bristles, the inner vertical pair not nearly twice as long as outer pair, ocellars minute; a small fuscous spot over ocelli; thorax without a conspicuous dark dorsocentral vitta, the prescutellar acrostichals lacking; abdomen with four black spots on fifth and other four on sixth tergite; wings glassy.
hyalipennis (de Meijere).
Anterior orbitals minute and much closer to posterior pair than latter are to the verticals, inner verticals about twice as long as outer pair, ocellars long; a large obcordate velvety black mark extending from ocelli backward over the occiput, the vertex rounded; thorax with a complete, broad, black, dorsocentral vitta filling area between the dorsocentral series; abdomen largely brown; wings dull hyaline ..... **koshunensis** Malloch.

6. Antennae deep black, apex of third segment fulvous yellow, sharply contrasting with the basal two-thirds; hairs on arista about as long as width of third antennal segment ..... **inversa**, new species.
Antennae either yellow or fuscous, the third segment never distinctly paler at apex than at base, usually the reverse, if largely pale at apex the arista is much shorter haired ..... 6a.

6*a*. Longest hairs on arista never half as long as width of third antennal segment ..... 7.
Longest hairs on arista at least as long as width of third antennal segment ..... 10.

7. Pleura entirely yellow, dorsum of thorax fuscous, with grayish dusting; hairs on arista black, much denser than usual, the longest about half as long as the width of third antennal segment; thorax with a pair of distinct prescutellar acrostichals; antennae with basal segments, and the extreme base of third segment, black, rest of latter yellow.
flavopleura Malloch.
Pleura black or fuscous, concolorous with dorsum of thorax, usually the hairs on arista not dense and not half as long as width of third antennal segment ..... 8.

8. Thorax with a pair of well developed prescutellar acrostichal bristles; head black, frons in front, and base of third antennal segment broadly, bright orange-yellow; thorax black, with slight brownish dusting on dorsum ..... **fasciatifrons** Kertesz.
Thorax without a trace of prescutellar acrostichal bristles; head and antennae entirely dull yellow; thorax black, with a broad central stripe of yellow dust which extends over disk of scutellum ..... 9.

9. Tibiae entirely pale ..... **pollinifrons** Malloch
Tibiae darkened at bases and apices ..... **annulifera** Malloch.

10. Thorax without distinct presentellar acrostichal bristles; basal two antennal segments deep black, third segment yellow_____ 11.
Thorax with a pair of distinct presentellar acrostichal bristles; basal two segments of antennae not or but little darker than apical part of third_ 12.
11. Thorax testaceous, dorsum densely whitish gray dusted, with two faint dark submedian vittae; apex of scutellum broadly testaceous.
pusillima (de Meijere).
Thorax yellowish gray, gray dusted, with a broad blackish gray vitta between the dorsocentral series which extends on to the scutellum.
pleuralis (Kertesz)
12. Frons fulvous yellow, with a broad dark brown central vitta; antennae deep black, the base of third segment broadly fulvous yellow; thorax fulvous yellow, with six broad dark brown vittae on dorsum, the outer one on each side on the notopleural suture, and the pleura with two similar vittae_____ maquilingensis, new species.
Frons and thorax not colored as above_____ 13.
13. Mesopleura with a conspicuous downwardly directed bristle near middle of disk; wing with a black spot at apex of auxiliary vein, and the base black; thorax black; abdomen testaceous, with six series of dark spots, which are most distinct on fifth tergite (Xenosapromyza, new subgenus).
cinctipes (de Meijere).
Mesopleura with only fine hairs on disk_____ 14.
14. Wing with a dark spot at apex of auxiliary vein; basal two antennal segments and base of third yellowish testaceous, sharply contrasting with apex of latter which is dark; thorax testaceous, dorsum with a central vitta and some sublateral marks brown; scutellum testaceous, with two brown discal marks; abdomen with six series of black spots; femora fuscous, with preapical yellow annulus_____ poecilogaster (de Meijere).
Wings without a dark spot at apex of auxiliary vein; only the base of third antennal segment yellowish, remainder of antennae fuscous; thorax fuscous, dorsum densely and uniformly pale gray dusted; scutellum gray at base, broadly black apically; abdomen with two or four series of black spots_____ quadrangulata (de Meijere).

I have examined all of the Javanese species described by Doctor de Meijere, but only one of them has been received from the Philippines. The only other Philippine species known to me are the two described below.

XENOSAPROMYZA, new subgenus

This subgenus is distinguished from *Sapromyza* by the presence of one or two strong bristles near middle of mesopleura much like those in the genus *Trypaneoides*, but other respects it agrees closely with *Sapromyza*.

Subgenotype.—*Lauxania cinctipes* de Meijere.

SAPROMYZA (XENOSAPROMYZA) CINCTIPES (de Meijere)

Lauxania cinctipes DE MEIJERE, Tijdschr v. Ent., vol. 53, p. 125, 1910.

I have seen only the type specimen of this species, from Java. Doctor Frey records the species as a *Homoneura* from Los Banos, but I think erroneously.

SAPROMYZA (SAPROMYZA) QUADRANGULATA (de Meijere)

Lauxania quadrangulata DE MEIJERE, Tijdschr v. Ent., vol. 67, p. 48, 1924.

I have before me a specimen which evidently belongs to this species. It agrees with the type specimen, but is smaller, and has the legs less conspicuously banded, and the abdomen with smaller spots, and with four or even six series instead of but two as in the type. This last character may be variable, as there are traces in the type of additional series of spots besides the two submedian series, and the Philippine example is not fully matured, so accurate comparison is difficult.

Locality, Mount Maquiling, Luzon (C. F. Baker).

SAPROMYZA (SAPROMYZA) MAQUILINGENSIS, new species

Female.—Shining fulvous yellow. Frons with a broad, central, dark brown, or fuscous, vitta which covers the ocellar region and extends almost to anterior margin; face with a brownish transverse central mark which does not extend over parafacials; basal two antennal segments and apical third of third segment deep black; palpi black. Thoracic dorsum with six, pleura with two, dark brown or fuscous vittae; base of scutellum black in center. Abdomen darkened above centrally. Legs yellow, apices of fore femora on anterior side, and all of fore tibia and tarsus, fuscous. Wings yellowish hyaline. Halteres yellow.

Anterior pair of orbital bristles shorter than posterior pair, not as long as the slender ocellars; arista short plumose. Thorax with two pairs of postsutural dorsocentrals, one pair of prescutellar acrostichals, and six series of intradorsocentral hairs, the latter confined to anterior portion; no strong bristles on anterior part of mesopleura; both sternopleurals present. Fore femur without an anteroventral comb; mid tibia with one long apical ventral bristle. Inner cross vein close to middle of discal cell; ultimate section of fourth vein fully 2.5 as long as penultimate section.

Length, 3 mm.

Type.—Cat. No. 41161, U.S.N.M. Mount Maquiling, Luzon (C. F. Baker).

SAPROMYZA (SAPROMYZA) INVERSA, new species

Female.—Shining testaceous yellow. Frons broadly black across middle, and on the ocellar spot; antennae deep black, apical third of third segment bright fulvous yellow; aristae black at bases, paler beyond; palpi black, yellow at bases. Thoracic dorsum broadly infuscated, the lateral and posterior margins yellow; scutellum with a large central basal infuscation; notopleural margin fuscous; pleura with a fuscous vitta on upper margin of sternopleura; center of metanotum fuscous. Abdomen largely darkened at bases or tergites.

Extreme apices of femora and bases of the tibiae black. Wings hyaline. Halteres yellow.

Frons about as long as wide at vertex, narrowed anteriorly, all bristles present, outer verticals shorter than inner, anterior orbitals about half as long as posterior pair; antennae rather large, third segment rounded at apex and about twice as long as wide; longest hairs on arista about as long as width of third antennal segment; palpi slender. Thorax with two pairs of postsutural dorsocentral bristles, one pair of prescutellar acrostichals, and about ten series of short intradorsocentral hairs; anterior sternopleural bristle short; scutellum flattened above. Fore femur without an anteroventral comb; all tibiae with a distinct preapical dorsal bristle. Wings rather narrow, inner cross vein close to middle of discal cell, ultimate section of fourth vein fully twice as long as penultimate section.

Length, 2.5 mm.

Type.—Cat. No. 41131, U.S.N.M. *Type*, and one *paratype* in poor condition, Mount Maquiling, Luzon (C. F. Baker).

The color of the antennae readily separates this species from any now known to me. Usually when the third antennal segment is bicolored in this as in other genera the dark color is on the apical and not the basal portion.

SAPROMYZA OMEI, new species

Female.—Head orange-yellow, opaque except on face and occiput which are slightly shining, ocellar spot velvety black; antennae and palpi not blackened; aristae brown, yellow at bases. Thorax and abdomen shining orange-yellow, not so bright as frons, the abdomen with a large blackish mark on each side of each tergite except the basal one, which gives the dorsum the appearance of having a broad blackish vitta on each side. Wings yellowish hyaline, outer cross vein and apices of veins 2, 3, and 4 conspicuously clouded with fuscous. Legs and halteres yellow.

Frons subquadrate, orbits not differentiated, anterior orbital bristles a little shorter than the posterior pair and much farther from eyes, ocellar bristles short and weak, postverticals long, situated well below vertex; arista pubescent; face flat. Thorax with 1 to 3 pairs of dorsocentrals, the intradorsocentral hairs weak and in four irregular series; sternopleurals both present, the anterior one shortest; scutellum subconvex. Genital papillae enclosed between the glossy chitinous plates which are rounded at apices and emarginate above at some distance from their tips. Fore femur with an anteroventral comb; all tibiae with preapical bristle. Inner cross vein below apex of first vein and at middle of discal cell; ultimate section of fourth vein but little longer than penultimate.

Length, 5 mm.

Type.—Cat. No. 40399, U.S.N.M. *Type* and one *paratype*, Shin Kai Si, Mount Omei, Szechuen, China, 4,000 feet, September 10, 1922 (D. C. Graham).

This species is readily distinguished from others which have the wings marked by the bivittate appearance of the dorsum of abdomen.

Doctor Frey records no species of this genus in his paper but there may be many in the Philippines as they are as a general run much smaller and less conspicuous than the species of the better represented genus *Homoneura*, and are not so likely to be found in general collections.

Genus TRIGONOMETOPUS Meigen

There have been several species of this genus described from the Orient, or at least they have been placed in this genus, and two of these species described from the Philippines are now before me. Doctor Frey recorded these two species also but did not describe any new species, though he described a new genus, *Hendelimyza*, which he placed next to *Trigonometopus*. He makes no mention of the presence or absence of the posthumeral bristle so that it is not possible to make absolutely certain of the identity of his genus. In describing *Hendelimyza* Doctor Frey remarks that it is strange that the genus *Sapromyza*, which is common in the Palearctic and Nearctic regions, and appears to be absent from the Oriental region, should be so well represented in the Australian region, and suggests that some of the numerous species of *Sapromyza* which I have described from the latter region may belong to *Hendelimyza* or an allied genus. If his genus *Hendelimyza* is no closer to *Trigonometopus* than any one of the species described by me from Australia I can not understand why he placed it in his key next to that genus. In fact I should be inclined to consider it merely a *Sapromyza*. If one gives too much weight to variations in the shape of the head, and the chaetotaxy of the thorax, in this family there will be no end to the number of genera erected, with the result that the identification of species will be absolutely impossible.

I present below a key to the species of *Trigonometopus* known to me from the Orient.

KEY TO THE SPECIES

1. Cheek with a series of hairs along middle which extends upward on parafacial almost as far as do the marginal hairs (**Luzonomyza, new subgenus**). **bakeri** Bezzi.

   Cheek without hairs on middle ..... 2.

2. Thorax with the dorsocentral bristles arranged 1+2. **Neotrigonometopus, new subgenus.**

   Thorax with the dorsocentral bristles arranged 0+3 (Subgenus **Trigonemetopus** Meigen) ..... 3.

3. Arista and its hairs snow white, the hairs quite dense, and longer than usual; wings hyaline, costa fuscous from apex of auxiliary vein to apex of second, the entire marginal cell between these points fuscous, and with three fuscous fasciae from the dark border, one extending over inner cross vein to middle of wing, one over outer cross vein almost completely over wing, and a broad subapical one which leaves only a narrow hyaline fascia between it and the one over outer cross vein, extending from third vein to hind margin, and a narrow white apical border____ albiseta Bezzi.

Arista fuscous, paler at base; wings not marked as above_____ 4.

4. Length of frons from posterior ocelli to anterior margin less than equal to its central width; the brown suffusion of wing interrupted by a longitudinal pale line in first posterior cell, and two pale transverse interruptions over apical section of third vein, giving it the appearance of being faintly tripunctate with fuscous; frons with three dark lines.

submaculipennis Malloch.

Length of frons from posterior ocelli to anterior margin about twice as great as its width at center; the brown suffusion of wing becoming gradually less intense from costa to fourth vein, without hyaline interruptions; frons with at most a faint dark central line_____ brunneicosta Malloch.

TRIGONOMETOPUS SUBMACULIPENNIS Malloch

Trigonometopus submaculipennis Malloch, Ent. Mitt., vol. 16, p. 164, 1927.

TRIGONOMETOPUS BRUNNEICOSTA Malloch

Trigonometopus brunneicosta Malloch, Ent. Mitt., vol. 16, p. 164, 1927.

The above two species were described by me in a recent paper on Formosan species.

TRIGONOMETOPUS ALBISETA Bezzi

Trigonometopus albiseta Bezzi, Philippine Journ. Sci., vol. 8, p. 317, 1913.

I have seen three specimens of this species from Mount Maquiling, Luzon (C. F. Baker).

Luzonomyza, new subgenus

I feel that the possession of but one distinguishing character, even such a one as here mentioned, is insufficient to justify the removal of the species to a distinct genus and consequently have suggested only subgeneric rank for the one under discussion.

Subgenotype.—Trigonometopus bakeri Bezzi.

TRIGONOMETOPUS (LUZONOMYZA) BAKERI (Bezzi)

Trigonometopus bakeri Bezzi, Philippine Journ. Sci., vol. 8, p. 318, 1913.

I have before me three specimens of this species from Mount Maquiling, Luzon (C. F. Baker). The hypopygium is as Figure 28.

Typical members of the genus *Trigonometopus* occur in Europe and America. The genotype occurs in Europe.

Neotrigonometopus, new subgenus

This subgenus is erected for the reception of the Australian species *Trigonometopus fuscifrons* Malloch.

As an aid to the identification of the genera most closely related to *Trigonometopus* I append the key below. All the genera lack the posthumeral bristle. Hendel has altered his definition of this bristle to " presutural bristle " in his later papers.

KEY TO THE GENERA

1. Scutellum longer than half the mesonotum, rounded quadrangular, flat convex, sharply margined and celyphuslike projecting over base of abdomen
Celypholauxania Hendel (Neotropical).
Scutellum normal, not margined nor prolonged ..... 2.
2. Postvertical bristles lacking; face with a vertical central keel which is quite sharp on upper part; anterior orbital bristles incurved.
Sauteromyia Malloch.
Postvertical bristles present; face not keeled ..... 3.
3. Anterior orbital bristles incurved ..... **Paranomina** Hendel.
Anterior orbital bristles recurved ..... **Trigonometopus** Meigen.

Sauteromyia is known only from Formosa, and *Paranomina* from Australia.

MAQUILINGIA, new genus

Genotype.—Maquilingia hirticeps, new species.

This genus is one of the few in the family in which the dorsocentral bristles are arranged 1+2. From the others occurring in the Orient in which the costa is similar to that of *Sapromyza* it may be distinguished by means of the key presented below. The general appearance is quite similar to that of *Paranomina* Hendel, but the posthumeral bristle is present, and consequently it falls in the section containing the Australian genus *Trigonometopsis* Malloch and the Old World genera included in the following key.

KEY TO GENERA

1. Thorax with the anterior pair of dorsocentral bristles in front of suture, and but two postsutural pairs ..... 2.
Thorax with the anterior pair of dorsocentral bristles at or behind suture, and always three postsutural pairs thus present ... **Trigonometopsis** Malloch.
2. Thorax with quadriseriate intradorsocentral hairs; postvertical bristles well developed; anterior orbitals not, or very slightly, bent inward; frons longer than wide, copiously haired in front ..... **Maquilingia**, new genus.
Thorax with biserate intradorsocentral hairs; anterior orbitals bent inward ..... 3.
Thorax with biseriate intradorsocentral hairs; anterior orbitals not bent inward; frons as wide as long, sparsely haired, inner verticals longest.
Kerteszomyia, new genus.
3. Postverticals very small and weak, far below the ocelli.
Panurgopsis Kertesz.
Postvertical well developed, in normal position frons fully as wide as long, with few hairs in front ..... **Chaetolauxania** Kertesz.

The two species known to me may be separated as below.

Frons testaceous, with a complete, narrow, central brown vitta; a pale brown mark between each antenna and eye, which is longer than height of third antennal segment, and a brown mark below each antenna; lower margin of cheek with a rather long bristle about middle, and in front of it numerous short black hairs on entire cheek, which extend above lower level of eye. hirticeps, new species.

Frons testaceous, with a small fuscous mark on ocellar region; a round chocolate-brown, or black, mark between each antenna and eye, and a similarly colored mark on parafacial suture below each antenna; cheek with three or four long bristles on lower margin, the foremost one at, or close to, lower level of eye, and in front of it two or three fine hairs, none of them on disk of the cheek ..... facialis, new species.

MAQUILINGIA HIRTICEPS, new species

Female.—Yellowish testaceous, slightly shining. Head as described in key. Thorax with two brown vittae along inner margins of the series of dorsocentrals, which are continued over the scutellum, a paler vitta on each side of these behind suture, and a fainter complete one between it and lateral margin, a pale yellow line on exact center of mesonotum and scutellum. Abdominal tergites narrowly dark brown on apices. Wings grayish hyaline. Halteres yellow.

Frons about 1.5 as long as wide at center, quite copiously black haired in front of ocelli, anterior orbitals a little incurved at tips, about two-thirds as long as posterior pair, and about as long as width of third antennal segment; arista with very short pubescence; face slightly receding below; eye about 1.25 as long as high; cheek at bristle about one-third as high as eye. Thorax with 1+2 pairs of long dorsocentrals, four series of intradorsocentral hairs, a pair of prescutellar acrostichals, and the posthumeral, and anterior sternopleural, short. Abdomen tapered apically. Legs normal, the fore tarsi slightly dilated apically. Inner cross vein close to middle of discal cell, penultimate section of fourth vein a little less than half as long as ultimate section; first posterior cell slightly narrowed apically.

Length, 3 mm.

Type.—Cat. No. 41599, U.S.N.M.; Mount Maquiling, Luzon (C. F. Baker).

MAQUILINGIA FACIALIS, new species

Female.—In addition to the distinguishing characters listed in the key this species differs from *hirticeps* in having the frons shorter, about 1.25 as long as wide, and less copiously haired, the orbital bristles longer, the anterior pair being at least 1.5 as long as width of third antennal segment, the eye is more rounded and but little longer than high, the cheek is about one-fourth as high as eye at

middle, the thorax has four brownish vittae, the partial one being absent, and the abdomen is without blackish apices to tergites.

Length, 3 mm.

Type and one paratype.—Mount Maquiling, Luzon (C. F. Baker).

Type.—Female, Cat. No. 41600, U.S.N.M.

An interesting character possessed by both species of this genus is the short, but distinct, bristle on the outer side of basal antennal segment near its lower margin. I have not cited this character in the generic diagnosis as I have but two specimens of the genus and it may not be constant. A similar bristle appears on the basal antennal segment in *Kerteszomyia*, but it is close to the upper margin of the segment and is much shorter. A similar bristle occurs close to lower margin of basal antennal segment in *Sauteromyia*. There are only the usual microscopic hairs present on basal segment in *Trigonometopus* and these are on upper side, which is also the case in *Trigonometopsis*.

Genus TRIGONOMETOPSIS Malloch

This genus was erected for the reception of an Australian species, *binotata* Macquart. There is one Philippine species which is referable here.

TRIGONOMETOPSIS PUNCTIPENNIS, new species

Female.—Testaceous yellow, Ocellar spot fuscous, frons with a faint brownish central line, two brownish marks at anterior extremity of each orbit, the smaller one between antenna and eye, parafacial browned, face fuscous on upper half; arista pale at base, dark apically. Dorsum of thorax darker than pleura, greasy in the type but with evident traces of four or six brownish vittae and the lateral margins brown, the scutellum with a brown vitta on each side on disk. Apices of tergites narrowly infuscated. Legs yellow. Wings hyaline, brown along costa at base to apex of first vein and with numerous brown spots beyond that point and on disk, four in marginal cell, the last one in apex, the first two more or less evidently subdivided, about nine in submarginal cell, five or six in first posterior cell, the basal one on the inner cross vein, the one at apex faint, and four in second posterior cell, the inner one over outer cross vein. Halteres yellow.

Frons about 1.5 as long as wide, with fine surface hairs, most numerous anteriorly; ocellars small; postverticals below vertex; inner verticals longest; anterior orbitals backwardly curved, shorter than posterior pair; frons in profile slightly projecting; face receding below middle, with a slight central carina above; eye about 1.25 as long as high; cheek longitudinally convex in middle, the bristles not on lower margin of cheek but along lower side of convexity, not

long, and extending to lower extremity of brown part of parafacial; third antennal segment rounded; arista pubescent. Thorax with the anterior pair of dorsocentrals at suture; scutellum flat above; sternopleurals 2. Inner cross vein a little beyond middle of discal cell; apical section of fourth vein about 2.5 as long as preapical.

Length, 3.5 mm.

Type.—Cat. No. 41088, U.S.N.M. Mount Maquiling, Luzon (C. F. Baker).

Genus CHAETOLAUXANIA Kertesz

This genus, which was erected for the reception of a Formosan species, should receive also two species now before me, *Poecilohaeterus quadripunctata* de Meijere and *P. sulphuriceps* de Meijere. These species agree in all essential characters with the genotype. The general habitus is similar to that of *Sapromyza*, but the anterior pair of orbital bristles are incurved, there are several conspicuous bristly hairs on anterior part of cheeks, and the dorsocentrals are arranged 1+2. A noteworthy character, though one of color only, lies in the presence in all three species of a conspicuous black spot on upper part of sternopleura.

I present below a key for the separation of the three species.

KEY TO THE SPECIES

1. Face with a black spot in center of lower margin and one between each antenna and eye; thoracic dorsum brown, with a broad blackish central vitta which is overlaid with white dust_____ quadripunctata (de Meijere).
   Face without black spots_____ 2.
2. Thoracic dorsum brownish, with two blackish spots in front of suture, and two submedian blackish vittae on its entire length.
   sternopleuralis Kertesz.
   Thoracic dorsum entirely yellow_____ sulphuriceps (de Meijere).

I have examined the type specimens of the two species described by Doctor de Meijere, these being sent to me by their describer. None of the species are amongst my material from the Philippines, though it is entirely probable that any, or all, of them occur in the islands. The species are all small, averaging about 3 mm. in length, and the wings are hyaline in all of them.

In Doctor Frey's paper he described a variety of *sternopleuralis* under the name *lineolata*. This variety he distinguishes by a difference of the thoracic vittae, but it is very possible that it is merely an aberration and not a distinct variety. However, I have not seen the specimen, which is from Mindanao.

He also described a new species under the name *tripunctifrons* which is evidently distinct from, though most closely related to *quadripunctata*. It has the ocellar spot and the spot between each antenna and eye black, and the thoracic dorsum with a brown spot

behind each humerus and in the middle two faint brown vittae. It is from Los Banos. Except for the presence of facial spots the description is like that of *sternopleuralis*.

I have seen a specimen which I identify as *spulphuriceps* from Ceylon.

Genus KERTESZOMYIA, new genus

Generic characters.—Head very similar to that of *Panurgopsis* Kertesz, but the eye is more oblong, the anterior orbitals are directed backward, and the face is not protuberant (Fig. 29). Except for the presence of four long strong bristles on lower margin of cheek, the greater length of the upper orbitals as compared with the inner verticals, and the presence of but one sternopleural bristle, the genus is similar to *Sapromyza*. A noteworthy character is the position of the postvertical bristles which are situated far below the vertex, their distance from posterior ocelli being distinctly greater than from ocelli to inner vertical bristles.

Genotype—the following species.

KERTESZOMYIA MACULIFRONS, new species

Female.—Reddish testaceous, thorax and abdomen shining. Frons not shining except at bases of the bristles, with a black spot on ocellar region and one between each antenna and eye; antennae concolorous with head. Thorax and abdomen immaculate. Wings yellowish hyaline. Halteres yellow.

Head in profile as in Figure 29; frons with fine surface hairs anteriorly; face almost flat. Thorax with three pairs of dorsocentrals, the anterior pair well in front of suture, a strong pair of prescutellar acrostichals, and very sparse fine hairs, widely biserial presuturally; scutellum flattened above, subtransverse at apex, with four bristles. Apical bristles on tergites longest on sides. Fore femur without anteroventral comb; all tibiae with distinct preapical dorsal bristle, strongest on mid pair, the latter with one long apical ventral bristle. Inner cross vein a little proximad of middle of discal cell; ultimate section of fourth vein about twice as long as penultimate section; first posterior cell very slightly narrowed apically.

Length, 4 mm.

Type.—Cat. No. 41602, U.S.N.M. Imugin, N. Viscaya (C. F. Baker).

In Hendel's recent key this genus runs down to *Hypagoga*, but the latter has the postverticals close behind ocelli, the ocellar bristles long and strong, first posterior cell widened apically, and differs in other respects.

Genus TURRIGER Kertesz

I have some doubts as to the distinctness of this genus from *Cestrotus* Loew. In his recent paper on the genera of Sapromyzidae Doctor Hendel distinguishes them on the character of the frons. I do not concede that the mere lie of the orbital stripes constitutes a valid generic character, there being a great diversity in species of the same genus, the range extending from their being exactly parallel to the eyes, to pronouncedly convergent anteriorly. The presence of the ocelli on the frontal prominence or behind it might have some value, but the degree of elevation of the frons in different individuals of the same species may influence this character. However, it appears to me that there is reason to consider the definition given by Doctor Hendel as subject to emendation as the species before me has the orbital stripes parallel with the eyes, the orbital bristles in longitudinal line, and the ocelli well behind the apex of the frontal prominence. This last character would prevent the location of the species in *Turriger*, but I place it here rather than in *Cestrotus*, the genotype of the latter being African. The Oriental species have the costa as in *Sapromyza*.

TURRIGER FLAVOSCUTELLATUS (de Meijere)

Cestrotus flavoscutellatus DE MEIJERE, Tijdschr. v. Ent., vol. 53, p. 142, 1910.

Originally described in *Cestrotus*.

I have seen Formosan and Javanese specimens of this species, but none from the Philippines.

The Formosan form with dark femora has been named *nigrifemoratus* by Hendel.

TURRIGER FLAVIPES Frey

Turriger flavipes FREY, Acta Soc. pro Fauna et Flora Fennica, vol. 56, No. 8, p. 8, 1927.

This species was described from a single example from Leyte, Philippine Islands. It is distinguished from the preceding species by the differently colored legs, the tibiae and tarsi being entirely yellow, with at most a dark annulus at base of each hind tibia, instead of a dark annulus at base and apex of each pair of tibiae.

Frey suggests the possibility of its being merely a variety of *apicalis* Hendel. I have not seen the species.

Genus ICHTHYOMYIA de Meijere

This genus is readily distinguished from any other in the family by the shape of the head. (Fig. 30.) The ocellar bristles are minute and widely divergent, the postverticals are long, both pairs of orbitals are strong, and backwardly directed, the arista is short haired, and the mouth opening occupies less than half the extreme

length of head. In other respects the genus agrees closely with *Sapromyza*, the costa being similar, and the thorax with three pairs of postsutural dorsocentral and two distinct sternopleurals.

The genus is monobasic.

ICHTHYOMYIA CYPRINUS de Meijere

Ichthyomyia cyprinus DE MEIJERE, Tijdschr. v. Ent., vol. 57, p. 382, 1914.

A testaceous colored species, with fuscous markings on head as shown in Figure 30. The throax is largely brownish fuscous, the dorsum gray dusted and with four dark vittae. Femora fuscous. Wings infuscated, hyaline along hind margin.

Habitat, New Guinea.

I have examined the type specimen.

Genus HOMONEURA van der Wulp

This genus contains several well-defined segregates in the Orient, some of them, in my opinion, entitled to subgeneric distinction; and in the following pages I make use of certain characters for distinguishing these segregates, and designate them by names which will serve to separate them from *Homoneura* in the strict sense, the genotype of the latter being *picea* van der Wulp. There is some doubt as to the exact identity of *picea*, as will be shown in the discussion in this paper, but there can be no reasonable doubt that it belongs to the group of species containing *piceoides* and a few related forms included in the following key. Absolute identification must await a thorough examination of the type specimen.

I have in another paper already described some of the subgenera and designated the subgenotypes of these.

There are 143 species included in the following key, 34 being from the Philippines.

KEY TO THE SPECIES [6]

1. Prealar bristle long and strong, usually over half as long as the bristle behind it; mid tibia with from two to four well-developed posterior bristles, which are usually as long as, or longer than, the tibial diameter (Subgen. **Chaetohomoneura** Malloch) ..... 2.

   Prealar bristle undeveloped, only short hairs or setulae in front of the long supra-alar bristle, or if there are bristles present the mid tibia is unarmed ..... 9.

[6] The following key does not include all of the many Philippine species described by Doctor Frey because I have found it impossible to place them in it owing to his omission of many of the important characters made use of herein. I have been able to identify some of the species however amongst those in my possession and they are included, all of them having been identified as new by me prior to his paper appearing. I have given some notes in the text of this paper on his species that remain unidentified by me, and it will undoubtedly be possible for someone to identify them with the key in hand as either additional species or synonymous with some of those included herein. There is no doubt in my mind that there are many species still to be discovered in the Orient, and particularly in the Philippines and the Malay Peninsula. Some Oriental species are figured but not mentioned in the text.

2. Mid femur without strong bristles on any part of posteroventral surface.. 5.
   Mid femur with strong bristles on part of the posteroventral surface, which are not longer than the femoral diameter..... 3.
3. Prealar bristle less than half as long as the bristle behind it; intra-alar bristle quite long..... anthrax Malloch.
   Prealar bristle over half as long as the bristle behind it..... 4.
4. Thoracic dorsum yellowish testaceous; male hypopygium as Figure 31.
   semibrunnea (de Meijere).
   Thoracic dorsum largely blackish; male hypopygium as Figure 32.
   umbrosa, new species.
5. Bases of wings distinctly infuscated; hypopygium as Figure 33.
   fumibasis Malloch.
   Bases of wings not infuscated..... 6.
6. Thorax, abdomen, and femora, mostly fuscous, anterior margin of thorax yellowish; male hypopygium as Figure 34..... gedehi (de Meijere).
   Thorax and legs testaceous yellow, abdomen shining black; face and frons largely fuscous..... 7.
7. Wings with very slight indications of clouding over the cross veins, and no dark cloud over any of the other veins apically.
   obscuriceps (de Meijere).
   Wings with at least the cross veins distinctly clouded, a large fuscous cloud over apices of second and third veins, and a less elongate cloud over apex of fourth vein..... 8.
8. A more or less evident cloud over lower extremity of inner cross vein, and the apical clouding less extended basally; hypopygium as Figure 35.
   kocki Malloch.
   No cloud over inner cross vein, and the apical clouding more extended basally; male hypopygium as Figure 36..... nigrofulva Malloch.
9. Fourth wing vein quite noticeably curved forward at apex (Griphoneuroides, new subgenus)..... 10.
   Fourth wing vein not evidently curved forward at apex, usually straight, and parallel with third, rarely gradually and very slightly convergent with it on entire apical section..... 19.
10. Head black or fuscous; fourth wing vein usually very conspicuously curved forward at apex (fig. 37)..... 11.
    Head testaceous yellow; fourth vein inconspicuously curved forward at apex (fig. 38)..... 17.
11. Antennae entirely black, fuscous, or dark brown..... 12.
    Antennae yellow, at most with apex of third segment darkened..... 14.
12. Thoracic dorsum and scutellum entirely dull testaceous yellow, without any dark markings; femora black; wings with outer cross vein and apical section of veins 2 to 4 faintly margined with brown.
    obscuricornis (de Meijere).
    Thoracic dorsum with a broad dark central vitta, scutellum red-brown, darker in middle..... astrolabei (Kertesz).
    Thoracic dorsum with a broad dark central vitta which is not sharply margined, scutellum dark brown or fuscous at apex, becoming paler basally..... 13.
13. All femora rufous yellow, fore and hind tibiae and all tarsi more brownish; wings slightly yellowish, outer cross vein and apex of second vein faintly bordered with yellow; halteres yellow; length 8 mm.. wallacei (Malloch).
    Legs reddish brown, hind femora and tips of tibiae and tarsi darker; wings pale yellowish brown tinged, especially on costa, apices of veins 2, 3, and 4, each with a brown spot; knobs of halteres brown; length 6 mm..... atricornis (Kertesz).

14. Outer cross veins of wing not bordered with brown--- **flavicornis** (Kertesz).
Outer cross vein of wing bordered with brown---------- 15.
15. Thorax testaceous yellow, without dark dorsocentral vitta.
distincta (Kertesz).
Thorax testaceous yellow, with a dark dorsocentral vitta---------- 16.
16. Legs mostly black-brown---------- **fuscipes** (Kertesz).
Legs mostly yellow---------- **testaceipes** (Kertesz).
17. Abdomen without paired black spots on apical tergites-- **papuana** (Kertesz).
Abdomen with paired black spots on one or more of the apical tergites-- 18.
18. Fourth tergite with a pair of black spots---------- **chyzeri** (Kertesz).
Tergites 4 to 6 each with a pair of black spots, and an additional central black spot on 4 and 5---------- **octoguttata** (de Meijere).
19. Mid tibia with a posterior series of strong setulae or short bristles which are noticeably longer and stronger than the other tibial hairs------- 20.
Mid tibia with the usual weak regular hairing on posterior side-------- 34.
20. Hind tibia without a preapical dorsal bristle; fore tibia in male distinctly compressed (**Poecilomyza**, new subgenus)---------- **boettcheri** (Frey).
Hind tibia with a distinct preapical dorsal bristle; fore tibia in male not compressed (Subgenus **Neohomoneura** Malloch)---------- 21.
21. Ocellar bristles reduced to microscopic hairs; orbital bristles longer and stronger than usual; a testaceous yellow species, with a broad black central vitta on thoracic dorsum which extends over scutellum except on the narrow margin, the abdomen with a similar black dorsal vitta.
aberrans (de Meijere).
Ocellar bristles long, and rather strong---------- 22.
22. Anterior sternpleural bristle minute; eye with a very distinct shallow emargination on lower half of posterior side (fig. 39); wing white, with a large fuscous mark occupying more than posterior half, but not extending to base or to apex---------- **albicosta**, new species.
Anterior sternopleural bristle well developed; eyes usually not, or but little, emarginate behind; wings not marked as above---------- 23.
23. Wings grayish or yellowish hyaline, without markings---------- 24.
Wings yellowish hyaline, with conspicuous brown markings; thorax yellowish or fulvous testaceous, immaculate; mid and hind femora without long ventral bristles---------- 26.
24. Frons slightly yellowish in center, entirely pale gray dusted, densely so on the orbits, either of which is as wide as the interfrontalia; thorax fuscous, with a broad pale gray dusted central stripe as in *viatrix* de Meijere; apex of scutellum pale testaceous; abdomen testaceous, with a large black mark on each side of each tergite which leaves only a narrow central vitta and the apical and lateral margins testaceous; femora black, tibiae and tarsi testaceous; venter of abdomen of male with many quite long bristles, the hypopygium rather densely setose--- **setiventris**, new species.
Frons either entirely or partly fuscous; other characters not as above in their entirety---------- 25
25. Thorax blackish; mid femur with long bristles on posteroventral surfaces; hind femur with long bristles apically on anteroventral surface.
lugubris (de Meijere).
Thorax testaceous yellow, with two broad fuscous vittae on dorsum, and two large blackish spots on pleura; mid and hind femora without long ventral bristles---------- **yerburyi**, new species.
26. The dark markings at wing tip extending to extreme apices of veins--- 27.
At least some of the dark marks at wing tip ending before apices of veins---------- 33.

27. Wing markings confined to apices of veins 2, 3, 4, and outer cross vein__ 28.
Wing markings conspicuous on costa from apex of first vein, round tip to beyond apex of fourth vein, and at least on outer cross vein_____ 29.

28. Markings on apices of veins becoming progressively shorter from second to fourth, the anterior extremity of the one on third vein far beyond the anterior extremity of the one on second (fig. 40); center of propleura with some microscopic black hairs_____ jacobsoni Malloch.
Markings on apices of veins not becoming progressively shorter, the one on third vein with its anterior extremity in vertical line with anterior extremity of the one on second, or even projecting in front of it (fig. 41); center of propleura bare; hypopygium as Figure 49___ honesta (Kertesz).
Markings on wings as in honesta; center of propleura haired.
indica, new species.

29. Inner cross vein without trace of a dark brown spot or cloud_____ 30.
Inner cross vein with a spotlike dark brown mark which does not extend to its costal extremity, the dark brown costal and apical cloud separated from the dark mark on outer cross vein by a broad clear area (fig. 42).
limbifera (de Meijere).

30. Costal cloud beginning distinctly beyond apex of first vein; frons not darkened _____31.
Costal cloud beginning at apex of first vein; frons distinctly darkened above_____32.

31. Center of propleura with some microscopic black hairs; costal cloud beginning almost above inner cross vein; no clear marks in apical cloud.
macgregori, new species.
Center of propleura bare; costal cloud beginning distinctly beyond inner cross vein; a small subtriangular clear mark on costa between apices of second and third veins, and another, less distinct, between apices of third and fourth_____incompleta, Malloch.

32. Costal cloud connected with the one over outer cross vein (fig. 43).
orientalis (Wiedemann).
Costal cloud not connected with the one over outer cross vein.
karnyi Malloch.

33. The dark spot on ultimate section of third vein remote from apex, immediately below the one near apex of second, sometimes fused with it (fig. 44).
paroeca (Kertesz).
The dark spot on ultimate section of third vein almost, or quite, extending to apex of vein, and much beyond that close to apex of second vein (fig. 45)_____ nigronotata (Kertesz).

34. Thorax with the anterior pair of dorsocentral bristles very obviously proximad of the suture and only two pairs behind same; face at lower margin about three times as wide as height of cheek (Subgenus Euhomoneura Malloch_____ 35.
Thorax with bristles as in *Euhomoneura;* face at lower margin, and height of cheek, equal (Subgenus Xenohomoneura Malloch____ testacea Malloch.
Thorax with the dorsocentrals behind suture always in three pairs_____38.

35. The dark mark on outer cross vein connected broadly with the one in anal field (fig. 46); antennae black, conspicuously white on base of third segment around aristal insertion_____ nigriflua, new species.
The dark mark on outer cross vein not connected with those in anal field__36.

36. The dark mark on outer cross vein not extending over fifth vein, nor to apex of same (fig. 47)_____ lunata (de Meijere).
The dark mark on outer cross vein extending over fifth vein to margin of wing and apex of vein_____37.

37. Basal segment of antenna yellow ..... lunipennis (de Meijere).
Basal segment of antenna gray ..... ornatipennis (de Meijere).

38. A distinct, but short, intraalar bristle present; arista short haired, sometimes merely pubescent; frons very distinctly longer than wide (Subgenus **Minettioides** new.) ..... 39.
No intra-alar bristle present; hairing of arista variable; frons almost invariably about as wide as long (Subgenus **Homoneura** van der Wulp) .. 43.

39. Wings conspicuously browned, most deeply so along costa, the brown color gradually decreasing in intensity posteriorly, the cross veins slightly darker than field of wing; brownish testaceous species, without black spots on abdomen; hairs on arista about half as long as width of third antennal segment ..... **fumipennis** (Malloch).
Wings not at all browned; abdomen with at least one pair of black spots near apex; hairs on arista not nearly half as long as width of third antennal segment ..... 40.

40. Species with at most two pairs of black abdominal spots ..... 41.
Species with at least three pairs of black abdominal spots ..... 42.

41. Slender species, with the frons a little over 1.5 as long as wide at anterior margin; face almost flat; thorax entirely testaceous; hypopygium as Figure 50 ..... parvinotata (de Meijere).
Robust species, with the frons fully twice as long as wide at anterior margin; face distinctly elevated just above mouth; sternopleura largely fuscous ..... crassiuscula (de Meijere).

42. Fore femur without anteroventral comb ..... Samoan sp. 1.[1]
Fore femur with anteroventral comb ..... Samoan sp. 2.[1]

43. Arista pubescent, the hairs much shorter than half the width of third antennal segment; wings without dark markings even at base; halteres pale (cf. *trifasciata*, 77) ..... 44.
Arista as above; halteres fuscous: glossy black species with two pairs of acrostichals ..... Samoan sp. 3.
Arista with very conspicous hairs, if short haired the wings are marked .. 54.

44. Black species, with, or without, a small proportion of yellow or whitish color on some part of the body, the abdomen always entirely black .. 45.
Yellow species, thorax sometimes grayish, abdomen yellow, with one or two pairs of black dorsal spots, and sometimes dark fasciae on tergites ... 48.

45. Scutellum fuscous, apex conspicuously gray dusted.
piliseta, new name (=**pubiseta** (de Meijere), not Kertesz).
Scutellum uniformly brownish gray dusted ..... 46.

46. Ocellar bristles a little longer than anterior orbitals; species not over 2 mm. in length, with frons dull sulphur-yellow on interfrontalia above, and on entire width in front of anterior orbitals; wings narrower than usual, outer cross vein at about its own length from apex of fifth vein.
exigua (de Meijere).
Ocellar bristles much shorter and weaker than anterior orbitals; species at least 3 mm. in length; frons brownish centrally; outer cross vein at much less than its own length from apex of fifth vein ..... 47.

47. Species 3 mm. in length; orbital stripes dull, densely pale gray dusted, each at upper bristle not over one-third as wide as interfrontalia at same point ..... **coffeata** (de Meijere).

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[1] These species from Samoa included in this key to show their relationships, were received from Dr. P. A. Buxton. They will be described elsewhere.

Species 5 mm. in length; orbital stripes shining, not densely gray dusted, only visibly so when viewed from behind, each at upper brstle almost as wide as interfrontalia at same point_____ **nudiseta** (Kertesz).

48. Thorax with only the prescutellar pair of strong acrostichals behind suture_____ 49.

Thorax with at least one pair of well developed acrostichals behind suture in addition to the prescutellar pair_____ 52.

49. Thorax largely fuscous and quite densely gray dusted, abdomen with a fuscous fascia at middle of at least the third and fourth tergites; hypopygium as Figure 51_____ **hawaiiensis** Malloch.

Thorax entirely testaceous; abdomen without fuscous fasciae_____ 50.

50. Abdomen without paired black dorsal spots apically; hypopygium as Figure 52_____ **curta**, new species.

Abdomen with at least one pair of black dorsal spots apically_____ 51.

51. Black spots on fifth tergite large, extending almost the entire length of the exposed part of tergite; hypopygium as Figure 53__ **nudifrons** (Kertesz).

Black spots on fifth tergite small, opaque; hypopygium as Figure 54. **crassicauda** Malloch.

52. Thorax with one presutural and four postsutural pairs of widely separated acrostichals; abdomen with a central spot, and transverse lateral marks black on apices of tergites except the basal two__ **diacrostichalis** Malloch.

Thorax with or without presutural acrostichals, if there are any such present they are weak, and close to suture; abdomen without transverse black apical marks on tergites_____ 53.

53. Extreme lateral edges of fifth and sixth abdominal tergites furnished with dense short black spinules; hypopygium as Figure 55; abdomen with three small black spots on fifth tergite_____ **acrostichalis** (de Meijere).

No dense short black spinules on extreme lateral edges of any of the abdominal tergites; hypopygium as Figure 56; abdomen with a pair of large black spots on sides of fifth tergite_____ **philippinensis**, new species.

No short black spinules on edges of tergites; hypopygium as Figure 57; abdomen with three spots on fifth tergite_____ **pubiseta** Kertesz.

54. Fifth wing vein thickened for a short distance at base of discal cell, and with microscopic hairs on thickened part; testaceous yellow species with a series of black spots on middle of tergites of apical half of abdomen_____ 55.

Fifth wing vein normal at base_____ 57.

55. Wing with a dark brown costal cloud, less distinct proximad of apex of first vein, which extends almost to third vein up to a point almost above outer cross vein, from there extending into first posterior cell and over almost entire apex of wing, leaving a small clear patch in first posterior cell just beyond outer cross vein on the fourth vein, and connecting with a dark spot on upper extremity on outer cross vein__ **costalis**, new species.

Wing without a dark brown costal cloud, at most the apices of the second, third, and fourth veins clouded beyond level of outer cross vein_____ 56.

56. Apices of veins 2, 3, and 4 quite distinctly clouded with brown; hypopygium as Figure 58_____ **padangensis** (de Meijere).

Apex of second wing vein quite distinctly clouded, those of veins 3 and 4 not noticeably clouded; hypopygium as Figure 59_ **intermedia**, new species.

Apices of veins 2, 3, and 4 not noticeably clouded; hypopygium as Figure 60. **horni**, new species.

57. Ocellar bristles reduced to microscopic hairs, the orbital bristles very long and strong, the upper one longer than height of head, the anterior pair a little wider apart than upper pair, no distinction between orbital stripes and remainder of frons, all shining; a glossy fulvous yellow species with five black marks on dorsum of thorax, the one on each side at middle filling all of length between humeral callosity and base of wing, and quadrate in shape, the posterior pair covering basal angles of scutellum as well as a small portion of posterior lateral angles on mesonotum; sides of abdomen broadly black vittate; wings immaculate.
maculifera (de Meijere).

Ocellar bristles well developed, extending to at least middle of frons; species not colored as above ..... 58.

58. Mid tibia abnormally haired; preapical dorsal bristle on fore tibia abnormally long and slender, extending to, or almost to, apex of basal segment of tarsus (males) ..... 59.

Mid tibia without abnormal hairing; preapical dorsal bristle on fore tibia very much shorter than basal segment of fore tarsus, and usually rather stout ..... 60.

59. Mid tibia with very fine curled hairs on apical third of posteroventral surface which are no longer than tibial diameter; hind femur without outstanding anteroventral bristles ..... **crinita**, new species.

Mid tibia with dense straight bristly hairs on entire length of posterior surface, which are much longer than the tibial diameter, and dense short fine hairs on ventral surfaces; hind femur with a series of fine bristles from base to middle on anteroventral surface, longest apically.
hirtitibia, new species.

60. Wings without conspicuous markings, rarely with the extreme bases infuscated, or the outer, or both cross veins, slightly clouded ..... 61.

Wings with a faint, but evident, pale yellowish clouding along the longitudinal veins and on outer cross vein; head entirely black; thorax and abdomen brownish testaceous, dorsum of former, and basal four tergites of latter, black; knobs of halteres dark brown; hypopygium as Figure 61.
strigipennis (de Meijere).

Wings with quite evident dark markings in addition to any at extreme bases or over the cross veins ..... 107.

61. Extreme bases of wings infuscated; black species, with the knobs of halteres black; thorax with a trace of white dusting round anterior spiracle, and on anterior margin of mesonotum ..... 62.

Bases of wings not infuscated ..... 65.

62. Superior claspers of male hypopygium with three or more short teeth or points projecting at right angles (fig. 62) ..... **dentifera**, new species.

Superior claspers of male hypopygium with at most two processes, which both project downward ..... 63.

63. Hypopygium with two pairs of large black equal-sized processes, one directed forward, the other backward (fig. 63) ..... **opposita** Malloch.

Hypopygium with the forwardly directed pair of processes much smaller than the other ..... 64.

64. Inner process of superior clasper slender, with a rounded apex (fig. 64).
maquilingensis, new species.

Inner process of superior clasper stouter, acute at apex (fig. 65).
trispina Malloch.

Inner process of superior clasper leaflike (fig. 66) ..... **folifera** Malloch.

65. Thorax and abdomen black; halteres dull yellow, with black knobs..... 66.
Thorax and abdomen more or less yellow, but the halteres pale even if these parts are largely, or entirely, black..... 69.

66. Thoracic dorsum dull, evenly and densely brownish gray dusted; frons entirely fuscous, and not shining either on triangle or orbital stripes; intradorsocentral hairs in six series..... **opacithorax** Malloch.
Thoracic dorsum, and at least the frontal triangle and orbital stripes, distinctly shining, the thorax without dusting on disk; intradorsocentral hairs in at least eight series..... 67.

67. Inner cross vein but little, if any, proximad of middle of discal cell; outer cross vein at less than twice its own length from inner; tibiae largely testaceous yellow..... **signatifrons** (Kertesz).
Inner cross vein very conspicuously proximad of middle of discal cell, sometimes at one-third from its base; outer cross vein at more than twice its own length from inner; tibiae largely darkened..... 68.

68. Ocellar bristles little shorter than anterior orbitals; male hypopygium as Figure 67..... **piceoides**, new species.
Ocellar bristles much shorter and weaker than anterior orbitals; male hypopygium as Figure 68..... **nigrita**, new species.

69. Thorax with three or four pairs of strong acrosthichal bristles..... 70.
Thorax with only the prescutellar pair of acrostichal bristles developed... 71.

70. Head, thorax, and obdomen, shining testaceous yellow, the abdomen with a pair of round black spots on fourth visible tergite; anterior pair of acrostichals presutural; anterior orbitals much longer and stronger than ocellars..... **luzonensis**, new species.
Head and thorax partly, abdomen entirely, black; anterior pair of acrostichals just behind suture; anterior orbitals a little shorter than ocellars. **robusta**, new species.

71. Hind tibia lacking the preapical dorsal bristle; anterior orbital bristle rarely over half as long as posterior one; third antennal segment blackened at apex; shining fulvous yellow species..... 72.
Hind tibia with a distinct preapical dorsal bristle, sometimes quite short..... 78.

72. A conspicuous black mark at base of scutellum; anterior orbital bristle about one-third as long as posterior one..... 73.
No black mark at base of scutellum; anterior orbital bristle over one-third as long as posterior one..... 77.

73. Face entirely deep black from eye to eye..... **atriceps**, new species.
Face entirely yellow..... 74.

74. Thorax with two submedian fuscous vittae which begin behind anterior margin, and connect with the black mark on base of scutellum; mid femur with some long fine bristles on basal half of posteroventral surface, and hind tibia with a sharp carina on dorsal surface apically in male; hypopygium as Figure 69..... **bilineella** (Frey).
Thorax without fuscous dorsal vittae, posterior margin of mesonotum black centrally, the black color connected with the black basal mark on scutellum..... 75.

75. Palpi black at apices; outer cross vein of wing quite distinctly clouded; mid femur in male with some long fine bristles on basal half of posteroventral surface; hind tibia of male with a sharp carina on dorsal surface apically; hypopygium as Figure 70..... **nothosticta** (Frey).
Palpi entirely yellow; outer cross vein not at all clouded; mid femur in male without long posteroventral bristles; hind tibia not sharply carinate on dorsum in either sex..... 76.

76. Male hypopygium as Figures 71 and 72; Formosan species.
notostigma (Kertesz).

Male hypopygium as Figures 73 and 74; Javanese species.
demeijerii, new species.

77. Frons with an opaque black triangular mark between anterior portion of each orbital stripe and eye; only the outer cross vein clouded; anterior orbital fully half as long as posterior one; hypopygium as Figure 75.
bakeri, new species.

Frons without anterior triangular black marks; both cross veins slightly clouded; anterior orbital not fully half as long as posterior one; hypopygium as Figure 76 ..... leucoprosopon (de Meijere).

78. Thorax largely, or entirely, black or fuscous, never yellow on disk, and often densely gray dusted at least in part; apex of scutellum always very distinctly paler than base, generally stramineous, except in *toxopeus* ..... 79.

Thorax testaceous or fulvous yellow, the ground color never obscured by grayish dusting; apex of scutellum not paler than its base ..... 85.

79. Prescutellar acrostichals microscopic, usually almost indistinguishable; thorax and abdomen shining black, almost devoid of dusting; humeri yellowish; apex of scutellum broadly yellowish; palpi and mid and hind femora largely fuscous ..... ornatifrons (de Meijere).

Prescutellar acrostichals conspicuously developed; thorax not shining black, with dense grayish or whitish dusting ..... 80.

80. Frons, and center of thoracic dorsum, incuding that of scutellum, with dense whitish gray dusting, the whole forming a broad pale vitta which is bordered on each side by a narrower dark brown vitta on thorax, between which vittae and the lateral dark margins there is another linear whitish vitta; pleura gray dusted, with two dark brown vittae; face fuscous, gray dusted; palpi and femora almost entirely black; tibiae and tarsi yellow ..... viatrix (de Meijere).

Frons distinctly bicolored, yellow and black, or gray; dorsum of thorax not vittate, densely gray dusted all over; pleura not vittate; palpi and femora yellow ..... 81.

81. Abdomen testaceous yellow, with black or fuscous markings at apices of tergites; legs testaceous, hind tibiae with a dark incomplete subbasal band; outer cross vein narrowly and faintly clouded ..... 82.

Abdomen dark gray, without spots, the apices of tergites very narrowly yellow; outer cross vein not clouded; face testaceous ..... 84.

82. Scutellum not pale on margin; face yellow; pteropleura and mesopleura largely black ..... toxopeus Malloch.

Scutellum distinctly pale on margin ..... 83.

83. Face with a gray transverse band or pair of spots near middle; abdomen with a central series of elongate black marks, and on each side a transverse black apical mark on each tergite except basal and apical; hypopygium as Figures 77, 78; apex of fifth tarsal segment blackened.
beckeri (Kertesz).

Face testaceous; each abdominal tergite except basal and apical with a complete black apical fascia which is carried forward triangularly at middle; upper half of occiput yellowish testaceous; male hypopygium as Figure 79; apex of fifth tarsal segment blackened ..... fasciventris Malloch.

Face with a fuscous mark near middle as in *beckeri;* abdominal tergites marked as in *fasciventris;* upper half of occiput with a large fuscous mark on each side; hypopygium as Figure 80; fifth tarsal segment pale.
occipitalis Malloch.

84. Frons dull gray, yellow in front; legs stramineous, a brownish mark at apex of fore tibia on posterior side, and another near base of hind tibia on ventral side_____ **immaculata** (de Meijere).
Frons ochreous yellow, only the orbital stripes and ocellar region gray; legs stramineous, fore femur with a brownish preapical mark on anterior side along the bases of the anteroventral comb of setulae.
circumcincta (Frey).

85. Longest hairs on arista not over half as long as width of third antennal segment; abdomen with a large black mark at apex on each side of each tergite except the basal two, which is broadest at inner extremity and tapers off outwardly, the inner extremities quite widely separated; ocellar bristles weak and short, hardly more than half as long as anterior orbitals; cross veins of wings not clouded_____ **trifasciata** (de Meijere).
Longest hairs on arista at least as long as width of third antennal segment; abdomen with one or two pairs of black spots, with some of the tergites tripunctate, quadripunctate, or all impunctate_____ 86.

86. Abdomen with some distinct round, or subquadrate, black spots on at least one of the tergites, usually the fifth_____ 87.
Abdomen without distinct black spots on tergites, sometimes with a faint central vitta or suffusion_____ 95.

87. Neither of the cross veins very evidently clouded_____ 88.
At least the outer cross vein of wing quite noticeably clouded, not conspicuously so_____ 92.

88. Abdomen with three black spots on fifth tergite and five on sixth; ocellar bristles as long as anterior orbitals; hypopygium as Figure 81.
immaculipennis, new species.
Abdomen without a central black spot on fifth and sixth tergites, but with two or four such spots on at least the fifth_____ 89.

89. Ocellar bristles as long as anterior orbitals; penultimate section of fourth vein fully two-thirds as long as ultimate_____ 90.
Ocellar bristles much shorter than anterior orbitals; penultimate section of fourth vein but little over half as long as ultimate_____ 91.

90. Abdomen with a pair of black spots on fifth tergite and another on sixth, and in addition a spot on lateral margin of each of these tergites.
signata (van der Wulp).
Abdomen with a pair of black spots on fifth tergite, none on sixth or on lateral margins of either fifth or sixth_____ **neosignata**, new species.

91. Third antennal segment entirely yellow_____ **bioculata** (de Meijere).
Third antennal segment infuscated on apical half__ **kerteszi** (de Meijere)

92. Abdomen with a median black spot on fifth and sixth tergites, and two pairs of similar spots on each side of it, the outer one on lateral margin, the submedian one on sixth tergite very small, subobsolete; uppermost hair in the series on lower part of sides of face much stronger and longer than the others_____ **mediosignata** (Frey).
Abdomen without median black spot on fifth and sixth tergites, the spots submedian and paired_____ 93.

93. Abdomen with but one pair of shining black spots; mid femur in male with a series of long hairs on posteroventral surface which are fine at base and become bristlelike beyond; apices of longitudinal veins very slightly browned, that of second most obviously so.
biguttata (Macquart).
Abdomen with two pairs of black spots; mid femur of male without long posteroventral hairs or bristles; apices of veins not clouded_____ 94.

94. Inner cross vein and round extreme margin of wing tip slightly clouded. halterata (Kertesz).
Inner cross vein and margin of wing tip not clouded. novaeguineae (Kertesz).
95. Thoracic dorsum with eight or ten series of short intradorsocentral hairs ---- 96.
Thoracic dorsum with six or less series of short intradorsocentral hairs 101.
96. Tergites of apical half of abdomen with a black dorsocentral spot or vitta, and all except the rudimentary basal and apical tergites with a complete narrow black apical fascia---- biroi (Kertesz).
Tergites without distinguishable black markings, sometimes apex of abdomen dark ---- 97.
97. One or two of the setulae just in front of the supra-alar bristle usually as long as those on tegula; anterior one of the three apical ventral bristles on mid tibia but little shorter than middle one; apical bristles on fifth tergite in female shorter and weaker than those on fourth; no outstanding setula at upper extremity of the series of hairs on lower part of sides of face---- 98
No outstanding setulae in front of supra-alar bristle, the longest hairs much shorter than longest setula on tegula; anterior one of the ventral bristle on mid tibia not half as long as middle one; apical bristles on fifth tergite not noticeable shorter nor weaker than those on fourth-- 100.
98. Outer cross vein slightly but distinctly clouded; abdomen not infuscated on apical half; hypopygium as Figure 83---- grossa (de Meijere).
Outer cross vein not at all clouded; abdomen infuscated on apical half- 99.
99. Hypopygium as Figure 84---- fuscobrunnea, new species.
Hypopygium as Figure 85---- nigroapicata Malloch.
100. An outstanding setula at upper extremity of the series of fine hairs on lower part of sides of face; anterior orbital bristle about three-fourths as long as posterior one---- simplisissima (de Meijere)
No outstanding setula on lower part of sides of face, the fine hairs of almost uniform length; anterior orbital bristle as long as posterior one; hypopygium as Figure 86---- sauteri Malloch.
No outstanding bristle on lower part of sides of face; hypopygium as Figure 84---- fuscobrunnea Malloch.
101. Apical third or more of third antennal segment deep black---- 102.
Antennae entirely yellow---- 103.
102. Anterior orbital bristle less than half as long as posterior one; hypopygium as Figure 87---- affinis, new species.
Anterior orbital bristle more than half as long as posterior one; hypopygium as Figure 88---- sublucida, new species.
103. Outer cross vein distinctly, but inconspicuously, clouded with brown; anterior orbital fully half as long as posterior; hypopygium as Figure 89. laticosta (Thomson).
Outer cross vein of wing not clouded---- 104.
104. Anterior orbital bristle less than half as long as posterior one; sides of face slightly white dusted; hypopygum as Figure 90. lucida (de Meijere).
Anterior orbital bristle over half as long as posterior one---- 105.
105. Sides of face when seen from above very conspicuously white dusted, silvery; hypopygium as Figure 91---- unguiculata (Kertesz).
Sides of face not, or very little, white dusted---- 106.

106. Mid tibia with one long apical ventral bristle, the other two bristles reduced to very short setulae; hypopygium as Figure 92.
pallidula Malloch.

Mid tibia with two long apical ventral bristles, the posterior one but little shorter than the middle one, the anterior one reduced to a short setula; hypopygium as Figure 93 ..... diversa (Kertesz).

107. Thorax with strong acrostichals from before suture to hind margin of mesonotum, three or four pairs in all; wing marked as Figure 48; hypopygium as Figure 94 ..... geomyzina (Frey).

Thorax with only the prescutellar acrostichals well developed, if with more then the wings black, with many small white or hyaline spots ..... 108.

108. Wings blackened or browned on costa to, or almost to, apex of fourth vein, the dark color becoming gradually less intense posteriorly, not extending to hind margin of wing, the outer cross vein usually without a conspicuous, separated, dark clouding ..... 109.

Wings with clearly defined, isolated, or connected, dark markings, and interspersed clear areas, in front of fourth vein, the outer cross vein always with a conspicuous dark mark ..... 113.

109. Arista almost bare ..... grahami, new species.

Arista plumose or at least with distinct hairs ..... 110.

110. Small species, about 3 mm. in length; thorax with six series of intradorsocentral hairs; wings faintly clouded, the outer cross vein with a faint isolated cloud; hypopygium as Figure 89 ..... laticosta (Thomson).

Larger species; thorax with 8–10 series of intradorsocentral hairs; wings conspicuously clouded ..... 111.

111. Longest hairs on arista about one-fourth as long as width of third antennal segment; species less than 5 mm. in length; a pale streak in discal cell and another pale mark in first posterior cell near middle.
discoidalis (Kertesz).

Longest hairs on arista about one-half as long as width of third antennal segment ..... fumipennis Malloch.

Longest hairs on arista as long as width of third antennal segment; species at least 5 mm. in length; no pale streak in discal cell ..... 112.

112. A pale line along hind margin of costal vein; abdomen pitchy black; femora darker than tibiae and tarsi; hypopygium as Figure 95.
dichroa (de Meijere).

No pale line along hind margin of costal vein; abdomen testaceous yellow, with narrow dark hind margins to tergites; legs yellow.
nigripennis (de Meijere).

113. Wings blackish or fuscous, with many small hyaline round spots on disk, and subtriangular, or oblong, hyaline spots round margins; second vein farther from costa than usual, the marginal cell opposite outer cross vein wider than submarginal at same point; one or more pairs of the acrostichals besides the prescutellar pair rather conspicuous ..... 114.

Wings hyaline, with dark markings, the pale marks on disk not consisting of numerous small round hyaline spots, and most of the margins hyaline; second vein in normal position, the marginal cell never wider than submarginal opposite outer cross vein; no conspicuous acrostichals except prescutellar pair ..... 115.

114. Outer cross vein very oblique, forming an almost continuous line with apical section of fifth vein, and with a small hyaline spot close against each side of it near its inner extremity; penultimate section of fourth vein a little over as long as ultimate; abdominal tergites each with several large gray dusted spots on anterior margin, and a series of small similarly colored spots along hind margin; all femora with a narrow fuscous annulus beyond middle which is incomplete above.
trypetoptera (Hendel) (=**histrio** de Meijere).

Outer cross vein less oblique, and without a pale spot close against each side near inner extremity; penultimate section of fourth vein about four-fifths as long as ultimate; all tergites with the large anterior gray-dusted spots, which are rather irregular, but without the small pale hind marginal spots; all femora darkened basally, fore pair least broadly so---------- **picta** (de Meijere).

115. Face testaceous, with two conspicuous round dark spots; thorax testaceous yellow, dorsum with five fuscous vittae, the middle one broad, and extending over scutellum except narrowly on margin; entire costa dark brown, the dark color extending to middle of submarginal cell and connecting with the spots on third vein---------- 116.

Face either testaceous or fuscous, but without a pair of conspicuous round dark spots; dorsum of thorax without five conspicuous fuscous vittae ---------- 118.

116. Wing with a hyaline spot at apex of third vein on its upper side in addition to the larger one on under side at apex of second vein.
quinquevittata var. **formosana** Malloch.

Wing without a hyaline spot at apex of third vein on its upper side, only the large one on under side of apex of second vein present---------- 117.

117. Pleura with a complete dark vitta across middle; the clear spot at apex of first posterior cell conspicuous between apices of third and fourth veins; hypopygium with the process at apex of each lateral arm of basal tergite short and conspicuously hooklike----**quinquevittata** (de Meijere).

Pleura with three dark spots along middle; the clear mark at apex of first posterior cell reduced to a mere line on margin; hypopygium with the process of each lateral arm of basal tergite straight, rather long, and very slightly clavate at apex---------- **pleuripuncta** Malloch.

118. Wing with a dark mark on third vein beyond level of inner cross vein, in addition to the one at apex of the vein---------- 119.

Wing without a dark mark on third vein beyond inner cross vein in addition to the one at apex of the vein---------- 132.

119. Three dark marks on third vein beyond inner cross vein in addition to the one at apex of the vein; arista plumose---------- 120.

Two dark marks on third vein beyond inner cross vein in addition to the one at apex of the vein---------- 121.

One dark mark on third vein beyond inner cross vein in addition to the one at apex of the vein---------- 127.

120. The spot on second wing vein elongate, covering at least half the length of vein beyond apex of first vein, but not extending to tip of vein; some, or all, of the dark spots on third vein connecting with the dark marks on second and fourth veins; apex of cell between auxiliary and first veins fuscous; thorax testaceous, dorsum gray dusted, and with four narrow dark brown vittae, the area between the submedian pair grayish; third antennal segment darkened apically; disk of scutellum dark brown or fuscous; frons longer than wide---------- **caloptera** (Kertesz).

The spot on second vein very small and at extreme apex; usually only the apical spot on second vein connected with one on third; thorax shining fulvous-testaceous; third antennal segment not darkened apically; scutellum not darkened on disk; frons wider than long_____ latifrons Malloch.[8]

121. Costal margin hyaline from apex of first vein to the small dark spot at apex of second vein_____ 122.

Costal margin entirely, or almost entirely, dark brown from apex of first vein to apex of second_____ 126.

122. No dark cloud over junction of second and third veins; species yellowish testaceous in color, the only dark markings consisting of small dorsocentral spots on abdomen_____ 123.

A dark cloud over the junction of second and third veins; species largely black or fuscous; longest hairs on arista longer than width of third antennal segment; male with some long fine bristles on anteroventral surface of hind femur_____ 124.

123. Frons wider than long, entirely yellow; longest hairs on arista fully as long as width of third antennal segment; cell between auxiliary and first veins entirely hyaline; abdomen without dark dorsocentral spots; thoracic dorsum without vittae_____ latifrons Malloch.

Frons longer than wide, with two pale brownish vittae; longest hairs on arista about half as long as width of third antennal segment; apex of cell between auxiliary and first veins infuscated; abdomen with a black dorsocentral spot on each tergite of apical half; thorax with four or six faint rufous vittae_____ subvittata Malloch.

124. Frons unicolorous rufous, or very faintly clouded on orbits, and slightly shining, the orbital stripes hardly differentiated; thorax and abdomen black on dorsum_____ talamaui (de Meijere).

Frons bicolored, not entirely shining, and with the orbital stripes conspicuously differentiated, and paler than parts on each side of them_____ 125.

125. Thorax almost entirely black: no dark cloud on second vein above inner cross vein_____ ungaranensis (de Meijere).

Thorax testaceous yellow, brownish on dorsum; a faint dark cloud on second vein above inner cross vein_____ angustata (de Meijere).

126. A slight but distinct break in the brown costal stripe directly above the first brown spot on third vein beyond inner cross vein.
strigata (de Meijere).

No interruption of the dark costal stripe from first vein to apex of second.
medionotata (de Meijere).

127. Inner cross vein not clouded, the extra dark spot on third vein proximad of outer cross vein, or almost immediately over it_____ 128.

Inner cross vein distinctly clouded, the extra dark spot on third vein beyond outer cross vein_____ 130.

128. The extra dark spot on third vein almost directly above outer cross vein, and above it a spot on second vein which does not extend to apex of that vein_____ flavomarginata (Kertesz).

The extra dark spot on third vein well in front of outer cross vein, about one-third from apex of discal cell, the dark spot on second vein much beyond that on third, and extending to apex of vein_____ 129.

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[8] The Philippine species *scriepunctata Frey* is very similar to this one. For a discussion of distinguishing characters see under *scriepunctata* in text.

129. The downwardly projecting process on tergite which forms the basal portion of hypopygium with a fine thornlike tip (fig. 96).
chinensis Malloch.

The downwardly directed process of this tergite rounded at tip.
grandis (Kertesz).

130. No dark mark over apices of auxiliary and first veins, and none basad of the one on inner cross vein; the dark streak on apical portion of second vein extending to tip of vein ..... varinervis (Kertesz).

A dark mark over apices of auxiliary and first veins, which connects with the one on inner cross vein; the dark streak on apical portion of second vein not extending to tip of vein ..... 131.

131. The dark spot on fourth vein not extending basad on vein farther than the one on apex of third vein; apex of third antennal segment broadly infuscated; no dark lines on face; fourth vein not clouded basad of inner cross vein ..... bistriata (Kertesz).

The dark spot on fourth vein extending much farther basad on vein than the one on apex of second; third antennal segment yellow; a dark transverse line near lower margin of face, and one on each side on suture between parafacial and and central part of face; fourth vein with the base of antepenultimate section conspicuously clouded.
striatifrons (de Meijere).

132. The dark wing markings consisting of clouds over one or both cross veins, elongate clouds on apices of veins 2, 3, and 4, these latter fused into a single cloud, and this sometimes carried basad along costa even to base of wing ..... 133.

The dark wing markings consisting of isolated clouds on one or both cross veins, and on apices of veins 2 to 4, and rarely on costa between apices of auxiliary and first veins ..... 135.

133. The cloud on apex of second vein not extending basad of level of outer cross vein; both cross veins distinctly clouded; abdomen with a pair of black transverse marks on apices of two or three of the apical tergites, and the sides of the hypopygium black ..... beccari (Kertesz).

The cloud on second vein extending well basad of level of outer cross vein ..... 134.

134. The cloud on second vein extending basad almost to level of inner cross vein, but falling distinctly short of apex of first vein; inner cross vein not clouded, the outer one faintly suffused ..... lorentzi (Kertesz).

The cloud on second veing extending basad of apex of auxiliary vein, much narrowed in costal cell; both cross veins distinctly clouded.
vankampeni (de Meijere).

135. Third antennal segment deep black on apical third; palpi yellow; anterior orbitals barely half as long as posterior pair, and a little wider apart; longest hairs on arista fully as long as width of third antennal segment; intradorsocentral hairs in at least eight series; preapical dorsal bristle on hind tibia not, or very slightly, longer than the apical curved anteroventral spur, and close to apex; thorax entirely yellow, shining ..... quinquenotata (de Meijere).

Third antennal segment entirely yellow, or very slightly darkened apically; anterior orbitals but little shorter than posterior pair, and slightly closer together at bases; intradorsocentral hairs in six series; preapical dorsal bristle on hind tibia much longer than the apical spur; thorax grayish dusted and opaque ..... 136.

136. Tips of palpi blackened ..... 137.
Tips of palpi not blackened ..... 138.

137. Longest hairs on arista less than half as long as width of third antennal segment; thorax without evident dark markings on dorsum. brevicornis (Kertesz).
Longest hairs on arista distinctly more than half as long as width of third antennal segment; thoracic dorsum with a dark mark along inner side of each humeral callosity, and a dark vitta along inner side of each series of dorsocentrals ..... punctipennis (de Meijere).

138. Cell at apices of auxiliary and first veins infuscated; thoracic dorsum with four broad reddish vittae, the central pair extending over disk of scutellum ..... preapicalis Malloch.
Cell at apices of auxiliary and first veins clear; thoracic dorsum not noticeably vittate ..... bancrofti (Bergroth).

Subgenus CHAETOHOMONEURA Malloch

This subgenus was described in "Supplementa Entomologica"[9] and the genotype is *Lauxania semibrunnea* de Meijere.

HOMONEURA (CHAETOHOMONEURA) UMBROSA, new species

Male.—Head brownish fuscous, yellowish on anterior part of frons and parafacials; antennae testaceous yellow; palpi black. Thorax testaceous yellow, largely obscured with fuscous or black shading, sometimes only the humeral angles and along the sutures yellowish. Abdomen fuscous, or black, usually yellow at base. Legs pitchy, the tibiae and tarsi paler. Wings luteous. Halteres yellow.

Frons less than one-third of the head width, the orbital stripes shining and distinct, bristles all strong, ocellar pair shortest; arista plumose. Thorax with three pairs of postsutural dorsocentrals, one pair of strong prescutellar acrostichals, a strong prealar, about 12 series of intradorsocentral hairs, two sternopleurals, and some of the hairs in line between the posterior dorsocentral and supra-alar bristles strongly developed. Hypopygium as Figure 32. Fore femur with an anteroventral comb; mid femur with several strong, short, posteroventral bristles; hind femur with some fine anteroventral bristles on apical half; mid tibia with from 2 to 4 rather long strong posterior bristles. Inner cross vein of wing a little proximad of middle of discal cell; apical section of fourth vein hardly longer than preapical.

Length, 5.5 to 6 mm.

Type, male, *allotype*, one male and three male and two female *paratypes*, Mount Maquiling, Luzon; one female paratype, Butuan, Mindanao (C. F. Baker).

Type.—Male, Cat. No. 41150, U.S.N.M.

[9] Volume 15, p. 106, 1927.

HOMONEURA (CHAETOHOMONEURA) SEMIBRUNNEA (de Meijere)

Lauxania semibrunnea DE MEIJERE, Tijdschr. v. Ent., vol. 58, p. 91, 1915.

This species is very similar to the preceding one, the only characters for their separation consisting of the color of the thorax, which may be variable, and the structure of the male hypopygium (fig. 31).

I have seen only a Sumatran specimen sent to me by Doctor de Meijere.

HOMONEURA (CHAETOHOMONEURA) GEDEHI (de Meijere)

Lauxania gedehi DE MEIJERE, Tijdschr. v. Ent., vol. 57, p. 231, 1914.

The specimen of this species sent to me by Doctor de Meijere is greasy, but the color is evidently normally darker than in *obscuripes* de Meijere. I have drawn the male hypopygium as it is evident on the specimen without dissection (fig. 34); the very long lateral extension of the basal portion should be a good character for the recognition of the species.

Habitat.—Java.

HOMONEURA (CHAETOHOMONEURA) OBSCURICEPS (de Meijere)

Lauxania obscuriceps DE MEIJERE, Tijdschr. v. Ent., vol. 67, p. 50, 1924.

The type specimen before me is a female. I note that there is a faint brown suffusion on the outer cross vein and the apices of veins 2 to 4, inclusive, most distinct on second vein, but the grassy condition of the wings in *gedehi* prevents me from distinguishing if this clouding is present in it also.

Locality.—Sumatra.

HOMONEURA (CHAETOHOMONEURA) NIGROFULVA Malloch

Homoneura (*Chaetohomoneura*) *nigrofulva* MALLOCH, Suppl. Ent., vol. 15, p. 106, 1927.

HOMONEURA (CHAETOHOMONEURA) KOCKI Malloch

Homoneura (*Chaetohomoneura*) *kocki* MALLOCH, Suppl. Ent., vol. 15, p. 106, 1927.

HOMONEURA (CHAETOHOMONEURA) ANTHRAX Malloch

Homoneura (*Chaetohomoneura*) *anthrax* MALLOCH,, Suppl. Ent., vol. 15, p. 107, 1927.

HOMONEURA (CHAETOHOMONEURA) FUMIBASIS Malloch

Homoneura (*Chaetohomoneura*) *fumibasis* MALLOCH, Suppl. Ent., vol. 15, p. 107, 1927.

The above four species were described in the paper in which the subgenus was described, as above noted. All are from Sumatra. The hypopygium of *fumibasis* is shown in Figure 33, of *kocki* in Figure 35, of *nigrofulva* in Figure 36.

GRIPHONEUROIDER, new subgenus

I erect this subgenus for the reception of those species from the Orient which have been heretofore placed in *Griphoneura*, and include with them three others described as species of *Sapromyza* and *Lauxania*. I distinguish the subgenus from *Griphoneura* by the costal armature, which in the latter is similar to that of *Sapromyza*, by the presence of a fore femoral comb, and the long ocellar bristles. There is a flattened area on the posterior surface of the fore metatarsus of the males of the genus *Griphoneura* which I have examined that is not present in any male of *Griphoneuroides* I have seen. The apex of the wing of the subgenotype is shown in Figure 37.

Subgenotype.—Griphoneura testaceipes Kertesz.

The included species occur mostly in New Guinea, but *wallacei* Malloch is from Mysol, and it may be that some species will yet be found in the Philippines.

POECILOMYZA, new subgenus

This subgenus is distinguished by the presence of several short bristles on the posterior side of mid tibia, the absence of the preapical dorsal bristle on hind tibia, and, in the male at least, by the compressed fore tibia. The seventh wing vein is evident almost to margin of wing. Otherwise similar to *Homoneura vera*.

Subgenotype.—Phobeticomyia boettcheri Frey.

HOMONEURA (POECILOMYZA) BOETTCHERI (Frey)

Phobeticomyia boettcheri FREY, Acta Soc. pro Fauna et Flora Fennica, vol. 56, p. 24, 1927.

Male.—Head black; frontal orbits and triangle densely gray dusted, the orbital bristles inserted in small black dots, anterior margin of frons narrowly yellow, the pale color connecting with a gray mark touching each eye, the orbits diverging from eyes anteriorly; face whitish dusted, with two black spots at middle; each orbit with two pale gray dusted marks; antennae fuscous, third segment largely yellowish; arista gray dusted. Abdomen black, shining. Legs black, tarsi testaceous, darkened apically. Wings fuscous, with a hyaline mark on each side of, and above, and below, inner cross vein, a narrow hyaline fascia extending across wing before apex of second vein and beyond outer cross vein, and three hyaline spots, or an interrupted fascia, between it and apex of wing. Halteres yellow.

All frontal bristles long, anterior orbitals shortest; arista plumose; face slightly convex. Thorax with three pairs of postsutural dorsocentrals, six series of intradorsocentral hairs, one pair of prescutellar

acrostichals, and two sternopleurals. Fore femur with an anteroventral comb; fore tibia quite sharp on dorsal surface. Last three sections of fourth vein subequal in length.

Length, 3.5 mm.

Locality.—Cuernos Mountains, Negros (C. F. Baker). Originally described from Mindanao and Masbata by Frey, who placed it in the genus *Phobeticomyia* Kertesz.

Subgenus NEOHOMONEURA Malloch

This subgenus was described in the same paper as *Chaetohomoneura*. The genotype is *Sciomyza orientalis* Wiedemann.

HOMONEURA (NEOHOMONEURA) ABERRANS (de Meijere)

Lauxania aberrans DE MEIJERE, Tijdschr. v. Ent., vol. 58, p. 90, 1915.

This is a strikingly colored species, being testaceous yellow, with a black central streak on occiput, a broad black dorsal vitta on thorax which extends almost to tip of scutellum, and a similar black dorsal vitta on abdomen. The wings are hyaline, antennae, palpi, and legs yellow.

The species differs from most of its allies in having the frons longer than wide and distinctly widened from vertex to anterior margin, and the ocellar bristles fine and minute. The arista is long plumose, the eyes are narrowed below and slightly emarginate on lower half behind; dorsocentrals three pairs, acrostichals one pair. Hypopygium very large, the superior forceps strong, tapered, extending forward to beyond middle of abdomen. Fore femur with an anteroventral comb; mid tibia with a series of short posterior setulae and one long and two shorter apical ventral bristles; hind femur with two or three preapical anteroventral bristles.

Length, 5 to 6 mm.

Locality.—Singapore (C. F. Baker). I have not seen it from the Philippines.

HOMONEURA (NEOHOMONEURA) ALBICOSTA, new species

Female.—Head yellow testaceous, frons and sides of face white dusted; ocellar spot fuscous. Thorax yellow testaceous, slightly shining, dorsum with three broad fuscous vittae overlaid with gray dust, which are fused posteriorly, the median one showing traces of a central division, and present only on the posterior half of the disc; pleura and postnotum largely fuscous; scutellum testaceous. Abdomen pitchy, paler basally, the lateral margins of tergites slightly silvery dusted. Legs testaceous. Wings white, with a large fuscous mark from apices of basal cells to well beyond outer cross vein and from middle of submarginal cell to hind margin. Halters dull yellow.

Head as in Figure 39; frons one-third of the head width, slightly widened anteriorly, almost bare, the bristles all long, orbital stripes not shining, diverging from eyes anteriorly; face evenly convex, more pronouncedly elevated than usual in this genus; genal sutures more evident than usual, as shown in figure. Thorax with three pairs of strong postsutural dorsocentrals, one pair of prescutellar acrostichals, about ten series of intradorsocentral hairs, the anterior sternopleural lacking, and some hairs on the lower anterior portion of mesopleura bristle-like; scutellum flat above, apical bristles crossed. Abdomen stout, tergites with the apical bristles strong on sides, weaker centrally. Fore femur with an anteroventral comb; mid tibia with the posterior setulae numerous and not prominent; hind femur with one or two weak precapical anteroventral bristles. Inner cross vein at middle of discal cell; penultimate section of fourth vein fully two-thirds as long as ultimate section.

Length, 5 mm.

Type.—Cat. No. 41140, U.S.N.M. Sandakan, Borneo (C. F. Baker.)

HOMONEURA (NEOHOMONEURA) SETIVENTRIS, new species

Male and female.—Head fuscous, occipital margin and cheek testaceous, with gray dust, upper portion of face gray dusted, frons yellowish, gray dusted, orbits darker but obscured by very dense pale gray dust; antennae testaceous, gradually darkening below, the upper side of third segment basally palest; palpi fuscous. Thorax fuscous, with a broad central vitta of pale gray dust on dorsum extending lateral of the series of dorsocentral bristles, and another, narrower, vitta on each side; pleura with a gray dusted vitta across middle of mesopleura and the lower portion of sternopleura gray dusted; apex of scutellum testaceous. Abdomen testaceous, with a broad black mark at base of each tergite which is narrowly interrupted in center and leaves only the apex and lateral margins testaceous. Legs testaceous, coxae and femora black. Wings grayish hyaline, veins brown. Halteres yellow.

Frons over 1.5 as long as wide, all bristles well developed, ocellars shortest, orbits wide, the surface with a few minute hairs; antennae normal; arista plumose; cheek about half as high as width of third antennal segment. Thorax normal; scutellum flat above. Abdomen of male with many ventral bristles, the hypopygium quite densely setose. Fore femur with an anteroventral comb; mid femur with some short fine bristles on posteroventral surface in male, the hind femur in same sex with a series of quite long anteroventral bristles which is duplicated centrally; preapical dorsal bristle present on all tibiae. Inner cross vein close to middle of discal cell; penultimate section of fourth vein about four-fifths as long as ultimate section.

Length, 4 to 5 mm.

Type.—Male, Cat. No. 41076, U.S.N.M. *Type*, male, *allotype*, and 9 *paratypes*, Mount Maquiling, Luzon (C. F. Baker).

This species rather resembles *beckeri* Kertesz in some particulars of color, but belongs to a different subgenus.

HOMONEURA (NEOHOMONEURA) LUGUBRIS (de Meijere)

Lauxania lugubris DE MEIJERE, Tijdschr. v. Ent., vol. 53, p. 126, 1910.

This species has the head fuscous, with the antennae hardly paler; thorax fuscous, slightly shining, the dorsum with rather dense grayish dusting and almost imperceptibly vittate, mesonotum testaceous yellow. Abdomen largely testaceous yellow, apices of the tergites black. Legs dusky, the tibiae and tarsi yellowish. Wings grayish hyaline, veins yellow, most noticeably so at bases. Halteres yellow.

Differs from the preceding species in having the posteroventral surface of mid femur with about four bristles which are much longer than the femoral diameter, the hind femur with similar long bristles on apical half of anteroventral surface, longest at base of series, and laterad of the bristles some fine hairs; preapical dorsal bristle on fore tibia longer than usual, but shorter than metatarsus; mid tibia with about four posterior bristles.

I have seen only a Javanese specimen sent to me by Doctor de Meijere.

HOMONEURA (NEOHOMONEURA) YERBURYI, new species

Female.—Head testaceous, more yellow on frons; orbital stripes and the narrow ocellar triangle, which reach to anterior margin of frons, deep black; antennae fuscous, apex of second segment and base of third yellow; proboscis and palpi yellow; a dark mark on each side of upper half of occiput. Thorax yellowish testaceous, dorsum slightly gray dusted, and with a broad vitta on each side between the dorsocentrals and supra-alar which is reddish internally, becoming black along outer margin; scutellum brownish in center, with a broad blackish mark between the brown part and the narrow testaceous margin; two large black marks on pleura, one on upper part of mesopleura, the other on upper anterior part of sternopleura; metanotum narrowly black just below scutellum. Abdomen testaceous yellow, apices of tergites narrowly black. Legs testaceous yellow. Wings yellowish hyaline, no veins clouded. Halteres yellow.

All frontal bristles long and strong; postverticals weaker and shorter than ocellars; arista plumose; eye as in *albicosta;* face evenly convex. Thorax as in *albicosta*, but the anterior sternopleural well developed. Mid tibia with the posterior setulae short, but readily

distinguishable; preapical dorsal bristle on mid and hind tibiae very short. Inner cross vein at middle of discal cell.

Length, 6.5 mm.

Type.—Hakgala, Ceylon, May 13, 1891 (Col. J. W. Yerbury). [British Museum.]

Named in honor of the collector.

HOMONEURA (NEOHOMONEURA) JACOBSONI Malloch

Homoneura (*Neohomoneura*) *jacobsoni* MALLOCH, Suppl. Ent., vol. 15, p. 108, 1927.

This species is very similar to *honesta* Kertesz, but is readily distinguished by the wing markings. (Fig. 40.) In the type specimen of this species there are short black hairs on the central portion of the propleura below and in front of spiracle which I have not seen in any specimen of *honesta*.

The type specimen of this species was sent to me as *honesta* by Doctor de Meijere, and it was recorded from Sumatra by him as that species.

HOMONEURA (NEOHOMONEURA) HONESTA (Kertesz)

Lauxania honesta KERTESZ, Ann. Nat. Mus. Hungary, vol. 13, p. 532, 1915.

I figure the wing (Fig. 41) of this Formosan species to distinguish it from the preceding one. The species is known only from Formosa. The hypopygium is shown in Figure 49.

HOMONEURA (NEOHOMONEURA) INDICA, new species

Male.—Very similar to *honesta*, but the anterior extremity of the cloud on second vein is distinctly beyond the level of outer cross vein and in line with that of the one on third vein, the latter being well separated from the cloud on outer cross vein, and the cloud on fourth vein beginning slightly beyond the one on third, occupying more than the apical half of ultimate section of the vein. The abdomen has a faint dark spot in center at base of fourth and fifth tergite. The longest hairs on arista are longer than width of third antennal segment and the center of propleura has some microscopic black hairs.

Length, 6.5 mm.

Type.—Kyondo, Burma, Mountain District, December 13 (Micholitz). (Deutsches Entomologische Institut.)

HOMONEURA (NEOHOMONEURA) ORIENTALIS (Wiedemann)

Sciomyza orientalis WIEDEMANN, Aussereur. Zweifl. Ins., vol. 2, p. 575, 1830.

A large reddish testaceous species, with the wings marked as in Figure 43. The abdominal tergites are black on hind margins, the

black color becoming progressively more extensive apically, and covering most, or all, of disk of some of the apical tergites. Legs similar to those of *aberrans*.

Length, 6.5 to 7 mm.

Habitat.—Sumatra. I have seen only females of this species.

HOMONEURA (NEOHOMONEURA) LIMBIFERA (de Meijere)

Lauxania limbifera DE MEIJERE, Tijdschr. v. Ent., vol. 67, p. 48, 1924.

I have seen only the male of this species. Closely similar to *orientalis*, but distinguishable by the wing markings (Fig. 42), and the greater proportion of the black color of tergites of basal portion of abdomen.

Length, 7.5 mm.

Habitat.—Sumatra.

HOMONEURA (NEOHOMONEURA) PAROECA (Kertesz)

Lauxania paroeca KERTESZ, Ann. Nat. Mus. Hungary, vol. 13, p. 531, 1915.

This species is readily distinguished from its allies by the markings of the wings. (Fig. 44.) The inner cross vein is not clouded, but there are dark markings over outer cross vein and a preapical elongate mark before apices of veins 2 to 4 inclusive, the one on third vein being remote from tip of vein, directly below the one just before the apex of second, and usually fused with it.

Habitat.—Formosa.

HOMONEURA (NEOHOMONEURA) NIGRONOTATA (Kertesz)

Lauxania nigronotata KERTESZ, Ann. Nat. Mus. Hungary, vol. 13, p. 530.

This species differs from *paroeca* in having the spots on apical sections of the third and fourth veins almost, or quite, extending to apices of the veins, the one on third not fused with the preapical one on second vein. (Fig. 45.) There is usually a central black mark on one or more of the apical abdominal tergites.

Habitat.—Formosa.

HOMONEURA (NEOHOMONEURA) KARNYI Malloch

Homoneura (*Neohomoneura*) *karnyi* MALLOCH, Suppl. Ent., vol. 15, p. 107, 1927.

HOMONEURA (NEOHOMONEURA) INCOMPLETA Malloch

Homoneura (*Neohomoneura*) *incompleta* MALLOCH, Suppl. Ent., vol. 15, p. 108, 1927.

The above two Sumatran species were described in the same paper as was the subgenus, and they are not known to occur in the Philippines.

HOMONEURA (NEOHOMONEURA) MACGREGORI, new species

Female.—Similar to *karnyi* Malloch in color. The frons is not blackened above, though it is more fulvous than other parts of head, the frontal orbits are glossy, and the parafacials are white dusted. Abdomen with a black apical fascia on each tergite, which is dilated centrally, those becoming wider as they progress toward apex of abdomen. Wings as noted in the key, the costal cloud beginning distinctly, but not widely, beyond apex of first vein, and the apical cloud entire, almost connected with the one over outer cross vein.

The presence of microscopic black hairs on center of propleura readily distinguishes the species from *karnyi.*

Length, 7 mm.

Type.—Cat. No. 40880, U.S.N.M.. Puerto Princesa, Palawan Island, September, 1925 (R. C. McGregor).

Named in honor of the collector. Type in United States National Museum.

Subgenus EUHOMONEURA Malloch

I erected this subgenus in a paper published in Australia, with the genotype *Lauxania ornatipennis* de Meijere.

HOMONEURA (EUHOMONEURA) NIGRIFLUA, new species

Female.—Head testaceous, densely pale gray dusted, interfrontalia brownish, yellow in front, differentiated from the orbits and triangle when seen from behind, the orbits broad, not diverging from eyes anteriorly; a blackish spot between each antenna and eye, and a transverse fuscous mark on middle of face; antennae black, whitish at base of third segment surrounding insertion of arista; palpi black. Thorax testaceous, densely gray dusted, and largely marked with fuscous, the mesonotum mostly fuscous, with three spots on anterior margin, three larger marks just behind suture, and the hind margin, dark brown; scutellum dark brown or fuscous at base. Abdomen shining brownish black. Legs pitchy colored, tibiae a little paler, tarsi testaceous. Wings marked with fuscous as in Figure 46. Halteres pale yellow.

All frontal bristles strong, anterior orbitals little more than half as long as posterior pair; arista plumose. Thorax with 1+2 dorsocentrals and six series of intradorsocentral hairs. Fore femur with an anteroventral comb.

Length, 3.25 mm.

Type.—Cat. No. 41137, U.S.N.M. *Type* and one *paratype*, Mount Maquiling, Luzon (C. F. Baker).

HOMONEURA (EUHOMONEURA) LUNATA (de Meijere)

Lauxania lunata DE MEIJERE, Tijdschr. v. Ent., vol. 53, p. 135, 1910.

I have figured the wing of a Javanese example of this species sent to me by Doctor de Meijere (Fig. 47). I have before me a specimen from Baguio, Benquet Province, which has the lunate spot in the anal cell separated from the large basal dark area, and the latter is not carried forward along the posterior margin of cubitus (fifth vein), its outer margin running straight to the vein. I believe this specimen belongs here, but would like to see more material in order to determine the degree of variation in the markings of the species.

Another Philippine specimen from Billiran Island (C. F. Baker).

I can detect no differences between this species and *irrorata* de Meijere and consider the latter is a synonym of *lunata*.

HOMONEURA (EUHOMONEURA) ORNATIPENNIS (de Meijere)

Lauxania ornatipennis DE MEIJERE, Tijdschr. v. Ent., vol. 53, p. 141, 1910.

This species differs from *lunata* in having the cloud on outer cross vein extending broadly to margin of wing and to apex of fifth vein, and no small dark dot between that cloud and the preapical fascia.

One specimen, Mount Maquiling, Luzon (C. F. Baker).

I have seen this species from Java and Australia (*atrogrisea* Malloch).

HOMONEURA (EUHOMONEURA) LUNIPENNIS (de Meijere)

Lauxania lunipennis DE MEIJERE, Tijdschr. v. Ent., vol. 67, p. 50, 1924.

This species has a dark vitta extending from anterior margin of mesonotum just mesad of the humeral callus to beyond base of wing, which is only present in part in *ornatipennis*. The wings in both species are very similar, but in the type specimen of *lunipennis* the anal field has the lunate spot much larger and connected on hind margin with the basal cloud, so that there is a small hyaline inclosed area in the center of the dark portion.

Habitat.—Sumatra.

MINETTIOIDES, new subgenus

This subgenus is similar to *Homoneura vera*, but differs in having the thorax with a pair of short, but distinct, intra-alar bristles.

Subgenotype.—Lauxania parvinotata de Meijere.

HOMONEURA (MINETTIOIDES) PARVINOTATA (de Meijere)

Lauxania parvinota DE MEIJERE, Tijdschr. v. Ent., vol. 57, p. 231, 1914.

A testaceous yellow species, with a pair of round black spots on fifth tergite, and sometimes a much smaller pair on sixth. The ocellar bristles are rather small and weak, both pairs of orbitals are

long, the hairs on arista are not much longer than its basal diameter, the thorax has three pairs of postsutural dorsocentrals, and two distinct sternopleurals. The hypopygium is shown in Figure 50.

Originally described from Sumatra. I have before me a male from Kolambugan, Mindanao (C. F. Baker).

HOMONEURA (MINETTIOIDES) CRASSIUSCULA (de Meijere)

Lauxania crassiuscula DE MEIJERE, Tijdschr. v. Ent., vol. 53, p. 128, 1910.

This species is more robust than the preceding one and has the frons fully twice as long as wide at anterior margin instead of about 1.5 as long as wide, and the sternopleura is largely fuscous instead of entirely yellow.

I have seen only a female of this species, from Sumatra.

HOMONEURA (MINETTIOIDES) FUMIPENNIS (Malloch)

This species was described in "Entomologische mitteilungen" (May, 1927, p. 169). It is readily distinguished as indicated in the synopsis, and is known only from Formosa.

I have seen two Samoan species referable here.

Subgenus HOMONEURA Van Der Wulp

There are several segregates which I still retain in *Homoneura* that ought to be considered as entitled to subgeneric separation, but I leave further subdivision to the future, believing that there must be many species yet unknown in this region, and possibly some of the groups now appearing quite well distinguished may be connected by means of yet unknown forms so closely that lines of demarcation will disappear.

Genotype.—*Homoneura picea* van der Wulp.

HOMONEURA (HOMONEURA) PILISETA, new name (=PUBISETA de Meijere)

Very similar structurally to *nudiseta* (Kertesz), but, in addition to the charaters mentioned in the key, the frontal orbits are densely pale gray dusted and at the upper bristle not over half as wide as interfrontalia at same point. Legs mostly black.

Habitat.—Sumatra.

The specific name *pubiseta* was used by Kertesz for another species in 1900.

HOMONEURA (HOMONEURA) EXIGUA (de Meijere)

Lauxania exigua DE MEIJERE, Tijdschr. v. Ent., vol. 51, p. 141, 1908.

This small species has the frontal orbits not over one-fourth of the width of the interfrontalia, and the anterior pair of thoracic dorsocentrals much more reduced in size than in the other three species of this group.

Habitat.—Java.

HOMONEURA (HOMONEURA) COFFEATA (de Meijere)

Lauxania coffeata DE MEIJERE, Tijdschr. v. Ent., vol. 57, p. 228, 1914.

I have taken the characters of this species from the type specimen, which was submitted to me by Doctor de Meijere with examples of the other three species.

HOMONEURA (HOMONEURA) NUDISETA (Kertesz)

Lauxarnia nudiseta KERTESZ, Termeszetrajzi Fuzetek, vol. 23, p. 263, 1900.

The Javanese specimen before me agrees perfectly with Kertesz's description.

Originally described from Singapore.

HOMONEURA (HOMONEURA) HAWAIIENSIS Malloch

The description of this species appeared in the Proceedings of the Hawaiian Entomological Society (vol. 6, No. 3, October, 1927, p. 383). The hypopygium is shown in Figure 51.

HOMONEURA (HOMONEURA) CRASSICAUDA Malloch

Homoneura (*Homoneura*) *crassicauda* MALLOCH, Ent. Mitt., vol. 16, p. 171, 1927.

HOMONEURA (HOMONEURA) NUDIFRONS (Kertesz)

Lauxania nudifrons KERTESZ, Ann. Nat. Mus. Hungary, vol. 11, p. 99, 1913.

The first of these two species was described in the paper referred to above, and it was therein compared with *nudifrons*. The hypopygium of *nudifrons* is shown in Figure 53, and of *crassicauda* in Figure 54.

Habitat.—Of both species, Formosa. I have seen females from Ceylon which I refer to *crassicauda* tentatively.

HOMONEURA (HOMONEURA) CURTA, new species

Male and Female.—Entirely testaceous yellow, frons opaque except on the narrow ill-defined orbits, thorax and abdomen slightly shining. Wings yellowish hyaline. Frons about 1.5 as long as wide, both pairs of orbitals strong, surface hairs very sparse, ocellars fine and almost hair-like, not as long as postverticals, the latter shorter than anterior orbitals, inner pair of verticals longer than outer pair; antennae normal; arista distinctly pubescent; cheek not as high as width of third antennal segment. Thorax with the usual 3 pairs of postsutural dorsocentrals, the intradorsocentral hairs in 6–9 irregular series, and at least one pair of well developed postsutural acrostichals besides the prescutellar pair; scutellum slightly flattened above; anterior sternopleural rather weak. Abdomen of male stout, rather short,

quite abruptly truncate at apex, and almost cylindrical, hypopygium as Figure 52. Fore femur with an antroventral comb; all tibiae with preapical dorsal bristle. Inner cross vein close to middle of discal cell, apical section of fourth vein about twice as long as preapical.

Length, 3 mm.

Type, *allotype* and 46 *paratypes*, Ceylon (D. W. Horn).

Type, *allotype*, and *paratypes* in Deutsches Entomologisches Institut, *paratype* in U. S. National Museum, Cat. No. 41700, U.S.N.M.

HOMONEURA (HOMONEURA) DIACROSTICHALIS, new name

This is a new name for *Lauxania monticola* de Meijere, which is pre-empted by *Homoneura monticola* Melander, a North American species, described as a *Minettia*.

HOMONEURA (HOMONEURA) PHILIPPINENSIS, new species

A small yellow species with a pair of black spots on fifth abdominal tergite, and hyaline wings. The presence of one or two pairs of distinct postsutural acrostichals besides the prescutellar pair, and the structure of the hypopygium (fig. 56) should readily distinguish it from all its allies.

Length 2.5 mm.

Type.—Philippines.

HOMONEURA (HOMONEURA) PUBISETA (Kertesz)

Lauxania pubiseta KERTESZ, Termeszetrajzi Fuzetek, vol. 23, p. 262, 1900.

This species has usually three dark spots on fifth tergite and two or three on sixth in both sexes. The general characters are similar to those of *philippinensis* but the apical processes of seventh tergite are remarkably long and slender (Fig. 57), and when at rest they cross each other on center and project even beyond the sides of abdomen.

Length, 3 mm.

Originally described from New Guinea. I have it from Palmerston, N. Australia (D. E. I.).

HOMONEURA (HOMONEURA) PADANGENSIS (de Meijere)

Lauxania padangensis DE MEIJERE, Tijdschr. v. Ent., vol. 58, p. 91 1915.

This species is shining testaceous in color, with a black spot on some of the tergites of apical half of abdomen, usually from third to sixth in female and third to fifth in male. The wings are yellowish, with four pale-brown clouds much as in *jacobsoni*, one over outer cross vein, the others on apical sections of veins 2 to 4, inclusive, those on the third and fourth veins not, or hardly, extending to apices of veins.

The most striking character of this and the next three species lies in the elongate thickening of fifth vein at base of its penultimate section, which thickened part is furnished with microscopic hairs below. Other outstanding features of all four are the strong postocular ciliae, the strong lower occipital bristles, and strong bristly setulae below the level of humeral bristle. These are the only four species known to me which possess the above-mentioned characters of venation.

Male hypopygium as Figure 58.

Locality.—Both sexes, Mount Maquiling, Luzon, and one male, Dapitan, Mindanao (C. F. Baker). I have examined the type specimen from Sumatra.

HOMONEURA (HOMONEURA) INTERMEDIA, new species

Male.—Differs from *padangensis* only in having the apices of veins 3 and 4 almost without brown clouding, and in the structure of the hypopygium (Fig. 59).

Type.—Cat. No. 41152, U.S.N.M. Dapitan, Mindanao; four *paratypes*, Mount Maquiling, Luzon (C. F. Baker).

HOMONEURA (HOMONEURA) COSTALIS, new species

Female.—Shining testaceous yellow. Oceller spot not darkened. Abdomen with a large black spot in center of tergites 5 to 7, inclusive. Wing with a broad dark-brown cloud on costa, rather faint proximad of apex of first vein, from there to almost over outer cross vein, extending almost to third vein, and from the latter point extending over entire first posterior cell and faintly into apex of second, except for a small oblong area on third vein beyond outer cross vein, and connecting with a dark spot over upper extremity of outer cross vein.

Frons a little longer than wide; orbits shining, the two pairs of orbital bristles long and strong; ocellars shorter and weaker than the postverticals; inner verticals very long; arista plumose. Thorax normal. Fore femur with an anteroventral comb; mid femur with some fine posteroventral bristles; hind femur with a series of similar hair-like anteroventral bristles. Fifth wing vein with an elongate swelling at base which is microscopically haired below; inner cross vein at about two-fifths from base of discal cell; ultimate section of fourth vein not much longer than penultimate section.

Length, 5 mm.

Type.—Cat. No. 41133, U.S.N.M. *Type* and one *paratype*, Mount Maquiling, Luzon (C. F. Baker).

This species is readily distinguished from the other three known to me in which the fifth vein is swollen at base by the very much

more extensively clouded wings. Only the female is represented in the material before me, so that it is not possible to indicate hypopygial distinctions.

HOMONEURA (HOMONEURA) HORNI, new species

Male.—Differs from the preceding species in having the longitudinal veins without any evidence of apical clouds, and in the structure of the hypopygium. (Fig. 60.)

Type, male, Philippine Islands (Osten-Sacken collection; *allotype* and one *paratype*, Mount Maquiling, Luzon (C. F. Baker).

The type specimen was submitted to me by Dr. Walther Horn of the Deutsches Entomologisches Institut, and is named in his honor.

Paratype.—Cat. No. 40394, U.S.N.M.

HOMONEURA (HOMONEURA) CRINITA, new species

Male.—Shining black. Frons yellowish in front; face, cheeks, and lower postocular orbits, densely silvery white dusted; antennae missing in type. Thoracic dorsum slightly white dusted, the region surrounding prothoracic spiracle quite conspicuously white dusted. Legs black, tarsi stramineous. Wings yellowish hyaline, rather faintly infuscated at bases. Knobs of halteres black.

Frons a little wider than long; orbitals long. Thorax as in *opacithorax*, the intradorsocentral setulae in eight series. Fore femur with an anteroventral comb; fore tibia with a hair-like preapical dorsal bristle which is about as long as basal segment of fore tarsus; mid tibia with fine curled hairs on apical half of posteroventral surface, the longest of which are a little longer than the tibial diameter; bristling of hind legs not exceptional. Superior and inferior hypopygial forceps about equal in size, a little thicker, and about as long as, preapical dorsal bristle on mid tibia. Inner cross vein a little before middle of discal cell; apical section of fourth vein about 1.5 as long as preceding section.

Length, 4 mm.

Type.—Cat. No. 41154, U.S.N.M. Tangcolan, Bukidnon (C. F. Baker).

HOMONEURA (HOMONEURA) HIRTITIBIA, new species

Male.—Similar in coloration to *crinita*, but more brownish, especially on face, the fore tarsi darker. Antennae testaceous yellow.

Differs from *crinita* in having the posterior side of mid tibia with dense setulose decumbent hairs which are much longer than the tibial diameter, and the ventral surface with short fine hairs; the hind femur has a series of fine bristles on apical half of anteroventral surface which become longer to apical one, which is much longer

than the femoral diameter; mid femur with a single very long bristle near base on anteroventral surface.

Length, 4.5 mm.

Type.—Cat. No. 41153, U.S.N.M. Butuan, Mindanao (C. F. Baker).

This strikingly distinct species is represented by the type specimen only, which is in poor condition, having been crushed in mounting.

HOMONEURA (HOMONEURA) DENTIFERA, new species

This and the next four species are very similar in appearance, all being shining black, with some whitish dusting on head and thorax, black halteres, fuscous bases to wings, and black legs, with yellow tarsi. The frons is yellowish on front margin, the face, and eye margins, are white dusted, and there are white-dusted areas along inner margins of humeral callosities, and over the propleural spiracle.

In all the species the frontal bristles are strong, the arista is plumose, the thorax has three pairs of postsutural dorsocentrals, one pair of prescutellar acrostichals, 8–10 series of intradorsocentral hairs, and two sternopleurals. The fore femur has an anteroventral comb, and all tibiae have a preapical dorsal bristle. The differentiating characters are found in the structure of the male hypopygium. In *dentifer* there is a stout process which has three or four sharp teeth projecting at different angles. (Fig. 62.)

Length, 4 mm.

Type.—Cat. No. 41156, U.S.N.M *Type*, Singapore (C. F. Baker). *Paratype*, Java (Jacobson).

The paratype was sent to me as *picea* van der Wulp by Doctor de Meijere prior to my receipt of the other specimens, similarly named. now referred to *trispina*. It appears to me to be impossible to identify which, if any one, of the species before me is that described by van der Wulp.

HOMONEURA (HOMONEURA) TRISPINA Malloch

Homoneura (*Homoneura*) *trispina* MALLOCH, Suppl. Ent., vol. 15, p. 109, 1927.

There is practically no character so far as I can see for distinguishing this species from *dentifera* except the structure of the male hypopygium. (Fig. 65.)

Localities.—Singapore (C. F. Baker); Sumatra; Buitenzorg, Java (Jacobson).

Type.—Cat. No. 41157, U.S.N.M.

HOMONEURA (HOMONEURA) MAQUILINGENSIS, new species

Here again we have to depend upon the structure of the male hypopygium for distinguishing the species. (Fig. 64.) See characters in key.

Length, 4 mm.

Type.—Cat. No. 41139, U.S.N.M. *Type* and six *paratypes*, Mount Maquiling, Luzon; one *paratype*, Los Banos (C. F. Baker).

There are some females in my possession which I have placed with the last two species, but whether correctly or not I have no means of determining. If the type of *picea* is a female it may not be possible to identify it specifically. The females are distinguished by the structure of the apical abdominal sternites. (Figs. 97 and 98.)

HOMONEURA (HOMONEURA) FOLIFERA Malloch

Homoneura (*Homoneura*) *folifera* MALLOCH, Suppl. Ent., vol. 15, p. 110, 1927.

HOMONEURA (HOMONEURA) OPPOSITA Malloch

Homoneura (*Homoneura*) *opposita* MALLOCH, Suppl. Ent., vol. 15, p. 110, 1927.

The above two recently described species are referable to the same group and the hypopygia are figured herein. (Figs. 66 and 63.)

They are from Sumatra, and may yet be found in the Philippines.

HOMONEURA (HOMONEURA) OPACITHORAX, new species

Female.—Head entirely black, whitish dusted, most noticeably so on frontal orbits, face, cheeks, and postocular orbits; antennae, palpi, and aristae, black. Thorax dull black, the dorsum evenly brownish dusted. Abdomen shining black, but slightly dusted. Legs fuscous, tibiae dusky testaceous, tarsi paler testaceous. Wings grayish hyaline, not darkened at bases. Halteres yellow, knobs dark.

Frons a little longer than wide, the bristles long and strong, anterior orbitals over half as long as posterior pair, ocellars parallel, as long as postverticals; arista with very long hairs above, much shorter haired below; third antennal segment quite large, about twice as long as broad; face evenly and slightly convex. Thorax with three pairs of long postsutural dorsocentrals, the prescutellar acrostichals distinct, and six series of intradorsocentrals; anterior sternopleural short. Abdomen rather sparsely haired. Fore femur with anteroventral comb; mid tibia without median posterior bristles; hind femur without ventral bristles. Inner cross vein at middle of discal cell and a little beyond apex of first vein; penultimate section of fourth vein less than half as long as ultimate section; wing narrower than usual.

Length, 2.25 mm.

Type.—Cat. No. 41158, U.S.N.M. Mount Maquiling, Luzon (C. F. Baker.)

HOMONEURA (HOMONEURA) PICEOIDES, new species

Male.—Very similar to the species of the *dentifera* group in habitus and coloration. There is no discernible white dusting round the propleural spiracle nor on anterior part of thoracic dorsum, and the base of the wing and apex of auxiliary vein are not infuscated.

The chaetotaxy is similar to that of the *dentifera* group, but the male hypopygium is quite different. (Fig. 67.)

Length, 4 mm.

Type.—Cat. No. 41155, U.S.N.M. *Type* and *paratype*, Mount Maquiling, Luzon (C. F. Baker).

I have placed here also three females from the same locality.

HOMONEURA (HOMONEURA) NIGRITA, new species

Male.—Agrees with *piceoides* in all characters except the structure of the male hypopygium. (Fig. 68.)

Length, 3.5 mm.

Type.—Cat. No. 41159, U.S.N.M. *Type* and *paratype*, Singapore (C. F. Baker).

HOMONEURA (HOMONEURA) LUZONENSIS, new species

Male.—Testaceous yellow, slightly shining. Ocellar region not darkened; antennae and palpi yellow. Thorax unicolorous yellow. Abdomen with a pair of round black spots on fourth visible tergite. Wings yellowish hyaline. Legs yellow. Halteres yellow.

Frons about 1.5 as long as wide at vertex; ocellars short and fine, extending to about middle of frons, not as strong as postverticals; orbitals long, anterior pair the shorter; inner vertical bristles much longer than outer pair; arista with long hairs; hairs on margin of cheek fine and short. Thorax with three postsutural pairs of strong dorsocentrals and one presutural and three postsutural pairs of strong acrostichals, the presutural pair rather widely separated; anterior sternopleural bristle short. Abdomen broad, apical tergal bristles rather long. Legs normal, the fore femur with anteroventral comb. Wings rather narrow; inner cross vein very slightly before middle of discal cell; ultimate section of fourth vein about 1.5 as long as penultimate section.

Length, 5 mm.

Type.—Cat. No. 41134, U.S.N.M. Mount Maquiling, Luzon (C. F. Baker).

The strong acrostichal bristles distinguish this species from any of those in which the abdomen is bipunctate with black.

HOMONEURA (HOMONEURA) ROBUSTA, new species

Male.—Head largely pitchy colored, center and anterior margin of frons, sides, and lower margin of face, and the entire antennae, testaceous yellow. Thorax testaceous yellow, rather distinctly shining, with slight grayish dusting, mesonotum with a broad fuscous central vitta on entire length; pleura largely fuscous; scutellum testaceous yellow, metanotum fuscous centrally. Abdomen shining black. Legs

dusky testaceous, coxae and femora almost entirely fuscous. Wings conspicuously yellowish hyaline, veins brownish yellow, paler at bases. Knobs of halteres yellow.

Frons about as long as width at vertex, slightly narrowed anteriorly, bare except for the bristles, the latter all strong, anterior orbitals a little shorter than the ocellars; arista plumose, about as long haired below as above; face slightly and evenly convex. Thorax with three pairs of strong postsutural dorsocentrals, the anterior pair just behind suture, and four or five pairs of shorter strong acrostichals, the anterior pair at, or close to, suture; anterior sternopleural distinct. Abdomen robust, tergites with distinct apical bristles; hypopygium not large. Fore femur with fine preapical anteroventral comb; mid tibia with one long and two shorter apical ventral bristles; no outstanding ventral bristles on mid and hind femora. Inner cross vein a little before middle of discal cell; apical sections of veins 3 and 4 parallel; that of the latter about 1.5 as long as its penultimate section.

Type.—Cat. No. 41151, U.S.N.M. Mount Maquiling, Luzon (C. F. Baker).

A robust species resembling those of the *trispina* group.

HOMONEURA (HOMONEURA) BILINEELLA (Frey)

Mallochomyza bilinella Frey, Acta, Soc. pro Fauna et Flora Fennica, vol. 56, No. 8, p. 38, 1927.

Male.—Shining testaceous yellow. Frons broadly dark brown in center; facial orbits densely white dusted; third antennal segment black except at base; palpi black at apices. Thoracic dorsum with two narrow fuscous vittae between the series of dorso-centrals which extend to hind margin of mesonotum and connect with a large black spot on base of scutellum; notopleural suture dark. Abdomen and legs unicolorous yellow. Wings grayish hyaline, outer cross vein faintly clouded.

Anterior orbitals about one-third as long as posterior pair, and a little shorter than ocellars; inner verticals over twice as long as outer pair; arista long plumose. Thorax with three pairs of postsutural dorsocentrals, the anterior pair at suture, one pair of prescutellar acrostichals, about eight series of intradorsocentral hairs, and the anterior sternopleural short. Hypopygium as Figure 69. Fore femur with an anteroventral comb; hind tibia without a preapical dorsal bristle, the apical part of dorsum sharply ridged. Inner cross vein at middle of discal cell; penultimate section of fourth vein fully two-thirds as long as ultimate section.

Length, 3.5 mm.

Locality.—Mount Maquiling, Luzon (C. F. Baker).

This species was ranked as a variety of *nothosticta* Frey by Doctor Frey in his paper on the Philippine Sapromyzidae, and his type specimen was from Los Banos.

HOMONEURA (HOMONEURA) DEMEIJERII, new species

Male.—This species was submitted to me as *notostigma* Kertesz by Doctor de Meijere, and in every character except the male hypopygium it is similar to that species. In order to make absolutely certain that the identification was correct I dissected the hypopygia of the species and find that they appear to be distinct species. The principal characters for distinguishing them lie in the shape of the superior and inferior forceps as shown in Figures 71 and 72 of *notostigma* and 73 and 74 of *demeijerii*.

Length, 3 mm.

Type.—Fort de Kock, Sumatra, 11, 1913 (E. Jacobson).

Type specimen returned to Doctor de Meijere.

HOMONEURA (HOMONEURA) NOTHOSTICTA (Frey)

Mallochomyza nothosticta FREY, Acta Soc. pro Fauna et Flora Fennica, vol. 59, p. 37, 1927.

Male and female.—Glossy testaceous yellow. Third antennal segment except base, and apices of the palpi, black; center of frons broadly fuscous. Thorax with a broad black mark on posterior margin of disk filling the area between the dorsocentrals and connecting with a similar mark on base of scutellum; notopleural suture fuscous. Outer cross vein clouded.

Structurally similar to *bilineella*, but the anterior orbital is not one-third as long as the posterior one, and the hypopygium is as Figure 70.

Length, 4–4.5 mm.

Locality.—Mount Maquiling, Luzon (C. F. Baker).

Doctor Frey's specimen was from Surigao, Mindanao.

HOMONEURA (HOMONEURA) BAKERI, new species

Male.—Shining testaceous yellow, aristae, a triangular mark on each side of frons between orbital stripe and eye, apical half or more of third antennal segment, and apices of palpi deep black; sides of face densely white dusted, most conspicuous when seen from above; outer cross vein of wings faintly clouded.

Frons a little wider than long, the bristles long and strong, the anterior orbitals shorter than the posterior; arista long plumose; third antennal segment slightly tapered to apex, over twice as long as wide; face very slightly convex. Thorax with three pairs of

strong postsutural dorsocentrals, one pair of prescutellar acrostichals, and ten series of rather irregular intradorsocentral hairs; anterior sternopleural short but distinct. Bristles on apices of abdominal tergites rather long; hypopygium small, as Figure 75. Fore femur with anteroventral comb; preapical dorsal bristle on fore tibia slender, about three-fourths as long as basal segment of fore tarsus; mid tibia with one long and two unequal short apical ventral bristles; hind femur with a preapical anteroventral bristle; hind tibia without a preapical dorsal bristle, the surface in type with a ridge dorsally for a short distance at apex. Inner cross vein at middle of discal cell; ultimate section of fourth vein about 1.5 as long as penultimate section.

Length, 4.5 mm.

Type.—Cat. No. 41136, U.S.N.M. *Type*, male, allotype, and seven *paratypes*, Mount Maquiling, Luzon (C. F. Baker).

HOMONEURA (HOMONEURA) ATRICEPS, new species

Male.—Shining testaceous yellow. Frons with a large subquadrate dark central mark; face deep black, the parafacials velvety and, when seen from above, with very slight white dusting, central portion of face shining; apical half of third antennal segment deep black; palpi yellow. Thorax with two narrow black vittae mesad of the dorsocentral bristles which begin behind arterior margin and connect with a dark mark on base of scutellum, and the notopleural suture infuscated. Abdomen without black markings. Legs yellow. Outer cross vein of wing slightly dark clouded.

Anterior orbital bristles about one-third as long as posterior pair and not as long as ocellars; outer verticals about half as long as inner pair; arista long plumose. Thorax with the usual bristles, the intradorsocentral hairs in 8–10 series; scutellum flat above. Fore femur with an anteroventral comb; mid femur with some long fine posteroventral bristles; hind femur with some similar anteroventral bristles; hind tibial carina very slight. In other respects except the hypopygium similar to *nothosticta* Kertesz.

Length, 3.5–4 mm.

Type.—Cat. No. 41135, U.S.N.M. *Type* and five *paratypes*, Mount Maquiling, Luzon (C. F. Baker).

The markings of the dorsum of thorax are the same as in *bilineella* Frey, but in the latter the face is yellow, as it is in all the other species belonging to the group in which the hind tibial bristle is lacking so far as I know now.

It might be proper to erect a subgenus for this group, but it is not imperative at this time, so I leave it unnamed meantime.

HOMONEURA (HOMONEURA) CIRCUMCINCTA (Frey)

Mallochomyza circumcincta FREY, Acta Soc. pro Fauna et Flora Fennica, vol. 56, No. 8, p. 39.

Female.—Head yellowish testaceous, frons more ochreous, the orbital stripes and ocellar spot gray; basal two antennal segments and base of third up to insertion of arista, deep black, third segment darkened at apex; aristae and their hairs black; palpi yellow. Thorax fuscous, densely gray dusted, humeral angles, most of pleura, notopleural suture, a narrow apical margin of scutellum and ventral surface of same, testaceous yellow. Abdomen fuscous, densely gray dusted, apices of tergites very narrowly yellowish, their lateral margins more broadly so. Legs testaceous yellow, or stramineous, with a faint dark mark on anterior surface of fore femur at the preapical comb. Wings hyaline. Halteres pale.

Anterior orbital strong, farther from eye than posterior; ocellars as long as postverticals; arista plumose; third antennal segment about 1.5 as long as wide; face slightly convex. Thorax normal, with three pairs of postsutural dorsocentrals; scutellum flat above. Fore femur with anteroventral comb; fore tibia with short preapical dorsal bristle; mid tibia with one long and two, unequal, shorter, apical ventral bristles. Inner cross vein close to middle of discal cell; penultimate section of fourth vein about half as long as ultimate section.

Length, 4 mm.

Originally described from Surigao and Mumungan, Mindanao. I have three specimens from Tangcolan, Bukidnon (C. F. Baker).

HOMONEURA (HOMONEURA) TRIFASCIATA (de Meijere)

Lauxania trifasciata DE MEIJERE, Tijdschr. v. Ent., vol. 53, p. 130, 1910.

A rather robust species, readily distinguished by the very short-haired arista, markings of abdomen, short and weak ocellar bristles, and unclouded cross veins. The hairs on sides of face are short and weak, and the last section of fourth vein is twice as long as preceding section.

Length, 3.75 mm.

I have seen this species only from Java.

HOMONEURA (HOMONEURA) NEOSIGNATA, new species

Male.—Testeceous yellow. Frons dull except the orbits and triangle, ocellar region not darkened, face glossy, parafacials dull, white dusted, antennæ and palpi yellow. Thorax unicolorous yellow, glossy. Abdomen not so glossy as mesonotum, with a large round black spot on each side of fourth visible tergite. Legs yellow. Wings yellowish hyaline, outer cross vein with a very slight indication of a yellowish cloud. Halteres yellow.

Frons a little broader than long, all bristles well developed, the ocellars slightly longer than anterior orbitals, postverticals well below vertex; arista plumose; face slightly and evenly convex; hairs on margin of cheek short and regular. Thorax normal, intradorsocentral hairs in about 12 series; anterior sternopleural short. Abdomen rather broad, tapered to apex, the apical tergal bristles well developed; apical arm of eighth tergite black, broad, terminating in a short sharp tip which is curved forward, and with a similar short thorn on its hind margin near base. Legs normal, fore femur with an anteroventral comb; mid femur with a series of short hairs on basal half of anteroventral surface. Inner cross vein a little proximad of middle of discal cell; apical section of fourth vein very slightly longer than subapical section.

Length, 5 mm.

Type.—Cat. No. 41138, U.S.N.M. Mount Maquiling, Luzon (C. F. Baker).

This species was received after the manuscript of the paper was completed and circumstances prevent me from figuring the hypopygium.

HOMONEURA (HOMONEURA) BIOCULATA (de Meijere)

Lauxania biocultata DE MEIJERE, Tijdschr. v. Ent., vol. 57, p. 225, 1914.

I have before me a Javanese specimen of this species sent to me by Doctor de Meijere. The general color is paler than that of the next species, there is but one pair of abdominal spots visible, the longest hairs on arista are not longer than width of the third antennal segment, and the length of the insect is less than that of *signata*.

It is very similar to *kerteszi* (de Meijere) (=*orientalis* Kertesz), but I have only a damaged specimen of the latter which lacks the antennae so can not give a reliable diagnosis, and merely quote de Meijere's differentiating character.

I consider it highly probable that *ochripennis* (Frey) is this species.

HOMONEURA (HOMONEURA) IMMACULIPENNIS, new species

Male.—Entirely testaceous yellow, shining. Ocellar spot hardly darkened. Abdomen with three black spots on fourth tergite, and five on fifth. Wings yellowish hyaline.

Frons a little wider at vertex than long at centre, narrower at anterior margin, inner vertical bristles about twice as long as outer pair, the latter as long as posterior pair, and a little closer together than these; arista long plumose. Thorax with three pairs of long postsutural dorsocentrals, the anterior pair close to suture, one pair of prescutellar acrostichals, eight series of intradorsocentral hairs, and the anterior sternopleural shorter than posterior one. Hypopygium as Figure 81. Fore femur with anteroventral comb; all

tibiae with a preapical dorsal bristle; mid tibia with one long and two short apical ventral bristles. Inner cross vein a little before middle of discal cell; penultimate section of fourth vein fully three-fourths as long as ultimate.

Length, 4 mm.

Type.—Cat. No. 41698, U.S.N.M.; Mount Maquiling, Luzon (C. F. Baker).

HOMONEURA (HOMONEURA) SIGNATA (van der Wulp)

Minettia signata VAN DER WULP, Tijdschr. v. Ent., vol. 22, p. 52, 1881.

I believe *javanensis* (de Meijere) is a synonym of this species. I have figured the male hypopygium. (Fig. 82.)

Localities.—Singapore; Surigao, Mindanao (C. F. Baker).

The specimen of *javanensis* submitted by Doctor de Meijere is a female agreeing perfectly with one from Singapore, but in the absence of a male definite allocation as a synonym is inadvisable.

I consider *dapaensis* (Frey) is probably this species.

HOMONEURA (HOMONEURA) MEDIOSIGNATA (Frey)

Mallochomyza mediosignata FREY, Acta Soc. pro Fauna et Flora Fennica, vol. 56, p. 34, 1927.

Male.—This species has much the same appearance as *immaculipennis*, but the outer cross vein of wing is narrowly and faintly clouded, the central and submedian dark spots on fifth tergite, and the central one on sixth, are large and quadrate, the lateral spots are smaller, and the submedian pair on sixth are almost lacking in type.

Structurally the two species are very similar, but the upper hair of each series on lower part of sides of face is much longer than the others which is not the case in the other species. The downwardly projecting process of the eighth abdominal tergite is shorter than in *immaculipennis*, and is more rounded at apex. In other respects the species are very similar.

Length, 4 mm.

Originally described from Montalban and La Trinidad, Luzon. I have it from only Mount Maquiling, Luzon (C. F. Baker).

HOMONEURA (HOMONEURA) FUSCOBRUNNEA, new species

Male and female.—Head and thorax varying from brownish testaceous to brownish fuscous in color, the thorax with grayish dusting; abdomen varying much as thorax, but always paler at base. Legs brownish testaceous, femora sometimes darkened, tarsi always pale. Wings hyaline, outer cross vein not clouded. Halteres yellowish brown.

Structurally similar *dichroa* (de Meijede), the hypopygium of which is shown in Figure 95, but quite different in color. Closest to *grossa* (de Meijere), differing in having the outer cross vein un-

clouded, and abdomen infuscated apically. The thoracic chaetotaxy is the same as in those species, as are also most of the other characters. All frontal bristles long; arista plumose. Fore femoral comb present; mid tibia without posterior bristles and with three long apical ventral bristles.

Length, 4.5–5 mm.

I have not seen an undoubted male of *grossa*, so am unable to compare the hypopygrium with that of *fuscobrunnea* (Fig. 84).

Type, *allotype*, and one female *paratype*, Mount Maquiling, Luzon; female *paratypes*, Kolambugan, and Butuan, Mindanao (C. F. Baker); male *paratype*, Philippine Islands (Osten Sacken collection).

Type.—Cat. No. 41160, U.S.N.M.

HOMONEURA (HOMONEURA) LATICOSTA (Thomson)

Geomyza laticosta THOMPSON, Kongl. Svenska Freg. Eugen. Resa, Insecta, p. 598, 1869.

This species usually has the wings broadly pale smoky brown on costa, the suffusion extending to, or beyond, third vein, and a similar suffusion over the outer cross vein. Sometimes this costal clouding is almost, or quite, absent, and that over the outer cross vein faint. In doubtful cases the structure of the male hypopygium may be depended upon to distinguish the species (Fig. 89).

Length, 3 mm.

I have seen a Javanese specimen, and a series from Kolambugan, Mindanao (C. F. Baker). Doctor Frey records it from many localities in the Philippines and from Ceram, Buru, Malacca, and Java.

HOMONEURA (HOMONEURA) GEOMYZINA (Frey)

Mallochomyza geomyzina FREY, Acta Soc. pro Fauna et Flora Fennica, vol. 56, No. 8, p. 33, 1927.

Male.—Shining testaceous yellow, abdomen with a round black spot on each side of sixth tergite, and apparently with a larger spot on each side of fifth tergite also. Wings hyaline, with a faint dark cloud along costa from base to about middle of third section, and four conspicuous fuscous clouds (Fig. 48). Legs yellow, fore tarsi brownish. Halteres yellow.

Frons wider than long, inner vertical bristle very long, orbitals shorter, but still long and strong, ocellars comparatively short and weak, about half as long as postverticals; third antennal segment about 1.5 as long as wide; arista long plumose; hairs on lower part of sides of face very fine and regular. Thorax with three pairs of strong postsutural dorsocentrals, the anterior pair at suture, and three pairs of long acrostichals, the anterior pair a little in front of

suture; anterior sternopleural small and weak. Hypopygium as Figure 94. Fore femur with anteroventral comb, the setulae shorter than usual; mid tibia with one long and two short apical ventral bristles; no other distinctive characters of hairing or bristling. Venation as Figure 42.

Length, 3 mm.

Locality.—Mount Maquiling, Luzon (C. F. Baker). The type was from Luzon also.

HOMONEURA (HOMONEURA) AFFINIS, new species

This species is very similar to *sublucida*, the hypopygium of which is shown in Figure 88, being shining fulvous in color, with the ocellar spot and apex of third antennal segment black, the wings greyish hyaline, and the parafacials conspicuously white dusted.

Most of the structural details of the two species are the same, but the anterior orbital bristle is less than half as long as posterior one in *affinis*, and the hypopygium is as Figure 87.

Length, 3 mm.

Type.—Cat. No. 40345, U.S.N.M. *Type*, Cuernos Mts., Negros (C. F. Baker), and *paratypes*, Puerto Princesa, Palawan Is. (R. C. McGregor) (United States National Museum), and Philippine Islands, without more definite locality (Osten Sacken collection).

HOMONEURA (HOMONEURA) SUBLUCIDA, new species

Male.—For characters see above species and key.

Type.—Male, Cat. No. 41699, U.S.N.M.; Kolumbugan, Mindanao (C. F. Baker). Two paratypes, same data.

HOMONEURA (HOMONEURA) GRAHAMI, new species

Male and female.—Testaceous yellow, but slightly shining. Ocellar region not blackened; antennae and palpi yellow; parafacials not dusted. Thorax not vittate. Abdomen unicolorous. Legs testaceous yellow. Wings similar to those of *laticosta* Thomson, quite deeply browned along costa, the dark color fading out at about third vein, and both cross veins slightly clouded.

Frons a little longer than wide, orbits but slightly differentiated, anterior orbital about as long as posterior one, ocellars long; antennae short; arista distinctly pubescent; face slightly convex. Thorax with the usual bristles, and the intradorsocentral hairs in six series. Abdomen robust in male, the seventh tergite with a pronounced hump in middle at base, beyond which it is precipitous. Fore femur with an anteroventral comb; all tibiae with preapical dorsal bristle, the one on hind tibia very short and fine.

Length, 3.5 mm.

Type.—Male, Cat. No. 40346, U.S.N.M. *Type*, male, Shin Kai Si, Mount Omei, Szechuen, China, 4,000 feet; *allotype*, Suifu, Szechuen, China (D. C. Graham). United States National Museum.

HOMONEURA (HOMONEURA) TRYPETOPTERA (Hendel)

Lauxania trypetoptera HENDEL, Genera Insectorum, fasc. 68, pl. 3, fig. 63, no description, 1908.

This species has much the appearance of a *Trypaneoides*, but lacks the discal bristle on the mesopleura. It is closely related to *picta* (de Meijere), but may be readily distinguished from it by the characters listed in the foregoing key.

One specimen, Tangcolan, Bukidnon, P. I. (C. F. Baker).

The above specimen bears the number 19154 in the late C. F. Baker's writing and was found in the box containing Trypetidae in his collection. As these numbers were placed upon specimens which were considered to be conspecific with others sent out for identification I assume that at least one other was submitted to the late Dr. M. Bezzi and is now in his collection.

HOMONEURA (HOMONEURA) PICTA (de Meijere)

Sapromyza picta DE MEIJERE, Tijdschr. v. Ent., vol. 51, p. 114, 1908.

There is a Sumatran specimen of this species in the United States National Museum collection taken at Brastagi, May, 1927 (F. J. Meggitt).

HOMONEURA (HOMONEURA) IMMACULATA (de Meijere)

Lauxania immaculata DE MEIJERE, Tijdschr. v. Ent., vol. 53, p. 123, 1910.

One female of this species in the United States National Museum collection is from Brastagi, Sumatra, May, 1927 (F. J. Meggitt).

HOMONEURA (HOMONEURA) PLEURIPUNCTA Malloch

Homoneura (*Homoneura*) *pleuripuncta* MALLOCH, Suppl. Ent., vol. 15, 1927, p. 110.

This species is represented in the United States National Museum collection by a male collected at Brastagi, Sumatra, May, 1927 (F. J. Meggitt).

It is known only from Sumatra.

SYSTEMATIC ARRANGEMENT OF THE SPECIES IN THE KEY[9]

Genus HOMONEURA van der Wulp

Subgenus CHAETOHOMONEURA Malloch

1. anthrax Malloch.
2. semibrunnea (de Meijere).
3. *umbrosa* Malloch.
4. fumibasis Malloch.
5. gedehi (de Meijere).
6. obscuriceps (de Meijere).
7. kocki Malloch.
8. nigrofulva Malloch.

[9] The species in italics occur in the Philippines.

Subgenus GRIPHONEUROIDES Malloch

9. obscuricornis (de Meijere).
10. astrolabei (Kertesz).
11. wallacei (Malloch).
12. atricornis (Kertesz).
13. flavicornis (Kertesz).
14. distincta (Kertesz).
15. fuscipes (Kertesz).
16. testaceipes (Kertesz).
17. papuana (Kertesz).
18. chyzeri (Kertesz).
19. octoguttata (de Meijere).

Subgenus POECILOMYZA Malloch

20. boettcheri (Frey).

Subgenus NEOHOMONEAURA Malloch

21. aberrans (de Meijere).
22. albicosta Malloch.
23. *setiventris* Malloch.
24. lugubris (de Meijere).
25. yerburyi Malloch.
26. jacobsoni Malloch.
27. honesta (Kertesz).
28. indica Malloch.
29. limbifera (de Meijere).
30. *macgregori* Malloch.
31. karnyi Malloch.
32. orientalis (Wiedemann).
33. paroeca (Kertesz).
34. nigronotata (Kertesz).

Subgenus XENOHOMONEURA Malloch

35. testacea Malloch.

Subgenus EUHOMONEURA Malloch

36. *nigriflua* Malloch.
37. *lunata* (de Meijere).
38. lunipennis (de Meijere).
39. *ornatipennis* (de Meijere).

Subgenus MINETTIOIDES Malloch

40. fumipennis Malloch.
41. *parvinotata* (de Meijere).
42. crassiuscula (de Meijere).

Subgenus HOMONEURA van der Wulp

43. piliseta Malloch.
44. exigua (de Meijere).
45. coffeata (de Meijere).
46. nudiseta (Kertesz).
47. hawaiiensis Malloch.
48. curta Malloch.
49. nudifrons (Kertesz).
50. crassicauda Malloch.
51. diacrostichalis Malloch.
52. acrostichalis (de Meijere).
53. *philippinensis* Malloch.
54. pubiseta (Kertesz).
55. *costalis* Malloch.
56. *padangensis* (de Meijere).
57. *intermedia* Malloch.
58. *horni* Malloch.
59. maculifera (de Meijere).
60. *crinita* Malloch.
61. *hirtitibia* Malloch.
62. strigipennis (de Meijere).
63. dentifera Malloch.
64. opposita Malloch.
65. *maquilingensis* Malloch.
66. trispina Malloch.
67. folifera Malloch.
68. *opacithorax* Malloch.
69. *signatifrons* (Kertesz).
70. *piceoides* Malloch.
71. nigrita Malloch.
72. *luzonensis* Malloch.
73. *robusta* Malloch.
74. *atriceps* Malloch.

75. *bilineella* (Frey).
76. *nothosticta* (Frey).
77. notostigma (Kertesz).
78. demeijerii Malloch.
79. *bakeri* Malloch.
80. leucoprosopon (de Meijere).
81. ornatifrons (de Meijere).
82. *viatrix* (de Meijere).
83. toxopeus Malloch.
84. beckeri (Kertesz).
85. fasciventris Malloch.
86. occipitalis Malloch.
87. immaculata (de Meijere).
88. *circumcincta* (Frey).
89. trifasciata (de Meijere).
90. *immaculipennis* Malloch.
91. *signata* (van der Wulp).
92. bioculata (de Meijere).
93. *neosignata* Malloch.
94. kerteszi (de Meijere).
95. *mediosignata* (Frey).
96. biguttata (Macquart).
97. halterata (Kertesz).
98. novaeguineae (Kertesz).
99. biori (Kertesz).
100. grossa (de Meijere).
101. *fuscobrunnea* Malloch.
102. nigroapicata Malloch.
103. *simplisissima* (de Meijere).
104. sauteri Malloch.
105. *affinis* Malloch.
106. *sublucida* Malloch.
107. *laticosta* (Thomson).
108. lucida (de Meijere).
109. unguiculata (Kertesz).
110. pallidula Malloch.
111. diversa (Kertesz).
112. *geomyzina* (Frey).
113. grahami Malloch.
114. discoidalis (Kertesz).
115. dichroa (de Meijere).
116. nigripennis (de Meijere).
117. *trypetoptera* (Hendel).
118. picta (de Meijere).
119. quinquevittata (de Meijere).
120. quinquevittata var. formosana Malloch.
121. pleuripuncta Malloch.
122. caloptera (Kertesz).
123. latifrons Malloch.
124. subvittata Malloch.
125. talamaui (de Meijere).
126. ungaranensis (de Meijere).
127. angustata (de Meijere).
128. strigata (de Meijere).
129. medionotata (de Meijere).
130. flavomarginata (Kertesz).
131. chinensis Malloch.
132. grandis (Kertesz).
133. varinervis (Kertesz).
134. bistriata (Kertesz).
135. striatifrons (de Meijere).
136. beccari (Kertesz).
137. lorentzi (Kertesz).
138. vankampeni (de Meijere).
139. quinquenotata (de Meijere).
140. brevicornis (Kertesz).
141. *punctipennis* (de Meijere).
142. preapicalis Malloch.
143. bancrofti Malloch.

NOTES ON SOME OF DOCTOR FREY'S PHILIPPINE SPECIES

The generic name *Mallochomyza* I consider synonymous with *Homoneura*, but the species referred here by Doctor Frey do not belong to the same group as *picea* van der Wulp, which species and other two he retains in *Homoneura sen. str.*

HOMONEURA (HOMONEURA) SERIEPUNCTATA (Frey)

Mallochomyza seriepunctata FREY, Acta Soc. pro Fauna et Flora Fennica, vol. 56, No. 8, p. 32, 1927.

I have seen no species from the Philippines which might be this. It must be very similar to *latifrons* Malloch described from Formosa, but it is evidently smaller, the extreme length given by Frey being 4 mm. while that of *latifrons* is 6 mm. The description of *seriepunctata* mentions the fact that the clouds on apices of third and fourth

veins are confluent, but in *latifrons* the one on fourth is faint and separated from the one on third. Frey states that in his species the spaces between the three dark spots on third vein are whitish, which is not the case in the other species.

Locality, Manila, Luzon.

MALLOCHOMYZA SUBGEMINATA Frey

Mallochomyza subgeminata FREY, Acta Soc. pro Fauna et Flora Fennica, vol. 56, No. 8, p. 28, 1927.

MALLOCHOMYZA CONTUBERNALIS Frey

Mallochomyza contubernalis FREY, Acta Soc. pro Fauna et Flora Fennica, vol. 56, No. 8, p. 29, 1927.

I am unable to determine the status of the above two species, but incline to think that they may belong to *Trypaneoides*.

MALLOCHOMYZA TERMINATA Frey

Mallochomyza terminata FREY, Acta Soc. pro Fauna et Flora Fennica, vol. 56, No. 8, p. 30, 1927.

Probably a *Homoneura*, but not amongst my material apparently.

MALLOCHOMYZA BUTUANENSIS Frey

Mallochomyza butuanensis FREY, Acta Soc. pro Fauna et Flora Fennica, vol. 56, No. 8, p. 31, 1927.

Apparently a species of *Homoneura*, but not known to me.

MALLOCHOMYZA TETRURA Frey

Mallochomyza tetrura FREY, Acta Soc. pro Fauna et Flora Fennica, vol. 56, No. 8, p. 35. 1927.

Close to *signata* van der Wulp. Impossible to state definitely without specimens for comparison. Undoubtedly a *Homoneura*.

MALLOCHOMYZA SPICULATA Frey

Mallochomyza spiculata FREY, Acta Soc. pro Fauna et Flora Fennica, vol. 56, No. 8, p. 36, 1927.

Possibly identical with *bioculata* de Meijere. A *Homoneura*.

MALLOCHOMYZA TAGALICA Frey

Mallochomyza tagalica FREY, Acta Soc. pro Fauna et Flora Fennica, vol. 56, No. 8, p. 38, 1927.

Appears to be close to if not identical with *simplissima* de Meijere. *Homoneura*.

Genus HIMANTOPYGA Frey

The above genus was compared with *Sapromyza* Fallen by Doctor Frey, who distinguished it essentially by its more slender form, its much developed male hypopygium, and the projecting labrum. The prescutellar acrostichals are absent and all the tibiae have a long preapical dorsal bristle.

HIMANTOPYGA SCAPTOMYZINA Frey

Himantopyga scaptomyzina Frey, Acta Soc. pro Fauna et Flora Fennica, vol. 56, No. 8, p. 41, 1927.

This is the genotype and only species of the genus known. The head is reddish yellow, occiput black, frons bare, orbits and ocellar spot black, with gray dust; orbitals both strong, the anterior pair not much shorter than the posterior pair; antennae black, third segment quite large, broadly oval, about 1.5 as long as wide; arista almost bare; palpi yellow to brownish. Thorax and scutellum shining black, with slight gray dust, the humeri and sutures yellowish; three dorsocentrals, acrotichals in six series, two sternopleurals present; scutellum somewhat pointed. Abdomen black, shining, in the female yellowish at base on sides. Legs yellow, apical tarsal segment browned. Wings rather long and pointed, yellowish grey tinged, especially on the costa.

Length, 3–3.25 mm.

Localities.—Balbalasan and St. Thomas, Luzon.

Genus POICHILUS Frey

This genus also is unknown to me. I append some notes taken from Doctor Frey's published description.

Said to have much in common with the genus *Mycterella* Kertesz. The arista is long haired and the eyes have a different form. Also near *Rhagadolyra* Hendel.

Ocellars very short and fine, two verticals and two orbitals, all strong and equal; face convex; basal antennal segment shorter than second, third slender, about five times as long as wide; arista dorsal, basal, twice as long as third antennal segment, and with long dense hairs on each side; prelabrum hardly projecting; palpi normal. Thorax with three pairs of postsutural dorsocentrals, one pair of prescutellar acrostichals, two sternopleurals, the scutellum large, flattened, rounded in outline, with four bristles. All tibiae with preapical dorsal bristle. Second and third wing veins slightly undulated.

POICHILUS FASCIATUS Frey

Poichilus fasciatus FREY, Acta Soc. pro Fauna et Flora Fennica, vol. 56, No. 8, p. 19, 1927.

This is the genotype and only known species of the genus. The head is yellow, with three black spots on frons and four on face; antennae and palpi yellow. Thorax and scutellum yellow, dorsum with four broad brown vittae which extend over scutellum, pleura with two similar vittae. Abdomen reddish brown, with sides black brown. Legs yellow, femora at bases more or less brown and before the apices with a brown ring, all tibiae with three brown rings, fore tarsi entirely, and apical segment of other tarsi, black-brown. Wings conspicuously marked with brown, in the form of two longitudinal streaks, the first over the costa, the second over the fifth vein, the costal one with a pale streak and two spots in it, the posterior one irregular and more or less broken with pale spots.

Length, 6 mm.

Localities.—Surigao and Siargao, Mindanao.

APPENDIX

GRIPHOMINETTIA, new genus

This genus has the face as in *Minettia longipennis* Fabricius, with two pronounced humps on lower half, and also has the intra-alar bristle strong, and the costal setulae as in that genus. The fourth wing vein is strongly curved forward near its apex, forming a broadly rounded bend as in *Griphoneura* and most species of the subgenus *Griphoneuroides* of *Homoneura*, the first posterior cell being almost, or quite, closed at margin of wing. The fore femur lacks the preapical anteroventral comb of minute black setulae, which is another feature distinguishing the genus from *Homoneura.*

Genotype.—The following species.

GRIPHOMINETTIA SUMATRANA, new species

Male.—Head black, centre and anterior margin of frons brownish; antennae fuscous, second segment yellowish; palpi black. Thorax black, shining, slightly gray dusted; humeral angles, anterior and posterior portions of pleura, the postalar region, and the metanotum, fulvous yellow. Abdomen glossy black, hypopygium brownish. Legs yellow, tarsi, and especially the fore pair, darkened. Wings hyaline, veins brown, yellow at bases. Calyptrae and halteres yellow.

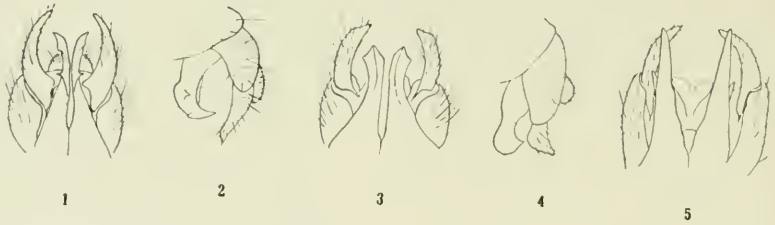
Frons a little longer than wide, all bristles long; face widened below; third antennal segment about twice as long as wide; arista with its longest hairs not as long as width of third antennal segment;

lower occipital bristles strong. Thorax with 3 pairs of postsutural dorsocentrals, one pair of prescutellar acrostichals, two sternopleurals, the scutellum slightly flattened and with four bristles. Hypopygium small, forceps short and wide. Preapical bristle strong on all tibiae; mid tibia with two long apical ventral bristles. Inner cross vein slightly before middle of discal cell.

Length, 5.5 mm.

Type.—Brastagi, Sumatra, May 1927 (F. J. Meggitt). U.S.N.M. Cat. No. 40878.

It is possible, but not probable, that some of the species which I have not seen that are placed by me in *Griphoneuroides* belong to this genus.



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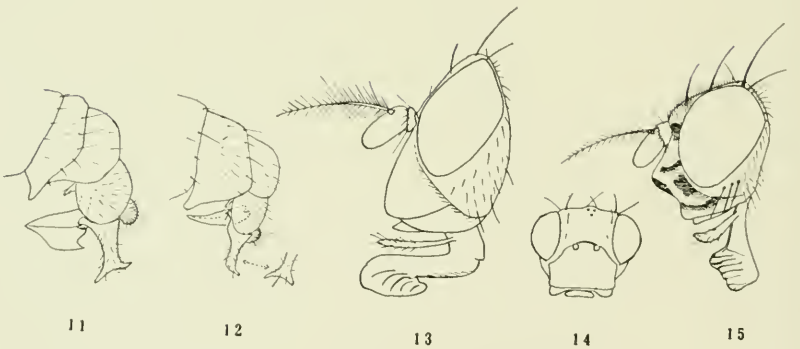

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DETAILS OF CELYPHINAE AND SAPROMYZINAE

FOR EXPLANATION OF PLATE SEE PAGE 89

EXPLANATION OF PLATES

Plate 1

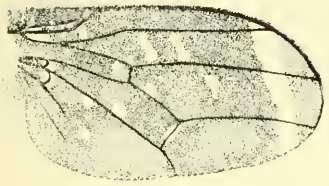
Details of Celyphinae and Sapromyzinae

Fig. 1. *Spaniocelyphus scutatus*, hypopygium of male, from rear.
2. *Spaniocelyphus scutatus*, hypopygium of male, from side.
3. *Spaniocelyphus formosanus*, hypopygium of male, from rear.
4. *Spaniocelyphus formosanus*, hypopygium of male, from side.
5. *Acelyphus stigmaticus*, hypopygium of male, from rear.
6. *Acelyphus stigmaticus*, hypopygium of male, from side.
7. *Spaniocelyphus sumatranus*, hypopygium of male, from rear.
8. *Spaniocelyphus sumatranus*, hypopygium of male, from side.
9. *Acelyphus politus*, hypopygium of male, from rear.
10. *Acelyphus politus*, hypopygium of male, from side.
11. *Steganopsis melanogaster*, hypopygium of male, from side.
12. *Steganopsis convergens*, same.
13. *Xangelina basiguttata*, head, from side.
14. *Xangelina basiguttata*, head, from front.
15. *Euprosopomyia maculosa*, head, from side.
16. *Euprosopomyia maculosa*, hypopygium, from side.
17. *Prosopophorella buccata*, head, from front.
18. *Phobeticomyia lunifera*, wing.

Plate 2

Details of Sapromyzinae

Fig. 19. *Phobeticomyia preapicalis*, wing.
20. *Minettia tubifera*, hypopygium from side.
21. *Minettia nigrohalterata*, same, from below.
22. *Minettia nigrohalterata*, same, from side.
23. *Minettia fuscofasciata*, same, from below.
24. *Minettia quadrispinosa*, same.
25. *Minettia obscura*, same.
26. *Minettia luteitarsis*, same.
27. *Minettia philippinensis*, same, from behind.
28. *Trigonometopus bakeri*, hypopygium, from side.
29. *Kertcszomyia maculifrons*, head, from side.
30. *Ichthomyia cyprinus*, same.
31. *Homoneura semibrunnea*, hypopygium from side, and apex of inner forceps, from behind.
32. *Homoneura umbrosa*, same.
33. *Homoneura fumibasis*, same.



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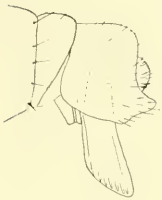

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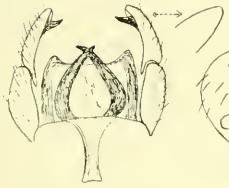

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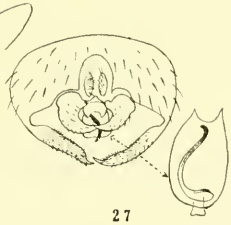

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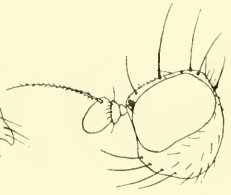

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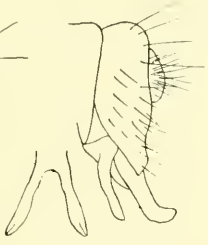

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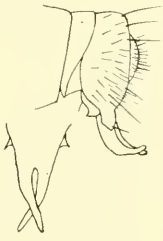

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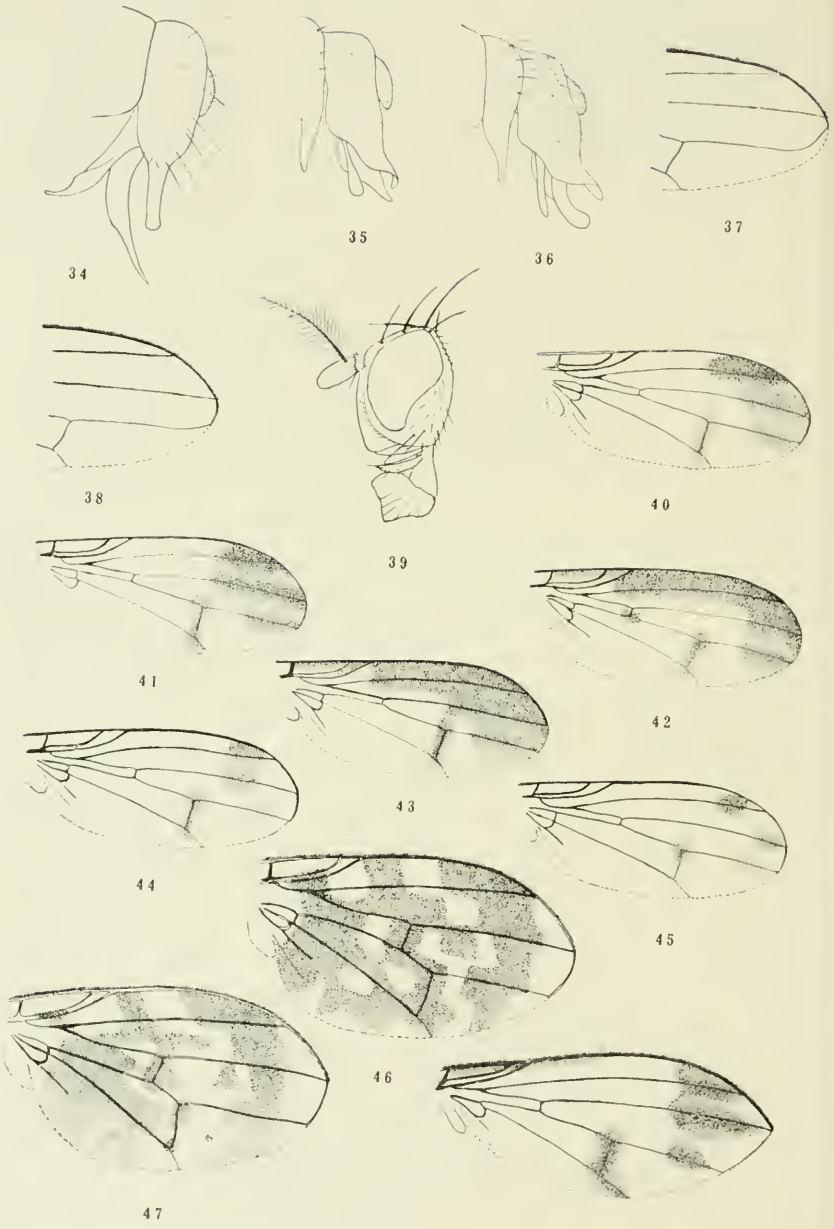
DETAILS OF SAPROMYZINAE

FOR EXPLANATION OF PLATE SEE PAGE 90



DETAILS OF HOMONEURA

FOR EXPLANATION OF PLATE SEE PAGE 91

PLATE 3

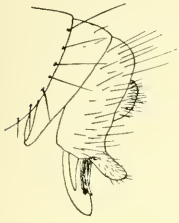
Details of Homoneura

FIG. 34. *Homoneura gedehi*, hypopygium, from side.
35. *Homoneura kocki*, same.
36. *Homoneura nigrofulva*, same.
37. *Homoneura testaceipes*, apex of wing.
38. *Homoneura octoguttata*, same.
39. *Homoneura albicosta*, head, from side.
40. *Homoneura jacobsoni*, wing.
41. *Homoneura honesta*, wing.
42. *Homoneura limbifera*, same.
43. *Homoneura orientalis*, same.
44. *Homoneura paroeca*, same.
45. *Homoneura nigronotata*, same.
46. *Homoneura nigriflua*, same.
47. *Homoneura lunata*, same.
48. *Homoneura geomyzina*, same.

Plate 4

Hypopygia of *Homoneura* species

Fig. 49. *Homoneura honesta*, hypopygium from side.
50. *Homoneura parvinotata*, same.
51. *Homoneura hawaiiensis*, same.
52. *Homoneura curta*, same.
53. *Homoneura nudifrons*, same.
54. *Homoneura crassicauda*, same.
55. *Homoneura acrostichalis*, same.
56. *Homoneura philippinensis*, same.
57. *Homoneura pubiseta*, same.
58. *Homoneura padangensus*, same.
59. *Homoneura intermedia*, same.
60. *Homoneura horni*, same.
61. *Homoneura strigipennis*, same.
62. *Homoneura dentifera*, same.
63. *Homoneura opposita*, same.
64. *Homoneura maquilingensis*, same.
65. *Homoneura trispina*, same.



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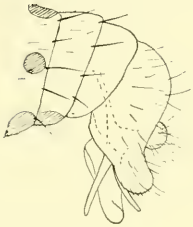

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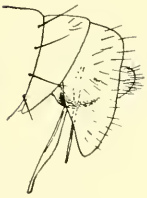

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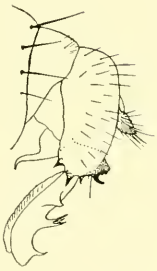

59

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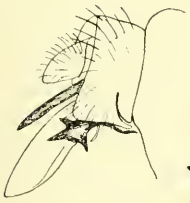
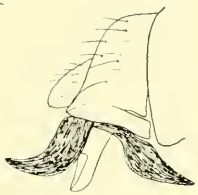
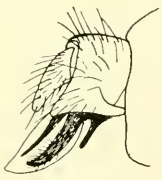


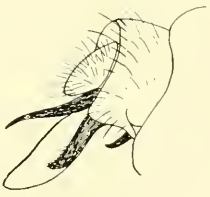
62



63



64



65

HYPOPYGIA OF SPECIES OF HOMONEURA

FOR EXPLANATION OF PLATE SEE PAGE 92

66

67

68

69

70

71

72

73

74

75

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77

78

79

80

81

82

HYPOPYGIA OF SPECIES OF HOMONEURA

FOR EXPLANATION OF PLATE SEE PAGE 93

Plate 5

Hypopygia of *Homoneura* species

Fig. 66. *Homoneura folifera*, hypopygium from side.
67. *Homoneura piceoides*, same.
68. *Homoneura nigrita*, same.
69. *Homoneura bilineella*, same.
70. *Homoneura nothosticta*, same.
71. *Homoneura notostigma*, same from side.
72. *Homoneura notostigma*, same from side below.
73. *Homoneura demeijerii*, same from side.
74. *Homoneura demeijerii*, same from side below.
75. *Homoneura bakeri*, hypopygium from side.
76. *Homoneura leucoprosopon*, same.
77. *Homoneura beckeri*, same.
78. *Homoneura beckeri*, same, internal portions, one side from below.
79. *Homoneura fasciventris*, same, and apex of inner forceps.
80. *Homoneura occipitalis*, same.
81. *Homoneura immaculipennis*, same.
82. *Homoneura signata*, same.

Plate 6

Hypopygia and apical genital segments of *Homoneura* species

Fig. 83. *Homoneura grossa* ?, hypopygium from side.
84. *Homoneura fuscobrunnea*, same.
85. *Homoneura nigroapicata*, same.
86. *Homoneura sauteri*, same.
87. *Homoneura affinis*, same.
88. *Homoneura sublucida*, same.
89. *Homoneura laticosta*, same.
90. *Homoneura lucida*, same.
91. *Homoneura unguiculata*, same.
92. *Homoneura pallidula*, same.
93. *Homoneura diversa*, same.
94. *Homoneura geomyzina*, same.
95. *Homoneura dichroa*, same.
96. *Homoneura chinensis*, same.
97. *Homoneura signatifrons*, apex of venter of female abdomen.
98. *Homoneura* species, same.

83

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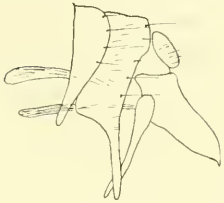

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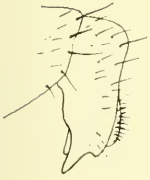

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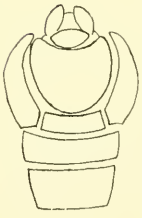

97

98

HYPOPYGIA AND APICAL GENITAL SEGMENTS OF SPECIES OF HOMONEURA

FOR EXPLANATION OF PLATE SEE PAGE 94

INDEX

[Valid genera and species in roman; subgenera in parentheses; synonyms in italics.]

	Page
aberrans, Homoneura	59
Acelyphus	4
acrostichalis, Homoneura	46
affinis, Homoneura	81
albicosta, Homoneura	59
albiseta, Melanopachycerina	21
albiseta, Trigonometopus	34
albocincta, Sapromyza	34
Amphicyphus	17
angustata, Homoneura	54
angustilimbata, Melanopachycerina	21
annulifera, Sapromyza	29
annulipes, Steganopsis	13
anthrax, Homoneura	57
apicalis, Steganopsis	14
apicalis, Turriger	40
astrolabei, Homoneura	42
aterrima, Steganopsis	13
atrata, Minettia	26
atratula, Minettia	27
atriceps, Homoneura	76
atricornis, Homoneura	42
aurora, Celyphus	9
Australina	17
bakeri, Homoneura	75
bakeri, Idiocelyphus	6
bakeri, Steganopsis	14
bakeri, Trigonometopus	34
bancrofti, Homoneura	56
basiguttata, Xangelina	15
beccari, Homoneura	55
beckeri, Homoneura	49
bicincta, Trypancoides	23
biguttata, Homoneura	50
bilinella, Homoneura	74
bioculata, Homoneura	78
biroi, Homoneura	51
bisetosus, Celyphus	8
bistriata, Homoneura	55
boettcheri, Calliclypeus	22
boettcheri, Homoneura	58
brevicornis, Homoneura	56
brunneicosta, Trigonometopus	34
buccata, Prosopophorella	19
buruensis, Steganopsis	13
butuanensis, Homoneura	85
Calliclypeus	22
Calominettia	27
caloptera, Homoneura	53
calopus, Lyperomyia	15
Celypholauxania	35
Celyphus	7
(Chaetohomoneura)	56
Chaetolauxania	38
chinensis, Homoneura	55
chyzeri, Homoneura	43
cinctipes, Sapromyza	30
circumcincta, Homoneura	77
coffeata, Homoneura	66
conspicua, Sapromyza	29
contubernalis, Homoneura?	85
convergens, Steganopsis	14
costalis, Homoneura	69
crassicauda, Homoneura	67
crassciuscula, Homoneura	66
crinita, Homoneura	70
curta, Homoneura	67
curvinervis, Pleurigona	16
curvinervis, Steganopsis	14
cyaneostoma, Pachycerina	19
cyprinus, Ichthyomyia	41
dapaensis, Homoneura	79
decemlineata, Pachycerina	20
deceptor, Sapromyza	29
demeijerii, Homoneura	75
dentifera, Homoneura	71
diacrostichalis, Homoneura	68
dichroa, Homoneura	52
difficilis, Celyphus	9
discoidalis, Homoneura	52
distincta, Homoneura	43
divergens, Staganopsis	14
diversa, Homoneura	52
(Euhomoneura)	64
Euminettia	27
Euprosopomyia	17
exigua, Homoneura	66
facialis, Maquilingia	36
fasciatifrons, Sapromyza	29
fasciatus, Poichilus	87
fasciventris, Homoneura	49
fenestrata, Trypancoides	24
flavicornis, Homoneura	43
flavipes, Turriger	40
flaviventris, Pachycerina	20
flavomarginata, Homoneura	54
flavopleura, Sapromyza	29
flavoscutellatus, Turriger	40
folifera, Homoneura	72
formosanus, Spaniocelyphus	10
fumibasis, Homoneura	57
fumipennis, Homoneura	66
fusciceps, Homoneura	43
fuscifrons, Trigonometopus	34
fuscobrunnea, Homoneura	79
fuscofasciata, Minettia	26

	Page
gedehi, Homoneura	57
geomyzina, Homoneura	80
grahami, Homoneura	81
grandis, Homoneura	55
Griphominettia	87
(Griphoneuroides)	58
grossa, Homoneura	51
halterata, Homoneura	51
hawaiiensis, Homoneura	67
Hendellmyza	33
Himantopyga	86
hirticeps, Maquilingia	36
hirtitibia, Homoneura	70
histrio, Homoneura	53
Homoneura	41
honesta, Homoneura	62
hoozanensis, Minettia	26
horni, Homoneura	70
hyacinthus, Celyphus	7
hyalipennis, Sapromyza	29
hyalipuncta, Trypaneoides	24
Hypagoga	39
Ichthyomyia	40
Idiocelyphus	5
immaculata, Homoneura	82
immaculipennis, Homoneura	78
incompleta, Homoneura	63
indica, Homoneura	62
intermedia, Homoneura	69
inversa, Sapromyza	31
irrorata, Homoneura	65
jacobsoni, Homoneura	62
javana, Pachycerina	20
jaranensis, Homoneura	79
karnyi, Homoneura	63
kerteszi, Homoneura	50
Kerteszomyia	39
kocki, Homoneura	57
koshunensis, Sapromyza	29
laevis, Spaniocelyphus	11
laticosta, Homoneura	80
latifrons, Homoneura	54
latifrons, Pachycerina	21
latipennis, Steganolauxania	12
Lauxaniella	21
leucochaeta, Melanopachycerina	21
leucoprosopon, Homoneura	49
limbifera, Homoneura	63
lineolata, Chaetolauxania	38
lorentzi, Homoneura	55
lucida, Homoneura	51
lugubris, Homoneura	61
lunata, Homoneura	65
lunifera, Phobeticomyia	23
lunipennis, Homoneura	65
luteitarsis, Minettia	27
luzonensis, Homoneura	73
(Luzonomyza)	34
Lyperomyia	15
macgregori, Homoneura	64
maculifera, Homoneura	47
maculifrons, Kerteszomyia	39
maculosa, Euprosopomyia	18
major, Trypaneoides	25
Mallochomyza	84
maquilingensis, Homoneura	71
maquilingensis, Minettia	31
Maquilingia	35
medionotata, Homoneura	54
mediosignata, Homoneura	79
melanogaster, Steganopsis	13
Melanopachycerina	21
Minettia	25
(Minettiella)	27
(Minettioides)	65
minor, Steganopsis	14
monticola, Homoneura	68
morio, Trypaneoides	24
multilineata, Steganopsis	15
Mycterella	86
(Neohomoneura)	59
neosignata, Homoneura	77
(Neotrigonometopus)	34
nigrifacies, Spaniocelyphus	12
nigriflua, Homoneura	64
nigripennis, Homoneura	52
nigrita, Homoneura	73
nigroapicata, Homoneura	51
nigrocoeruleus, Spaniocelyphus	11
nigrofulva, Homoneura	57
nigrohalterata, Minettia	26
nigronotata, Homoneura	63
nothosticta, Homoneura	75
notostigma, Homoneura	49
novaeguinea, Homoneura	51
nudifrons, Homoneura	67
nudiseta, Homoneura	67
obscura, Minettia	26
obscuriceps, Homoneura	57
obscuricornis, Homoneura	42
obtectus, Celyphus	9
occipitalis, Homoneura	49
ocellaris, Pachycerina	21
octoguttata, Homoneura	43
octomaculata, Trypaneoides	24
omei, Sapromyza	32
opacithorax, Homoneura	72
opposita, Homoneura	72
orientalis, Homoneura	62
orientalis, Homoneura	50
ornatifrons, Homoneura	49
ornatipennis, Homoneura	65
Pachycerina	19
padangensis, Homoneura	68
pallidula, Homoneura	52
Panurgopsis	35
papuana, Homoneura	43
Paracelyphus	6
Paranomina	35
paroeca, Homoneura	63
parvinotata, Homoneura	65
parvipunctata, Pachycerina	20
perpunctata, Trypaneoides	25
philippinensis, Homoneura	68
philippinensis, Minettia	27
Phobeticomyia	22
Physogenia	19
piceoides, Homoneura	72
picta, Homoneura	82
piliseta, Homoneura	66
pleuralis, Sapromyza	30
Pleurigona	16

	Page
pleuripuncta, Homoneura	82
poecilogaster, Sapromyza	30
(Poecilomyza)	58
Poichilus	86
politus, Acelyphus	4
pollinifrons, Sapromyza	29
preapicalis, Homoneura	56
preapicalis, Phobeticomyia	23
Prosopophorella	18
Prosopomyia	17
pubiseta, Homoneura	68
pubiseta, Homoneura	66
pulchripennis, Trypaneoides	24
puncticeps, Celyphus	8
punctipennis, Homoneura	56
punctipennis, Trigonometopsis	37
pupicola, Steganopsis	14
pusilla, Steganopsis	14
pusillima, Sapromyza	30
quadrangulata, Sapromyza	31
quadripunctata, Chaetolauxania	38
quadrispinosa, Minettia	26
quinquenotata, Homoneura	55
quinquevittata, Homoneura	53
quinquevittata, var. formosana (Homoneura)	53
repletus, Acelyphus	5
reticulatus, Amphicyphus	17
Rhagadolyra	86
robusta, Homoneura	73
rufiventris, Minettia	27
Sapromyza	28
sauteri, Homoneura	56
Sauteromyia	35
scaptomyzina, Himantopyga	86
Sciasmomyia	16
scutatus, Spaniocelyphus	10
semibrunnea, Homoneura	57
seriepunctata, Homoneura	84
setiventris, Homoneura	60
sexlineata, Pachycerina	20
sigillata, Pachycerina	20
signata, Homoneura	79
signatifrons, Homoneura	48
simplisissima, Homoneura	51
Spaniocelyphus	10
spiculata, Homoneura?	85
Steganolauxania	12
Steganopsis	12
sternopleuralis, Chaetolauxania	38
stigmaticus, Acelyphus	5
striatifrons, Homoneura	55
strigata, Homoneura	54
strigipennis, Homoneura	47
subgeminata, Homoneura?	85
sublucida, Homoneura	51
submaculipennis, Trigonometopus	34
submetallica, Xangelina	16
subvittata, Homoneura	54
sulphuriceps, Chaetolauxania	38
sumatrana, Griphominettia	87
sumatrana, Trypaneoides	24
sumatrensis, Spaniocelyphus	11
tagalica, Homoneura?	85
talamaui, Homoneura	54
tenuicornis, Lauxaniella	21
tephritina, Trypaneoides	24
terminata, Homoneura?	85
testacea, Homoneura	44
testaceipes, Homoneura	58
testaceus, Paracelyphus	7
tetrura, Homoneura?	85
toxopeus, Homoneura	49
tricincta, Trypaneoides	24
trifasciata, Homoneura	77
Trigonometopsis	37
Trigonometopus	33
tripunctifrons, Chaetolauxania	38
trispina, Homoneura	71
Trypaneoides	23
trypetiformis, Trypaneoides	24
Trypetisoma	24
trypetoptera, Homoneura	82
tubifera, Minettia	26
Turriger	40
umbrosa, Homoneura	56
undecimlineata, Steganopsis	15
ungaranensis, Homoneura	54
unguiculata, Homoneura	51
vankampeni, Homoneura	55
varinervis, Homoneura	55
varipes, Melanopachycerina	21
viatrix, Homoneura	49
wallacei, Homoneura	42
Xangelina	15
(Xenohomoneura)	44
(Xenosapromyza)	30
yerburyi, Homoneura	61

2609—29——7