

NEW ZEALAND MUSCIDAE ACALYPTRATAE

By J. R. MALLOCH.

+ Family HELOMYZIDAE. (Supplement).

In the original paper dealing with this family the authors considered that the so-called family *Trixoscelidae* ought to be merged with *Helomyzidae* and included in the treatment of the New Zealand group species, which might with considerable certainty be placed in the former, pointing out that their course was in accordance with opinions formed after an examination of material from all over the world.*

Unfortunately, all of the material which belongs to the group was not included in this first survey of the local species, and lately Mr. Tonnoir submitted to the author some additional species which must be included in the family, though they less readily fall within the accepted family concept. Because of this recent accession, I have had to make a more intensive study of the genera involved, and, after doing so, am still of the opinion that they all must be referred to one family. It is unfortunately true that a great deal of diversity of opinion exists as to the limits of families in this division of the *Diptera*, and the more one restricts himself to one or very few characters for the distinction of families naturally the more families he must accept. Without making an attempt to be critical, one must inevitably, upon an examination of recent papers on the families of *Acalyptratae*, arrive at the decision that there are far too many such concepts accepted, or rather proposed, and that the distinctions between the groups for which family rank is proposed are trivial as compared with those that are used for the same purpose in the more generalised *Nematocera*, or which are utilised for the purpose in distinguishing such families as *Pipunculidae*, *Syrphidae*, *Micropezidae*, *Conopidae*, etc. However, these remarks are merely by way of introduction, and possibly bear the earmarks of bias; the matter presented below should evidence whether the author is or is not correct in his deductions in this case, independent of any extraneous data.

The family *Helomyzidae* belongs to that section of the *acalyptrate* series in which the costa is slightly weakened to almost broken at the apex of the subcostal vein, the latter distinct on its entire length, though sometimes lying somewhat close to the first vein (R) at its apex. Its distinguishing characters are as follows:—The basal cells are distinct, anal cell and anal vein present; vibrissae

* *Rec. Cant. Mus.*, vol. 3, pt. 2, p. 83 (1927).

well developed ; frontal orbits each with from one to three reclinate bristles, rarely with the anterior one inwardly or outwardly curved, but never proclinate ; the postvertical bristles parallel to cruciate ; at least one pair of tibiae with distinct preapical dorsal bristle ; none of the wing veins haired, and the costal vein extending to apex of fourth vein (M.)

As previously pointed out, the family runs down in Hendel's most recent key to families* to Caption 162, and there it is separated from *Trichoscelidae* (*Trioxoscelidae*) and *Chyromyidae* by the shortened frontal orbital plates and the better-developed subcostal cell. In our previous paper we disregarded these characters because they are not in our opinion of sufficient value to justify their use as family criteria, and, with the additional material we now have in hand, this opinion still holds.

It must be noted that in the genus *Trioxoscelis* Rondani and certain other genera related closely thereto, the mesopleura has one or more strong bristles on the hind margin, while no genus included in our previous paper, nor in fact in *Helomyzidae* as accepted by other authors, has such bristles. For a time I felt rather inclined to accept this character as a basis for continuing the use of the family *Trioxoscelidae*, but in at least one North American genus, *Neossos* Malloch, which has undoubted affinities with the latter, there are no mesopleural bristles. I accept *Chyromyidae* as a valid family on the basis of the lack of the propleural and preapical dorsal tibial bristles, but there being three orbitals in some genera of the *Helomyzidae* bars the character of the orbital bristling as a distinguishing character, and the shortened palpi of the former are not acceptable for family characterisation. I have seen no species of the *Chyromyidae* from New Zealand, though possibly such may occur.

I present below a key to the genera now added to the New Zealand fauna. All of them have strong mesopleural bristles, and are thus distinguished from any in the previously published key by that character. It will thus be necessary to alter the key as below.

KEY TO THE GENERA.

- 0. Mesopleura without strong hind marginal bristles ; each frontal orbit with one or two reclinate or outwardly curved bristles 1
 - Mesopleura with one or more strong hind marginal bristles ; each frontal orbit with three well-developed bristles 6
- (Here must be inserted the already published key, Captions 1 to 5 inclusive).

* "Die Tierwelt Deutschlands, etc." Diptera, 11 ; General part, 1928.

6. Upper two pairs of fronto-orbital bristles curved outward over eyes, the lower pair incurved and situated about midway between vertical bristles and insertions of antennae; frons with numerous short stiff hairs on almost the entire surface; cheek about as high as eye, the latter longer than high; mesopleura with at least three strong hind marginal bristles, the upper one directed upward *Tethinosoma* n. gen.
- All three pairs of fronto-orbital bristles reclinate, the anterior one situated close to anterior margin of frons; centre of frons bare; cheek not over one-fourth of the eye height, the latter higher than long; mesopleura with only one strong hind marginal bristle directed backward 7
7. Mesonotum with three pairs of postsutural and no presutural dorsocentral bristles *Fenwickia* n. gen.
- Mesonotum with three or four pairs of postsutural and at least one pair of presutural dorsocentral bristles; wings spotted 8
8. Sternopleurals 1+1; wing with two adventitious cross veins connecting second and costal veins on apical half of former (Fig. 2) *Xeneura* n. gen.
- Only one sternopleural present; no cross veins as above—
Aneuria n. gen.

✓ Genus *TETHINOSOMA* novum.

This genus has much the appearance of *Tethina* Haliday, and I judge that it is probably found in sandy regions or on the banks of streams or lakes. Hutton and Tonnoir report it as found on the seashore. The following characters will distinguish it from its allies in addition to those mentioned in the foregoing generic key: Antennae quite small, arista very short, profile of head as in Fig. 7; thorax with five pairs of dorsocentrals, the anterior pair well in front of suture, the second pair almost at it, about six rather irregular series of acrostichal hairs, one sternopleural, at least three strong hind marginal bristles on mesopleura; some hairs on disc of scutellum; ocellar and postvertical bristles subequal in length; preapical dorsal bristle on tibiae hardly differentiated; costa with some well developed short bristles on under side, beyond apex of first vein (R); venation complete, the subcosta not distinctly fused with first vein apically, but because of a thickening or darkening of the membrane in apex of the subcostal cell it is not well distinguished therefrom.

Genotype, the following species.

✓ ***Tethinosoma fulvifrons*** (Hutton).

Agromyza fulvifrons Hutton, *Trans. N.Z. Inst.*, vol. 33, p. 93.

Female.—Black, densely grey dusted. Anterior margin of frons and centre of face testaceous yellow, more or less obscured by the grey dusting; antennae testaceous, the third segment and

aristae fuscous ; palpi testaceous yellow. Thorax unicolorous grey, mesonotum with a brownish shade centrally extending roughly across the intradorsocentral region and over disc of scutellum. Abdomen unicolorous pale grey. Legs fuscous, grey dusted, tarsi of mid and hind legs testaceous except at apices. Wings hyaline. Calyptrae white. Halteres yellow.

Head in profile as Fig. 7 ; frons slightly bulging in front, fully one-half of the head width, almost parallel-sided, the orbits and triangle not at all differentiated, surface hairs lacking centrally above ; inner side of first and second antennal segments with closely placed short black bristles at apices, the antennae generally divergent ; aristae bare ; central portion of face not wider than third antennal segment and much narrower than narrowest part of parafacial ; cheek with some microscopic hairs below in front and one black bristle, which is upcurved and as long as the rather short vibrissa ; palpi normal. Thorax with one long and one short humeral bristle, the mesopleura and sternopleura each with numerous hairs in addition to the bristles, the upper mesopleural bristle slightly in front of hind margin and upwardly directed ; scutellum with four marginal bristles and some discal hairs. Abdomen tapered apically. Legs rather slender, fore femur with a rather regular series of posteroventral bristles and no anteroventral comb. Inner cross vein at rather less than one-third from apex of discal cell, the penultimate section of fourth vein (M) hardly longer than outer cross vein and varying from one-fourth to one-sixth as long as the ultimate section ; first posterior cell usually slightly widened apically ; sixth vein extending about five-sixths of the distance to wing margin ; costal bristles rather widely separated, the longest almost as long as inner cross vein (Fig. 8).

Length, 2.5-3.5mm.

Christchurch (Hutton) and Kaikoura, February 23, 1922 (A. Tonnoir).

To be returned to New Zealand, specimen to remain in collection of author.



Genus FENWICKIA novum.

This genus is readily distinguished from the preceding one by the three pairs of reclinate fronto-orbital bristles, the much narrower cheek, lack of short hairs on the central portion of the frons and the genal bristle, the reduced anal angle of the wing, and the short and abruptly interrupted sixth wing vein, and the better developed preapical tibial bristles.

It is noteworthy that in one species there are hairs on the disc of the scutellum and on the sides of the prosternal plate, while in the other two species these are lacking.

Genotype, *Fenwickia hirsuta* n. sp.

KEY TO THE SPECIES.

1. Wings brownish hyaline, without evident clouds on any of the veins ; disc of scutellum and the prosternal plate bare . . . 2
- Wings hyaline, with pale brown clouds on the cross veins and apices of second to fourth veins inclusive (Fig. 1) . . . 3
2. Six series of short intradorsocentral hairs on the mesonotum ; scutellum with a yellowish margin ; hypopygium of male as Fig. 9, the accessory claspers tapered on entire length—
claripennis n. sp.
- Four series of intradorsocentral hairs on mesonotum ; scutellum not paler along margin ; hypopygium with the accessory claspers not tapered on entire length (Fig. 10) . . . *similis* n. sp.
3. Scutellum with some short stiff hairs on disc near apex ; pronotal plate with a few fine hairs on each side . . . *hirsuta* n. sp.
- Scutellum with the disc bare ; prosternal plate without hairs—
nuda n. sp.

✓ **Fenwickia claripennis** n. sp.

Male and female.—Occiput fuscous, slightly grey dusted, frons golden brown, becoming yellow in front, when seen from in front and low down, with a rather broad well-defined anterior marginal pale yellow transverse band, face and cheeks testaceous yellow, yellowish dusted ; antennae orange yellow, third segment very slightly darkened above ; aristae yellow at bases, brown beyond ; palpi testaceous yellow. Thorax brownish testaceous, darker brown on mesonotum, without traces of vittae, the margin of scutellum yellowish. Abdomen brown, verging on black in female and at apex in male, the fifth tergite and apical lateral angles of other tergites in male, and apical lateral angles of all tergites in female, pale testaceous yellow. Legs testaceous yellow, apices of hind femora more or less distinctly infuscated, less broadly so in the females. Wings brownish hyaline. Calyptrae and halteres yellow,

Head in profile as Fig. 12, frons at vertex about two-fifths of the head width, gradually narrowed to anterior margin ; ocellar region raised, the bristles situated slightly behind level of anterior ocellus ; orbits distinctly differentiated on entire extent, narrow ; ocellar bristles longer than postverticals ; aristae with short pubescence. Thorax with three pairs of postsutural dorsocentrals, the anterior pair shorter than the others ; scutellum subtriangular, bare on disc, the four marginal bristles subequal in length ; propleural bristle very short and fine. Abdomen in male cylindrical, the hypopygium rounded and rather knoblike, dorsal length less than that of the sixth tergite ; hypopygium as Fig. 9. Legs normal: fore femur with some well-developed bristles on apical half of posteroventral surface, mid femur with an anterodorsal bristle near

apex; hind femur with an anterodorsal bristle near apex and one on ventral surface near middle. Inner cross vein about one-third from base of discal cell and three times the length of outer cross vein from the latter, the penultimate section of fourth vein (M) over three-fourths as long as ultimate section. Calyptrae very small, almost linear.

Length, 3.5-4mm.

Type, male, allotype, and two paratypes, Nelson, March, October, and December; paratypes, Okarahia, February 5, 1925; Kaikoura, February 22, 1922; and Otira, February 19, 1922 (A. Tonnoir).

Type to be returned to New Zealand, paratype retained by author.

✓ **Fenwickia similis** n. sp.

Male and female.—Very similar to the preceding species, differentiated mainly by the characters listed in the foregoing key to species. In addition to these it is worth mention that the anterior margin of the frons is not markedly yellow as in the contrasted species, and the hypopygial claspers are longer and narrower. In both the species the hypopygial processes are conspicuously pale yellow, contrasting sharply with the black basal portion of that organ, and in neither species are the claspers wide enough to cover the entire ventral surface of the hypopygium as in *nuda* male.

Length, 3mm.

Type, male, Nihotupu, February 23, 1923 (A. Tonnoir), allotype, Wanganui (Watt).

✓ **Fenwickia hirsuta** n. sp.

Female.—Very similar to the two preceding species in coloration, but the wings have brownish clouds on both the cross veins (Fig. 1) and on the apices of second, third, and fourth veins (R2+3, R4+5, and M). The margin of scutellum is yellowish.

Structurally similar to the preceding two species, except that there are hairs on the disc of the scutellum and the prosternal plate, the inner cross vein is about two-fifths from base of discal cell, and the intradorsocentral hairs are in four series.

Length, 4-5mm.

Type, Dun Mt., 3,000 feet, February 23, 1923; paratypes, Hilltop, Kaituna, Otira, Waiho, Akaroa, and Nelson.

Type to be returned to New Zealand, paratype retained by author.

✓ **Fenwickia nuda** n. sp.

Male and female.—Similar to the next preceding species in general colouration, the wings marked in the same manner, but differing from it in having the prosternal plate and disc of scutellum

bare. The male has the hypopygial forceps very broad, when at rest lying close against the venter, their inner edges touching, and extending over the entire ventral surface of the hypopygium. The apex of the scutellum is yellowish.

Length, 3mm.

Type, male, Nihotupu, February 23, 1923; allotype, Lake Brunner, February 5, 1922 (A. Tonnoir).

To be returned to New Zealand.

+ Genus *XENEURA* novum.

This genus is readily distinguished by the peculiar wing venation, possessing two cross veins connecting the second vein (R2 + 3) with the costa, as shown in Fig. 2. In other respects it is quite similar to *Fenwickia*, except that the anterior pair of dorsocentral bristles on thoracic dorsum is situated in front of suture.

There is but one species referable to the genus, and it is accepted as the genotype.

+ *Xeneura picata* (Hutton).

Milichia picata Hutton, *Trans. N.Z. Inst.*, vol. 34, 1902 (1901).

Male and female.—Head testaceous yellow, occiput and ocellar triangle fuscous, with greyish dust, a mark on each side of interfrontalia, dots at bases of the orbital bristles, and the antennal foveae, darkened; antennae orange yellow, third segment darkened centrally, more noticeably so on outer side; aristae fuscous; palpi yellow. Thorax black, densely grey dusted, the mesonotum with four dark brown vittae, which are broken into three or four spotlike sections, a dark brown dot at base of each of the strong bristles, and three similar marks along the notopleural region; mesopleura and sternopleura each with a black mark; scutellum testaceous, with sides basally black. Abdomen deep black, with the following testaceous yellow markings: a small spot on each side of third tergite and a narrow stripe along its posterior margin, which is broadly interrupted centrally, a large mark on each side of fourth tergite, which is bidentate on its inner side, one tooth along the posterior margin and the other on the anterior margin, the latter with a dark central spot, and a similar mark on fifth tergite, which may be more or less reduced. Legs black, apices of femora more or less broadly testaceous yellow, the tibiae yellow at bases, middle, and apices, and the tarsi yellow. Wings fuscous, with numerous hyaline spots (Fig. 2), the number in submarginal cell quite variable. Calyptrae yellow. Halteres with the knobs pale yellow.

Head as in preceding genus. Thorax with a short pair of bristles, usually present between the first postsutural strong pair of dorsocentrals and the suture; scutellum slightly flattened on disc,

without discal hairs. Armature of legs as in the preceding genus. Lower calypter rudimentary, upper one almost linear.

Length, 3-3.5mm.

Localities, male and female, Nelson, December 15, 1921 ; female, Wellington, December 1, 1921 (A. Tonnoir).

To be returned to New Zealand.

+ Genus ANEURIA novum.

This genus is distinguished from the preceding one by the possession of but one sternopleural bristle and the lack of cross veins connecting the second vein with the costa. One of the species, *imitatrix*, is very similar in general appearance to the maculate winged species of the genus *Fenwickia*, but the mesonotum lacks the presutural pair of dorsocentral bristles.

Genotype, *Aneuria elegans*, n. sp.

KEY TO THE SPECIES.

1. Wings with the dark markings confined to the cross veins and apices of second, third, and fourth veins (R 2+3, R 4+5, and M), as shown in Fig. 3 *imitatrix* n. sp.
- Wings with a large number of dark spots, occupying the greater portion of the surface 2
2. Only two dark marks on the costa, between apices of first (R 1) and second (R 2+3) veins, the basal one occupying more than half the entire extent, the other one over apex of the cell, apical section of fourth vein (M) without stumps of veins emitted from it (Fig. 4) *bipunctata* n. sp.
- Four or more subequal dark spots on costa, between apices of first and second veins, apical section of fourth vein usually with two short downwardly projecting spur veins in the dark submedian spots 3
3. Prosternum bare ; normally three dark spots on fifth vein along the discal cell, exclusive of the one at each extremity, and five on the costa, between apices of first and second veins (Fig. 5)—
tripunctata n. sp.
- Prosternum haired on sides ; normally four dark spots on fifth vein along discal cell, exclusive of the one at each extremity, and six on the costa, between apices of first and second veins (Fig. 6) *sexpunctata* n. sp.

+ ***Aneuria imitatrix*** n. sp.

Male and female.—Very similar to *Fenwickia hirsuta* in colouration, being dull brownish testaceous, with the wings marked very much as in that species (Fig. 3), except that the cloud on apex of the third vein is not so extensive. The

frons and antennae are bright orange yellow, and, though the hind femora in the male are slightly infuscated at apices, they are entirely testaceous yellow in the female. The hypopygium in the male is testaceous yellow, noticeably paler than the segment in front of it, and the penultimate segment is not as pale as in the male of *F. hirsuta*.

Structurally similar to *Fenwickia* species, but with the chaetotaxy of the thoracic dorsum as in *Xeneuria*, even to the occurrence of the very short pair of dorsocentrals immediately behind the suture; intradorsocentral hairs in four series. Abdomen of male shaped as in *Fenwickia*, the hypopygium bulbous, but the claspers are differently shaped from those of the species of that genus known to me, being narrowed at bases, widened centrally, and tapered apically (Fig. 11), so that when they lie against each other on the venter they present a fanlike form, and the edges outwardly are furnished with many black hairs, forming a sort of fringe. Otherwise there are no outstanding distinctions between this species and those of *Fenwickia*.

Length, 4-5mm.

Type, male, Mt. Arthur, 4,000 feet, December 24, 1921; allotype, one male and one female paratype, Otira, February 7-8, 1922 (A. Tonnoir).

To be returned to New Zealand, paratype to be retained by author.

✚ ***Aneuria bipunctata*** n. sp.

Male and female.—Head testaceous to orange yellow, occiput, frontal triangle, and frontal orbits fuscous with grey dust; antennae orange yellow; aristae yellow at bases, fuscous beyond; palpi pale yellow. Thorax fuscous, densely yellowish grey dusted, with dark brown dots at bases of the strong bristles on mesonotum; scutellum dark brown centrally, yellowish grey on margin; pleura dark grey, with sternopleura, except its upper margin, and two oblique stripes on the mesopleura black. Abdomen black in male with a grey spot on each side of third and fourth tergites at lateral posterior angles, the female with similar, but yellow, spots on three or four of the tergites; hypopygium of male black. Legs dull yellow, femora darkened basally, the mid and hind pairs most extensively. Wings with numerous fuscous spots (Fig. 4). Halteres yellow.

Structurally similar to the preceding species, but the four pairs of dorsocentrals are of almost uniform strength, and there is no minute pair just behind the suture in any of the specimens. The male hypopygium has the claspers slender, even more so than in *F. claripennis*, and the accessory claspers are longer than them and not as thick. Fore femur with one outstanding posteroventral bristle near apex. Inner cross vein of wing slightly beyond middle of discal cell.

Length, 3mm.

Type, male, Hilltop, January 14, 1925; allotype, and one defective male paratype, Cass, November and January (A. Tonnoir). To be returned to New Zealand.

 Aneuria tripunctata n. sp.

Female.—Similar to the preceding species, but with a narrow oblique dark brown stripe on each side of the mesonotum along the transverse suture, a more distinct dark brown central vitta on hind margin of mesonotum; the apex of scutellum, most of the humeri and the upper portion of the pleura yellowish; abdomen blackish, with a conspicuous pale testaceous yellow mark on each side of anterior margin of all except the basal tergite at the lateral curve; legs testaceous yellow; halteres yellow; wings marked with fuscous colour of varying intensity as in Fig. 5, the markings slightly variable on costa and fifth vein, and usually one or more short spur veins in the dark spots on apical portion of fourth vein.

Structurally similar to the next preceding species, except for the above-mentioned spur veins, which are lacking in the latter.

Length, 3-4mm.

Type, Mt. Arthur, 4,500 feet, March 2, 1923 (A. Philpott); paratypes, Dun Mt., January 5-7, 1922; Otira, February 8, 1922 (A. Tonnoir); and same locality, January 10, 1920, no collector's name.

Type to be returned to New Zealand.

 Aneuria sexpunctata n. sp.

Male and female.—This species is very similar to the next preceding one in its general colouration, but the thoracic dorsum is without brown dots at the bases of the dorsocentral bristles and the oblique brown stripe at the transverse suture, the posterior half or more of the mesonotum is rather evenly browned, the scutellum has two short dark stripes on the disc, and the abdomen in both sexes has a large dark brown triangle on each tergite above the lateral margin of each, also dark brown. The wings are marked much as in *tripunctata*, but the distinctions may be seen in the Figure here given (Fig. 6).

Structurally similar to *tripunctata*, but rather larger. The male has the hypopygial claspers much larger than in *bipunctata*, these being about as long as the basal segment of the hind tarsus, or six times as long as wide, pale yellow in colour, and fringed with fine short hairs along the outer side.

The male is slightly teneral, which may account for the abdominal sternites being paler than in the female, the latter having them as dark as the lateral margins of the tergites.

Length, 4-5mm.

Type, male, Mt. Arthur, 4,500 feet, December 21, 1921; allotype and one female paratype, same locality and date as type (A. Tonnoir).

To be returned to New Zealand.

Family SCIOMYZIDAE (Supplement).

+ Genus HUTTONINA Tonnoir and Malloch. *C. Malloch*

In the original description of this genus we included three segregates, two subgenera being recognised, *Huttonina* containing all but one of the six included species, *angustipennis* being separated from the others on the basis of the structure of the wings. It appears necessary at this time, when describing an additional species of the genus, to note that in *angustipennis* we find three orbitals and two sternopleurals, the first character linking it closely with the genotype, *abrupta* Tonnoir and Malloch. The number of sternopleurals is very variable in the genus, ranging from one to three, as stated in the original treatment of the genus, but I am uncertain whether they vary within the individual species.

Huttonina (Huttonina) abrupta T. and M.

I have examined one specimen from Ohakune, March 22 (T. Harris), which is in the collection of the United States National Museum.

Huttonina (Huttonina) furcata T. and M.

Two specimens from Kumara, October and November, 1929 (J. W. Campbell), also in the United States National Museum.

+ **Huttonina (Huttonina) brevis**, n. sp.

Female.—This species is very similar to dark specimens of *abrupta*, but it is less noticeably shining, the mesonotum being greyish dusted and with slight traces of dark stripes. The cross veins of the wings are not clouded.

Structurally similar to *abrupta*, the orbital and sternopleural bristles three in number, but the fore femur, instead of having one outstanding bristle near apex on the posteroventral surface, has several unequal bristles, one of them longer than the others, and while *abrupta* has the first two costal divisions beyond the humeral vein practically equal in length and the first vein (R1) ending in costa very little proximad of level of the inner cross vein, the new species has the first costal division about 1.75 as long as second, and the first vein ending in costa well before the level of the inner cross vein, or almost exactly midway between it and the furcation of second and third veins (R 2+3 and R 4+5).

Length, 4.5mm.

Type, Kumara, October 20, 1929 (J. W. Campbell). In United States National Museum.

The three species listed above differ from all the others in the subgenus *Huttonina* in possessing three pairs of fronto-orbital bristles, and in having no definite wing markings. In *furcata* there is but one sternopleural and no posteroventral bristles on the fore femur, in the other two species there are two or three sternopleurals and at least one preapical posteroventral bristle on the fore femur. The venational distinctions mentioned above will distinguish *abrupta* from *brevis*.

EXPLANATION OF FIGURES.

PLATE XLVI.

Fig. 1.—Wing of *Fenwickia hirsuta*.

Fig. 2.—Wing of *Xeneuria picata*.

Fig. 3.—Wing of *Aneuria imitatrix*.

Fig. 4.—Wing of *Aneuria bipunctata*.

Fig. 5.—Wing of *Aneuria tripunctata*.

Fig. 6.—Wing of *Aneuria sexpunctata*.

(Photos by A. L. Tonnoir.)

Fig. 7. Head of *Tethinosoma fulvifrons*, from the side.

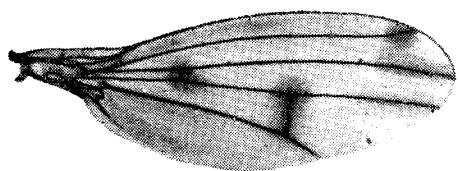
Fig. 8.—Wing of *Tethinosoma fulvifrons*.

Fig. 9.—(a) Hypopygium of *Fenwickia claripennis*, male, from the side ; (ac) accessory claspers ; (p) penis ; (ps) penis, from below ; (cl) clasper, from behind.

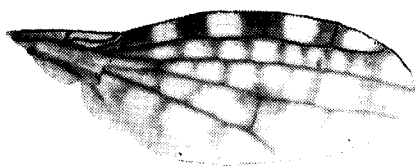
Fig. 10.—Accessory clasper of *Fenwickia similis*, from the side.

Fig. 11.—Clasper of *Aneuria imitatrix*, male, from below.

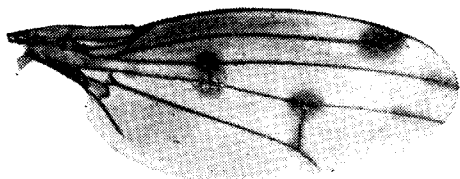
Fig. 12.—Head of *Fenwickia claripennis*, from the side.



1



2



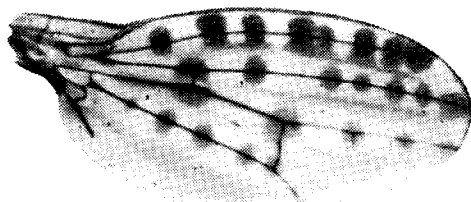
3



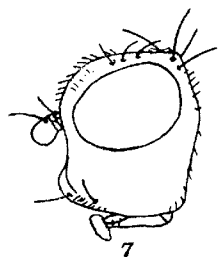
4



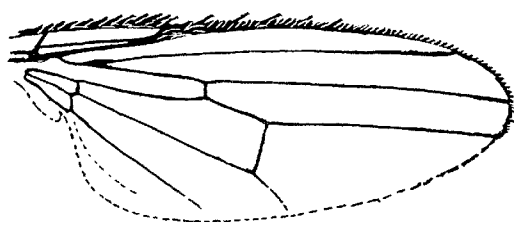
5



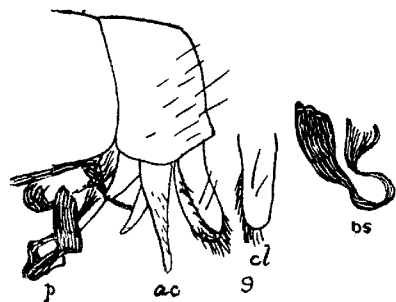
6



7



8



9



10



11



12