

9. *South African Trypaneid Diptera in the Collection of the South African Museum.*—By Professor M. BEZZI.

(With Plates XII–XV.)

LOEW, in his classical paper of 1861 on the African Trypaneidae,* has enumerated 52 species (with exclusion of the *Dacinae*), 30 of which were described and figured; most of the latter were from South Africa. All the species were retained under the single generic name of *Trypeta*.

In a series of papers published by me from 1915 to 1920,† I have differentiated the genera of the *Trypaneidae* of the Ethiopian region, recognising about 216 species; most of them were, however, from Central Africa.

It was thus with the greatest pleasure that I received, through the courtesy of the late Dr. L. Peringuey, the material of the South African Museum, being enabled thereby to extend my knowledge of the family to the South African forms. At the same time I have received extensive collections made at East London by Mr. H. K. Munro; and also some specimens from the Entomological Division of the Department of Agriculture, Cape Town.

All these materials are incorporated in the present work, which gives a good idea of the South African Trypaneid-fauna, and includes descriptions of about 180 species of fruit-flies. The types or paratypes of almost all the new species here described are deposited in the South African Museum.

The fruit-fly fauna of South Africa, in comparison with that of Central Africa, is characterised by the great abundance of *Trypaneinae*, which are even more numerous than the *Ceratitinae*; in the tropical parts of the Continent the species of the former subfamily are almost wanting. This is a character of temperate regions. But the *Dacinae* are also well represented, while the *Adraminae* are very scarce; the aberrant group of the *Rhabdochaetinae* is represented by some peculiar and striking forms, while the true *Schistopterinae* are quite wanting.

* Ueber die Afrikanischen Trypetrina. Berlin ent. Zeitschr., 1861, v, pp. 253–306, 1 pl.; with additions, 1862, vi, p. 90.

† Bull. ent. Research, 1915, vi, pp. 85–101, 14 figs.; 1917, viii, pp. 63–71, 6 figs.; 1918, viii, pp. 215–251, 3 figs., 1 pl.; 1918, ix, pp. 13–46, 3 figs., 1 pl.; 1919, ix, pp. 177–182, 3 figs.; 1920, x, pp. 211–271, 2 pls.

Of peculiar South African genera may be mentioned *Afrodacus* in the *Dacinae*; *Munromyia* in the *Adraminae*; *Taomyia*, *Afrocneros*, *Xanthanomoea*, *Hermannloewia*, *Zacerata*, *Allotrypes*, *Rivelliomima*, *Rhynchoedaspis*, and *Munroella* in the *Ceratitinae*; *Perirhithrum* and *Eutretosoma* in the *Rhabdochaetinae*; *Platomma*, *Elaphromyia*, and *Afreutreta* in the *Trypaneinae*, which are also characterised by the great number of species in the genera *Spathulina*, *Ensina*, and *Trypanea*.

In another paper, now in the press, I have given a general revision of all the *Trypaneidae* of the Ethiopian region, numbering about 400 species, with the inclusion of those here described. But at present I have come to the conclusion that the classification of the family, adopted by me in that paper, must be changed. It seems, indeed, better to make six subfamilies instead of five only, by splitting that of the *Schistopterinae* in two. Moreover, the arrangement of these subfamilies must be disposed as follows:—

No occipital bristles ; thoracic chaetotaxy incomplete.	}	Second basal cell dilated . . .	1. <i>Dacinae</i> .
		Second basal cell not dilated . . .	2. <i>Adraminae</i> .
Occipital bristles always present ; thoracic chaetotaxy always complete.	{	Occipital bristles typically black, thin, and acute.	{
			No costal nick on wings. 3. <i>Ceratitinae</i> .
			Wings with costal nick. 4. <i>Schistopterinae</i> .
		Occipital bristles typically whitish, thick, and ob- tuse.	{
			Praeocellar bristles present. 5. <i>Rhabdochaetinae</i> .
			No praeocellar bristles. 6. <i>Trypaneinae</i> .

Owing to the great importance of chaetotaxy for the distinction of fruit-flies, in the following tables and descriptions abbreviations are used for indicating the bristles or macrochaetae, as follows:—

a. sa. =anterior supra-alar.	prsc. =praescutellar.
a. set. =apical scutellar.	prst. =praesutural.
b. set. =basal scutellar.	p. sa. =posterior supra-alar.
dc. =dorso-central.	pt. =pteropleural.
hm. =humeral.	pvt. =postvertical.
i. or. =inferior orbital.	sa. =supra-alar.
mpl. =mesopleural.	scp. =scapular.
npl. =notopleural.	set. =scutellar.
oc. =ocellar.	st. =sternopleural.
ocp. =occipital row.	s. or. =superior orbital.
or. =orbital.	vt. =vertical.
poc. =praeocellar.	

The six subfamilies of the African *Trypaneidae* may be distinguished as follows :—

1. (4) Ocp. quite wanting ; thoracic chaetotaxy incomplete, the hm., prst., dc., and st. being always wanting ; poc. always wanting ; front femora without bristles below.
2. (3) Wings with the first three longitudinal veins closely approximated, the anterior cross-vein long and oblique, the second basal cell dilated and always hyaline, and the anal cell drawn out into a very long point ; arista always bare ; abdomen typically short and broad, usually broader than the thorax *Dacinae*.
3. (2) Wings with the first three veins not approximated, the anterior cross-vein short and perpendicular, the second basal cell not dilated, and the anal cell with a short point ; abdomen long and linear, narrower than the thorax *Adraminae*.
4. (1) Ocp. always present, if even sometimes very few in number ; thoracic chaetotaxy complete, that is the above-named bristles usually present, or at least not all wanting at the same time ; front femora with a row of bristles below.
5. (8) Ocp. thin and acute, usually of a black colour ; poc. always wanting ; in doubtful cases, either the antennal arista is plumose, or the scp. are well developed, or the dc. are placed much behind the suture, or the third longitudinal vein is bristly, or the point of the anal cell is rather long, or the wings are not reticulate, or thorax and scutellum show a striking coloration.
6. (7) Wings with the costa not broadly interrupted at end of the auxiliary vein, and destitute of peculiarly coloured "bullae" on the disc ; oc. usually present ; third antennal joint not subulate, even if sometimes with a point on its upper terminal angle *Ceratitinae*.
7. (6) Costa deeply interrupted at end of auxiliary vein, and there with a prominent nick ; wings with strikingly coloured "bullae" on the disc ; oc. wanting ; third antennal joint subulate *Schistopterinae*.*
8. (5) Ocp. strong and obtuse, always of a whitish colour ; in doubtful cases, either poc. are present, or the arista is bare, or the scp. are less distinct or wanting, or the third longitudinal vein is bare, or the dc. are placed very near the suture, or the lower point of the anal cell is very short, or the wings are reticulate, or the coloration of body is much more modest and uniform.
9. (10) Poc. usually present ; oc. broadly separated at base ; third antennal joint subulate ; wings with costal nick and with strikingly coloured "bullae" *Rhabdochaetinae*.
10. (9) Poc. usually absent ; oc. approximate at base and diverging ; third antennal joint not subulate ; wings with indistinct costal nick and without strikingly coloured "bullae" *Trypaneinae*.

* Not yet found in South Africa.

SUBFAMILY DACINAE.

This tropical subfamily is well represented in South Africa, most of the species being peculiar to the country. The genera may be distinguished as follows :—

1. (6) No prsc. ; wings of male without praeaxillary lobe.
2. (3) Three sa., the anterior one being well developed *Tridacus*, Bezzi.
3. (2) Two sa., the anterior one quite wanting.
4. (5) Antennae very elongate, with the first joint as long as the second
Tridacus, p. p.
5. (4) Antennae not so elongate, with the first joint shorter than the second
Dacus, s. str.
6. (1) Prsc. present ; a. sa. wanting ; wings of male with a rather distinct prae-axillary lobe *Afrodacus*, gen. nov.

TRIDACUS, Bezzi, 1915.

The present genus seems to be more Central African in its distribution, being represented in the South only by a few species, which are as follows :—

1. (6) Wings with the brown costal border extended to the middle of the first posterior cell, or even to the fourth vein, or sometimes with a broad apical brown spot extending beyond the fourth vein.
2. (3) First antennal joint as long as the second ; wings with a broad rounded apical brown spot filling almost the whole of the first posterior cell and extending into the upper part of the second posterior cell ; back of mesonotum with three yellow postsutural stripes *lounsburyi*, Coq.*
3. (2) First antennal joint shorter than the second, wings without such a broad terminal spot or with a much smaller one.
4. (5) Only one yellow hypopleural spot ; wings with yellowish fore border and with a rounded apical brown spot which stops at fourth vein
chrysomphalus, sp. nov.
5. (4) Two yellow hypopleural spots ; wings with a brown fore border extending to the fourth vein, but without rounded terminal spot
pectoralis, Walk.
6. (1) Wings with the brown fore border narrower, not extending beyond the third longitudinal vein, or doing so only at apex ; sometimes the wings are without dark costal border, having only a small dark spot at end.
7. (10) No humeral and no hypopleural yellow spots ; mesopleural yellow stripe very narrow or indistinct.
8. (9) Wings with brown anal stripe ; face with two black spots
eclipsis, Bezzi.

* This species is destitute of a. sa., and might therefore be placed in *Dacus* s. str., but differs from all the others in the antennae.

9. (8) Wings without anal brown stripe; face unspotted *scaber*, Loew.
 10. (7) Humeral and hypopleural yellow spots present; face unspotted; wings without anal stripe and with an isolated brown spot at end of third vein.
 11. (14) Only one yellow hypopleural spot.
 12. (13) Frons with black lateral spots; yellow mesopleural stripe narrow; body black spotted *lotus*, sp. nov.
 13. (12) Frons without black lateral spots; mesopleura with a broad yellow patch which extends to the humeral yellow spots; body entirely reddish, quite unspotted *sphaerostigma*, sp. nov.
 14. (11) Two contiguous yellow hypopleural spots *punctatifrons*, Karsch.

Tridacus lounsburyi, Coquillett, 1901.

(Pl. XII, fig. 1.)

This magnificent species of great size was originally described from the Cape, and was subsequently recorded by Fraggatt, by Silvestri, by Enderlein, and by me, and placed in *Tridacus*. But Mr. H. K. Munro has examined paratypes in the Collection of the Entomological Division at Cape Town and has found them without a. sa.; and even all the specimens seen by me are devoid of this bristle.

The species differs from any other South African *Tridacus* or *Dacus* by its convex face and chiefly by its very long antennae, which have the first joint as long as the second; characteristic also is the golden pubescence on the abdomen. In *chrysomphalus* the a. sa. is rather small, while in the allied *sphaeristicus*, Speiser, it is very strong.

I prefer at present to retain the species under *Tridacus*, pending the erection of a new genus for its reception.

One male specimen from East London, 27th March 1923 (H. K. Munro).

Tridacus chrysomphalus, sp. nov.

(Pl. XII, fig. 3.)

Near *lounsburyi*, but at once distinguished by minor size, by distinct sa., by broader yellow mesopleural stripe, by the scutellum being only narrowly infuscated basally, and by the wings, which have a much more narrow and less defined dark apical patch. It seems also allied with *fuscovittatus*, Graham, but has only one yellow hypopleural spot. Type ♀, a single specimen from Zululand, M'fongosi, December 1913 (W. E. Jones). Numerous specimens of both sexes from East London (H. K. Munro).

♂♀. Length of body, 8-9 mm.; of wing, 7-8 mm.; of ovipositor, 1.5 mm. Head yellowish; occiput reddish, with a complete yellow

border. Frons broad, less than twice longer than broad, opaque, with a black ocellar dot, three black spots on each side at the insertion of the or., and a narrow blackish band in the middle; lunula shining black. Face less shining, with two broad elongate black spots on the middle, extending with their lower internal corner almost to the mouth border. Antennae rather long, entirely reddish, with the second joint longer than the first and with the third joint twice as long as the second; arista reddish. Parafacialia and peristomialia pale yellowish, the latter with a broad, ovate, blackish spot. Proboscis and palpi dark reddish. All the cephalic bristles black; only two i. or. Thorax entirely reddish, punctulate, with a short, pale yellowish pubescence; on the back there is a narrow, blackish middle stripe, three narrow yellow postsutural stripes, and a blackish patch on each side interiorly to the lateral yellow stripes. Humeri reddish brown, with one yellow spot on front corner. Pleurae reddish, with a narrow yellow stripe at hind border of mesopleura, a little continued above along the suture and with a small sternopleural spot below; on both sides of this yellow stripe the pleurae are blackish; sternopleurae clothed with white dust and below with white hairs; a single broad, rounded, yellow hypopleural spot. Postscutellum and mesophragma entirely reddish, smooth. Scutellum yellow, with a narrow transverse dark band at base. All the bristles black, the a. sa. rather small but always present. Halteres whitish. Abdomen elongate, convex, narrowed at base; coloured, punctulate, and pubescent like the back of mesonotum, with a broad, complete, yellowish band at hind border of second segment, but devoid of any dark markings; third segment of male ciliated; oval patches of the last segment less distinct. Venter reddish brown, with yellowish base; ovipositor shining reddish, with whitish pubescence, a little longer than the last abdominal segment. Legs reddish, whitish pubescent, the femora with broad yellowish base, those of the last pair more broadly; all the praetarsi whitish; tibial spurs black; claws reddish, with black terminal half. Wings (fig. 3) with a faint yellowish tint and with yellowish veins. Second longitudinal vein long, its penultimate section about as long as the terminal one; small cross-vein after the middle of the discoidal cell; last portion of fourth vein sinuous at base; the prolongation of the anal cell is longer than the rest of the anal vein in the female. Stigma dark yellowish; a faint yellowish border not extending below the second vein, dilated at end in a more infuscated, but less definite rounded spot, which stops below at the fourth vein, and interiorly is not prolonged beyond the hind cross-

vein. Anal dark stripe broad, ending before the hind border of wing, in the male dilated distally and in contact with a broad dark spot at end of axillary cell.

Tridacus pectoralis, Walker, 1861.

(Pl. XII, fig. 2.)

This is considered only a form of the widely distributed *bivittatus*, Bigot. Originally described from Natal, there is a male specimen from Natal, Bellair,* 18th April 1914; and some specimens from Illovo and from East London (H. K. Munro).

Tridacus eclipsis, Bezzi.

(Pl. XII, fig. 4.)

Closely allied to *Dacus fuscatus*, Wied., but distinct by the much more reduced wing-pattern, besides the generic character of the well-developed a. sa.

I have described the type ♀ from Durban in the British Museum; and I have seen a male specimen from Port Shepstone, 14th July 1917 (H. K. Munro).

The male is very like the female, but has the third abdominal segment ciliated; the anal brown stripe of the wings (fig. 4) is broader, extending to the hind border and there dilated below into a faintly infuscated spot at the extreme corner of the axillary cell: the prolongation of the anal cell is about three times as long as the rest of the anal vein.

Tridacus ? scaber, Loew, 1862.

Originally described from "Caffraria," but never seen subsequently; it is doubtful whether it is a *Tridacus* or a *Dacus*.

Tridacus lotus, sp. nov.

Distinct by the unspotted face and by the very reduced wing pattern, even the anal stripe being wanting; from *stylifer* it is distinguished by the short ovipositor, by the spotted frons, and by the narrow yellow mesopleural stripe.

Type ♀, a single specimen from Port Shepstone, 24th July 1917 (H. K. Munro).

♀. Length of body, 7 mm., of wing, 6 mm. Prevailing colour of body dark reddish, with yellow and blackish markings. Occiput rather shining, entirely reddish, unspotted, with a little developed yellowish border. Frons of a dull reddish-yellow colour, with a small black ocellar dot, three pairs of black spots at insertion of the or., and a faintly infuscated, elongate spot in the middle; it is broad, being $1\frac{1}{2}$ as long as broad; lunula shining black. Face shining yellowish, quite unspotted; the brownish subocular spot is faintly developed. Antennae entirely reddish, with the third joint twice as long as the second, which is longer than the first; arista reddish at base. Palpi and proboscis reddish yellow. Cephalic bristles black; two i. or. Back of mesonotum punctulate, clothed with a short, pale yellowish pubescence; there is a narrow black middle stripe, which begins at the suture and is dilated behind, but stops before reaching the scutellum; there are no yellow stripes at all. Humeral calli entirely yellow, with a reddish border in front. Pleurae with a narrow yellow mesopleural stripe, narrowly prolonged above and below, and margined in front by a broad black stripe, which is continued on the sternopleura; the single hypopleural yellow spot is rounded and broad. Postscutellum reddish; mesophragma black, narrowly reddish in the middle. Scutellum yellow, with the basal half dark reddish. Bristles black, the a. sa. rather weak, but always stronger than the pt. Halteres whitish. Abdomen rounded, convex, narrowed at base, coloured and punctulate like the back of mesonotum; the first segment and the sides of the last three segments are black, the oval patches of the last segment being also blackish; venter reddish. Ovipositor reddish, short, about as long as the last abdominal segment. Legs pale yellowish, with the terminal part of all the femora darkened; tibial spurs black; claws black, with yellowish base. Wings hyaline, with yellowish stigma and with reddish veins; second longitudinal vein short, the penultimate segment of costa being about half as long as the last segment; small cross-vein after middle of discoidal cell; last portion of fourth vein faintly bisinuous; prolongation of the anal cell a little shorter than the remaining portion of the same cell. The pattern is reduced to a faint dark spot at end of third vein; there is no fuscous costal border, and no fuscous anal stripe; the marginal cell is only slightly yellowish, like the base of the submarginal cell; even the usual basal infuscation of the first basal cell is only faintly indicated; the anal cell is slightly yellowish on its upper part.

Tridacus sphaerostigma, sp. nov.

(Pl. XII, fig. 5.)

Allied with *scaber* and with *stylifer*, but distinct by the entirely reddish body, which is without any dark markings, and by the perfectly round dark spot at end of third longitudinal vein.

Types ♂ and ♀ from East London, 5th May 1923 (H. K. Munro).

♂♀. Length of body, 6.5 mm.; of wing, 5.5 mm.; of ovipositor, 0.8 mm. Occiput entirely shining reddish, unspotted, with a yellow border below. Frons parallel-sided, reddish yellow, opaque, unspotted, with narrowly shining orbital borders; it is about twice as long as broad, has a very small black ocellar dot and a yellowish lunula. Face entirely shining yellow, without black spots; parafacialia and peristomialia pale yellowish, unspotted. Antennae entirely reddish, distinctly longer than the face. Palpi and proboscis reddish yellow. Vt. dark reddish brown; two i. or., very thin and pale. Thorax entirely reddish, punctulate, with a thin whitish pruinescence on back, without any dark markings, but with broad yellow ones; these are: a rather narrow humeral spot, the front corner of the humeri being reddish; a very broad, subquadrate mesopleural patch reaching the humeral spot with its anterior upper corner; a single, rather small, hypopleural spot. Scutellum reddish, more or less broadly yellow on the disc. Bristles black, except the two set. which are dark reddish. Halteres whitish. Abdomen with parallel sides, not much narrowed basally; it is entirely reddish, without dark markings, with an indistinct yellowish hind border of the second segment in the male; third segment of the male ciliated; oval patches of last segment quite distinct; ovipositor entirely reddish, not longer than the last abdominal segment; venter yellowish. Legs entirely reddish, with the basal part of the femora yellowish. Wings (fig. 5) hyaline, with a faint yellowish tint; stigma more intensively yellowish, marginal cell rather yellowish, submarginal cell not infuscated basally. The pale yellowish stripe just above the second basal cell is faintly developed; anal cell yellowish along the upper border; no trace of anal stripe, or of apical infuscation of the axillary cell in the male; small cross-vein not infuscated. The black terminal spot is broad, perfectly circular and symmetrically placed before the end of the third vein. Last portion of third vein strongly bent downwards, and running parallel with last portion of fourth, which is straight at end. Prolongation of anal cell in the male longer than in the female, as long as the rest of the sixth vein.

Tridacus punctatifrons, Karsch, 1887.

This species shows a great resemblance to *Dacus vertebratus* or to *Dacus brevistylus*, but it is at once distinguishable, besides the presence of a strong a. sa., by the shaded small cross-vein and by the dark punctate frons.

Recorded from Central Africa, Zanzibar, and Nyasaland. I have seen some specimens collected at Durban by Mr. v. d. Merwe.

DACUS, Fabricius, s. str.

This genus, taken in its narrowest sense, is very abundantly represented in South Africa; very characteristic for the fauna are the large species of the *fuscatus*-group, which are very like those of *Tridacus* in stature, wing-pattern, and body-coloration. The numerous species may be distinguished as follows:—

1. (2) Antennae very long, with the first joint as long as the second
lounsburyi, Coq.*
2. (1) Antennae not so long, with the first joint shorter than the second.
3. (10) Species of greater size, measuring 7–9 mm. in length, with the brown fore border of the wing, or with the terminal dark spots, extending into the first posterior cell or even into the second; yellow mesopleural stripe very narrow.
4. (5) Humeral and hypopleural yellow spots wanting; third abdominal segment of male ciliated; scutellum reddish brown, with yellow hind border *fuscatus*, Wied.
5. (4) Two well-developed yellow hypopleural spots.
6. (9) Wings with distinct anal brown stripe, but without broad rounded terminal spot; tarsi blackish at end; third abdominal segment of male ciliated.
7. (8) Humeri entirely reddish or with only a small yellow spot; scutellum broadly reddish-brown at base; the brown costal border of wing extended to the fourth vein *subfuscatus*, var. nov.
8. (7) Humeri and scutellum entirely yellow; brown costal border not reaching fourth vein *brevistriga*, Walk.
9. (6) Wings without anal stripe, but with a very broad rounded fuscous spot at end, extended into the second posterior cell; humeral calli reddish; tarsi quite yellowish to the end; third abdominal segment of male not ciliated *marshalli*, Bezzi.
10. (3) Species of smaller size, usually measuring not over 6 mm. in length, with a very narrow dark costal border, or without any costal border at all.
11. (26) Wings with a distinct anal brown stripe; face with the usual black spots; third abdominal segment of male ciliated.
12. (19) A single yellow hypopleural spot.

* See above in the genus *Tridacus*.

46. (45) Scutellum reddish brown in the middle ; back not striped ; third abdominal segment not ciliated *bigemmatius*, sp. nov.
47. (44) Wings with a blackish stigma and with a more intensively infuscated terminal spot, or even with a narrow blackish costal border.
48. (49) Apical dark spot of wings isolated ; legs entirely yellowish *brevis*, Coq.
49. (48) Apical spot united with a brown costal border ; the four posterior tibiae blackish *rufus*, Bezzi.
50. (43) Two yellow hypopleural spots.
51. (52) Body short as usual, with rounded abdomen ; pterostigma blackish ; terminal dark spot of wings distinct *ficicola*, Bezzi.*
52. (51) Body slender and elongated, with more cylindrical abdomen ; wings with pale yellowish stigma and without any distinct pattern.
asclepiadens, sp. nov.

Dacus fuscatus, Wiedemann, 1819.

(Pl. XII, fig. 6.)

A robust species of greater size, very distinct on account of lacking all the yellow markings, except a very narrow mesopleural stripe, and a narrow hind border of scutellum. The facial black spots are broad and elongate, extending to the mouth border ; lunula shining black ; eyes in life not iridescent. All the bristles black ; two i. or., middle sep. more or less developed. Abdominal segments partly fused along the middle line ; third segment in the male ciliated ; ovipositor shorter than the abdomen. Front tarsi with the four terminal joints blackened in the male, and distinctly dilated in both sexes. Wings (fig. 6) with the small cross-vein placed beyond middle of discoidal cell ; last portion of fourth vein bisinuous, but parallel with the third ; prolongation of the anal cell in the male much longer than the rest of the anal vein. The brown costal border of the wings, when fully developed, extends equally throughout to the fourth vein, often with a fuscous patch into the last portion of the discoidal cell. Anal brown stripe less intensive, sometimes faintly developed, but the dark spot below the end of the sixth vein is always well developed in the male.

One specimen from Pretoria, 4th February 1915 ; numerous specimens of both sexes from Barberton, Pretoria, and East London, from January to July (H. K. Munro). The puparium of the present species is opaque, whitish, with distinct segmentation.

Dacus fuscatus, var. *subfuscatus*, var. nov.

Differing from the type in having distinct yellow hypopleural spots ; but it seems that this character is not regularly developed. Indeed

* Repeated here because the anal dark stripe is sometimes indistinct.

there is sometimes only one spot, while in other cases the spots are two; it seems that the yellow spots are covered with a reddish incrustation, which is sometimes disappearing. The scutellum is, moreover, more broadly yellow than in the typical *fuscatus*. Sometimes there is even a small yellow spot on the humeri.

Numerous specimens of both sexes from Pretoria, Barberton, and East London (H. K. Munro).

Dacus brevistriga, Walker, 1861.

Closely allied to *fuscatus*, from which it is distinguished by the entirely yellow humeri, by the two well-developed yellow hypopleural spots, by the almost entirely yellow scutellum, and by the abbreviated yellow postsutural stripe on back of mesonotum. It is distinct also by the wing-pattern, which is very like that of *Tridacus chrysomphalus*, having a yellowish costal border and the dark terminal spot not reaching the fourth vein; while in *fuscatus* and *subfuscatus* this spot is extended to that vein.

One male from Zululand, M'fongosi, December 1913 (W. Edwards); some specimens of both sexes from Port Shepstone and from East London (H. K. Munro).

Dacus marshalli, Bezzi.

(Pl. XII, fig. 7.)

A very distinct species on account of the broad, rounded, fuscous spot on wings (fig. 7), which lack the anal brown stripe.

Described from Natal in the British Museum.

Dacus bistrigulatus, Bezzi, 1908.

Distinct from all the others on account of the linear facial black spots.

Described by me from South Africa in the work on Professor Schulze's travel to Kalahari. I have seen some specimens from Uniondale, May 1906, bred from *Asclepias* pods, in the Agricultural Department Collection (Ch. P. Lounsbury).

Dacus ciliatus, Loew, 1862.

Described from the Cape; although not found subsequently, it is very probable that it is the same as the following species. I have

indeed seen specimens of *brevistylus* from South Africa in the Agricultural Department Collection, determined by Coquillett as *ciliatus*.

Dacus brevistylus, Bezzi, 1908.

(Pl. XII, fig. 9.)

A very common species, which is in all probability the same as the preceding one.

Numerous specimens from Zululand, M'fongosi, April 1916 (W. E. Jones); from Natal, Pretoria, East London, New Hanover, Bloemfontein (H. K. Munro, C. B. Hardenberg); bred from melons; Oudtshoorn, from melons.

Dacus vertebratus, Bezzi, 1908.

(Pl. XII, fig. 8.)

Likewise common and widely distributed; distinct from preceding by its two yellow hypopleural spots.

Natal, Estcourt, 1894 (Haviland); S. Rhodesia, Salisbury, May 1917 (R. W. Tucker); Pretoria, Barberton, Port Shepstone, February to July (H. K. Munro); Onambeke, Ovamboland, S.W. Africa, March 1923 (K. H. Barnard).

Dacus vertebratus marginalis, Bezzi, 1915.

Slightly differentiated from the preceding, but usually of larger size.

Tzancen, Transvaal, 10th December 1918; New Hanover, June 1913 (H. K. Munro).

Dacus africanus, Adams, 1905.

Described from Rhodesia and not found subsequently; it is probably the same as *vertebratus*.

Dacus ficicola, Bezzi, 1915.

(Pl. XII, fig. 12.)

Distinct from the three preceding forms by its much smaller size; in the faintly indicated brown anal stripe it is a connecting link with the following group.

Zululand, M'fongosi, December 1913 (W. E. Jones); Krois River, Uitenhage, 4th March 1921; Pretoria and Barberton, March and May 1913 (H. K. Munro); New Hanover, December 1914 (C. B. Hardenberg).

The as yet undescribed female is very like the male; the ovipositor is short, dark reddish, as long as the last abdominal segment; the prolongation of the anal cell is only a little shorter than in the male.

Dacus rubicundus, sp. nov.

(Pl. XII, fig. 11.)

Among the species with unspotted face and with non-ciliated third abdominal segment, the present one is distinguished by its entirely red and quite unspotted thorax, abdomen, and scutellum.

Some specimens from East London, 31st May 1923 (H. K. Munro).

♂. Length of body, 5.5–6 mm.; of wing, 4.5–5 mm. Occiput reddish, unspotted, with a yellowish border at sides below. Frons reddish, quite unspotted, with a small black ocellar dot; it is narrower than one eye, about twice as long as broad. Face pale yellowish, quite unspotted; peristomialia narrow, whitish, unspotted. Antennae entirely reddish, distinctly longer than the face. Palpi and proboscis yellowish. Bristles black; two i. or. Thorax entirely reddish, punctulate, with a short, pale pubescence on the disc; the yellow markings are as follows: a spot on hind half of humeri; a broad oblique mesopleural spot not reaching below the sternopleura and ending above at notopleural line; a single hypopleural spot. Scutellum reddish, without yellow markings; mesophragma reddish. All the bristles black. Halteres whitish. Abdomen with fused segments, punctulate, entirely reddish, without any black or yellowish markings; it is elongate and parallel-sided; the third segment of male is not ciliated; the oval patches of the last segment are rather indistinct; venter reddish, unspotted. Legs entirely yellowish, unspotted. Wings (fig. 11) with last portion of fourth vein straight at end and parallel with the third; prolongation of anal cell shorter than the last portion of sixth vein; no distinct praeaxillary lobe. The wings are hyaline, with blackish stigma and blackish marginal cell, continued in a narrow blackish border, which is dilated at end of third vein, but not spot-like, and is prolonged to middle distance between ends of third and fourth vein. Submarginal cell hyaline to the extreme base; no anal stripe, the anal cell being only a little yellowish; no distinct grey spot below end of sixth vein.

Dacus woodi xanthopus, var. nov.

This new variety is entirely as the typical *woodi*, Bezzi, from Nyasaland, but differs in having always the submarginal cell only slightly infuscated at the extreme base (while in *woodi* the same cell is intensively infuscated to beyond the small cross-vein). Moreover, it is constantly a little smaller, measuring 4.5–5.5 mm. in length. The frons has a narrow dark band towards the middle. The legs are pale yellowish.

Type ♀ from Zululand, M'fongosi, May 1916 (W. E. Jones); Port Shepstone, July 1917 (H. K. Munro); New Hanover, December 1914 (C. B. Hardenberg).

Dacus purpurifrons, sp. nov.

A pretty species of small size, all black and with entirely black legs, characterised by the striking contrast between the purplish frons and the white unspotted face.

Some specimens of both sexes from Barberton, May 1913 (H. K. Munro); one female from Pretoria seems also to belong here, but shows the black terminal spot of the wings quite isolated.

♂♀. Length of body, 4.5–5 mm.; of wing, 4–4.5 mm. Body mainly opaque, black, punctulate. Occiput entirely black, rather shining, with a narrow yellow border, which is less developed above, and with an indistinct dark reddish spot beneath the vertex. Frons narrow, in both sexes of a purplish colour, chiefly on anterior half, and more intensively in the male; a small black ocellar dot and some orbital black dots; lunula shining reddish. Bristles black; two i. or. Face shining white, unspotted, silvery in certain lights; the narrow parafacialia and peristomialia are reddish, the latter with a dark spot. Antennae rather short, reddish, with the third joint infuscated, more than twice as long as the second, which is only a little longer than the first. Palpi broad, bare, pale yellowish; proboscis brownish. Thorax entirely black, opaque on the back, rather shining above the neck and on the pleurae; pubescence very short, whitish. Humeri entirely yellow; a rather broad mesopleural yellow stripe, prolonged triangularly above along the transverse suture to the middle of back, but below not extended on the sternopleura; two contiguous yellow hypopleural spots. Scutellum yellow, with narrow black base; postscutellum and mesophragma entirely black. All the bristles black. Halteres whitish. Abdomen elongate, not very convex, entirely black, punctulate, and pubescent

like the back of mesonotum, but the pubescence is longer, chiefly towards the sides. Second segment with a narrow yellowish hind border; third segment not ciliated; fifth segment dark reddish on hind half, with the anal patches darkened. The segments are fused along the middle. Venter reddish, with black terminal sternites; male genitalia reddish; ovipositor very short, only one-half the length of last segment, very little prominent, reddish brown, whitish pubescent. Coxae brownish; femora shining black, with yellowish base and with reddish-brown end; tibiae and tarsi pale yellowish, the latter with the four terminal joints reddish; in the female specimen from Pretoria even all the tibiae are black. Wings hyaline; small cross-vein placed a little beyond the middle of the discoidal cell; last portion of fourth vein straight and parallel with the third. Veins dark reddish. The pattern is formed only by the blackish stigma and by the infuscation of the marginal cell, from which a very narrow black costal border extends to the apical spot, which is prolonged only a little below the end of third vein. There is no trace of anal brown stripe; and in the male there is no trace of fuscous spot below the end of sixth vein; the infuscation just above the second basal cell is distinct.

Dacus binotatus, Loew, 1862.

(Pl. XII, fig. 14.)

A black species, distinguished among those with unspotted face by its two hypopleural yellow spots. The frons is broader than in the other species of this group, being one and one-half times longer than broad. The third abdominal segment of male is ciliated. The ovipositor is short, reddish brown, not longer than the last abdominal segment. The wings (fig. 14) show no trace of anal brown stripe, but the male has the fuscous spot below the end of sixth vein, as recorded by Loew in its original description.

Numerous specimens of both sexes from Pretoria, Barberton, East London, Port Shepstone, Arnoldston, Bloemfontein, from March to July (H. K. Munro). A few of the specimens (2 per cent.) show one black spot, always on left side of the face.

Dacus immaculatus, Coquillett, 1901.

Nearly allied with the preceding species, but distinct by being much paler in colour and in having much more lighter legs. The back of mesonotum has only a black middle stripe, which is

broadened behind ; the abdomen is entirely red, except for some black spots on the second segment ; the black basal part of scutellum is broader ; the pterostigma is more reddish.

Pretoria, East London, and Stellenbosch (H. K. Munro) ; bred from the Cucurbitaceous plant *Coccinea quinqueloba*.

Dacus apoxanthus, sp. nov.

(Pl. XII, fig. 10.)

Near *bigemmatius*, but distinct from it as well from the allied species by the red humeri and scutellum, and by the complete lack of yellow hypopleural spots.

Some specimens of both sexes from East London, 1st to 10th June 1923 (H. K. Munro).

♂♀. Length of body, 5.5–6 mm. ; of wing, 4.5–5 mm. Occiput entirely shining reddish, unspotted, with a very narrow yellowish border at lower part in the male only. Frons shining reddish, unspotted, with a small black ocellar dot ; it is as broad as one eye, being only $1\frac{1}{2}$ longer than broad. Face pale reddish, with two black rounded spots below, near the mouth border ; peristomialia reddish, unspotted. Antennae light reddish, distinctly longer than the face. Palpi and proboscis reddish ; bristles black ; two i. or. Thorax entirely reddish, punctulate, with a faint pale dust on the back and three very indistinct dark longitudinal lines ; there are no yellow markings at all, except a very narrow band at hind border of mesopleura, present only in the male ; even the scutellum is entirely reddish. Bristles black. Halteres whitish. Abdomen distinctly oval, with fused segments, reddish, punctulate, with two small black spots on third segment and with two larger ones on fourth segment, and, moreover, with a black middle stripe on last segment, which has the oval patches indistinct ; third segment of male not ciliated ; venter unspotted ; ovipositor reddish, shorter than the last abdominal segment. Legs reddish, with whitish hind praetarsi. Wings (fig. 10) with the last portion of fourth vein straight and parallel with the third ; prolongation of anal cell as long as the last portion of sixth vein in the male, shorter in the female ; no distinct praeaxillary lobe. The wings are hyaline, with yellowish stigma and with an isolated, rather broad, fuscous spot at end of third vein, triangular in shape ; there is no anal brown stripe, and no grey spot below end of sixth vein in the male ; anal cell quite hyaline.

Dacus apoxanthus decolor, var. nov.

Answering to the typical form in having no yellow markings on thorax or scutellum ; but differs in the complete want of the black paired spots of abdomen, only one of the specimens showing a faint trace of the two spots of the second segment ; even the black middle stripe at end of last segment is wanting ; the ovipositor is sometimes black below at base. All the legs are very pale yellowish, almost whitish. The terminal spot of the wings, at end of third vein, is very pale and, moreover, is narrower than in the type, being more like a border than a spot ; the stigma is pale yellowish.

Two female specimens in Agricultural Department Collection from Grahamstown, 18th April 1904, bred from tomatoes (C. W. Mally). The puparium is white, shining, very thin, almost transparent.

Dacus oleae, Gmelin, 1788.

I have seen authentic South African specimens of this Mediterranean species.

Dacus bigemmatius, sp. nov.

(Pl. XII, fig. 13.)

A quite reddish species, distinct by the peculiar coloration of the scutellum.

Type ♂, a single specimen from Zululand, M'fongosi, May 1916 (W. E. Jones).

♂. Length of body, 5.5 mm. ; of wing, 4.5 mm. Head entirely reddish ; occiput rather shining, quite unspotted, without distinct yellow border. Frons $1\frac{1}{2}$ longer than broad, quite unspotted, rather shining, distinctly yellowish on anterior half ; lunula shining reddish. Face shining reddish yellow, with two rounded black spots of small size near the mouth border ; no distinct subocular spot. Antennae entirely reddish, the third joint twice as long as the second. Palpi and proboscis yellowish. Bristles black ; two i. or. Thorax entirely reddish, without any dark markings ; on the back it is punctulate, with very short whitish pubescence and with a broad stripe of whitish dust, divided in the middle by a bare line. Humeri yellow, with the front corner reddish ; mesopleural stripe narrow, continued above on the notopleural callosity, and below with a small spot on upper border of sternopleura ; a single small, rounded, hypopleural spot. Scutellum reddish like back of mesonotum, with a yellow rounded spot on each side, extended between the bristles at the base.

Mesophragma reddish. All the bristles black; middle sep. as strong as the lateral ones. Halteres whitish. Abdomen elongate, not very convex, punctulate and coloured like back of mesonotum, with the whitish pubescence a little longer on the sides; the fourth segment has a black rounded spot on each side, and the fifth has a middle black stripe, which does not reach the base or the apex of the segment. The segments are fused along the middle; the third segment is not ciliated; the last segment has no distinct oval patches; venter and genitalia reddish. Legs entirely pale reddish, unspotted, with the basal joints of tarsi paler. Wings (fig. 13) hyaline, with pale veins; small cross-vein beyond middle of discoidal cell; last portion of fourth vein straight and parallel with the third; prolongation of anal cell shorter than the rest of sixth vein. Stigma yellowish; marginal cell pale yellowish; a fuscous triangular spot at end of third vein. No anal brown stripe, and no trace of fuscous spot below the end of sixth vein; even the usual infuscation just above the second basal cell is not distinct.

Dacus brevis, Coquillett, 1901.

A species with spotted face, with a single yellow hypopleural spot, and with the wings with black stigma and with isolated terminal spot; it is very like *binotatus*.

One specimen from Patentie, 24th August 1921; Port Shepstone and East London (H. K. Munro).

Dacus rufus, Bezzi, 1915.

Near the preceding species, but distinct by the presence of a dark costal border on the wings.

Some specimens of both sexes, Port Shepstone and East London, August (H. K. Munro). The as yet undescribed male is like the female; the third abdominal segment is ciliated; the prolongation of anal cell is much longer than the rest of the anal vein, and there is a broad fuscous spot below the end of sixth vein.

Dacus asclepiadens, sp. nov.

An elongated species like *longistylus*, distinct by lacking the yellow postsutural spot on back of mesonotum and by the want of any wing-pattern; from *sexmaculatus*, Walker, it differs in having six (not two) black spots on abdomen.

Two female specimens in Agricultural Department Collection from Uniondale, May 1906, bred from *Asclepias* pods (C. P. Lounsbury).

♀. Length of body and wings about 7 mm. ; of ovipositor, 2 mm. Head entirely reddish, grey dusted on the occiput ; facial black spots broad and rounded ; antennae entirely reddish ; frons not spotted, with only a dark praecellar spot on each side and with a dark ocellar dot ; palpi and proboscis reddish ; all the bristles black. Thorax reddish on back, with a blackish middle stripe, which is interrupted at suture and is dilated before the scutellum, but without yellow spots on middle. Humeri reddish ; praesutural calli yellowish, preceded by a black narrow band in front of the transverse suture. Pleurae black, with the anterior part reddish ; a narrow yellow mesopleural stripe, connected with a small spot on upper border of sternopleura ; two small and contiguous yellow hypopleural spots ; mesophragma black. Scutellum yellow, with the basal part reddish. Halteres whitish. Abdomen shaped nearly as in *longistylus*, with partly fused sutures ; it is reddish yellow, with short whitish pubescence. The first segment is black ; the second is reddish, a little yellowish at hind border, with indistinct dark spots at sides ; third and fourth segment each with a broad black spot on each side ; fifth segment with a smaller black spot on each side ; moreover, the three last segments have a blackish longitudinal stripe along the middle. Venter yellowish ; ovipositor shining reddish, greatly swollen at base, as long as the three last abdominal segments together ; oval patches of the fifth abdominal segment less distinct. Legs entirely yellowish, unspotted, only the tarsi being a little darkened at end. Wings hyaline, with yellowish veins ; last portion of fourth vein only a little curved at base and at end. Stigma pale yellowish. There is no trace of dark costal border or of dark terminal spot, the third vein being only a little darkened at sides near the end ; the marginal and submarginal cells seem to be a little darker than the rest of wing. The anal cell is a little yellowish, but there is no trace of dark anal stripe.

AFRODACUS, gen. nov.

I have to erect here this new genus for the following species, formerly placed by me in the genus *Chaetodacus*, Bezzi.

The genus *Afrodacus* agrees with *Chaetodacus* in having well-developed prsc., and in having a distinct praeaxillary lobe in the wings of the male ; these two characters are wanting in all African species of *Tridacus* or of *Dacus*. But it differs from the true *Chaetodacus* in

lacking the a. sa., all the numerous species of this latter genus being Oriental, it seems useful to separate this single Ethiopian species under a different generic name.

Afrodacus biguttulus, Bezzi.

Boll. Labor. Zool. Portici, 1922, xv, p. 294 (*Chaetodacus*).

(Pl. XII, fig. 15.)

A small fly of modest appearance, showing a deceptive resemblance to *Dacus oleae*, from which, however, it is at once distinguished beside the presence of prsc. by the peculiar coloration of the scutellum and by the different wing-pattern (fig. 15).

Numerous specimens of both sexes from East London (H. K. Munro) and Pretoria (Ch. P. Lounsbury), bred from fruits of *Olea woodiana* and *Olea laurifolia*.

SUBFAMILY ADRAMINAE.

Only three genera of this subfamily are at present known from the Ethiopian fauna, viz. *Meracanthomyia*, Hendel, and *Sosiopsila*, Bezzi, which have both a plumose arista, and *Munromyia*, Bezzi, in which the arista is quite bare. Only this last genus is found in South Africa.

MUNROMYIA, Bezzi.

Boll. Labor. Zool. Portici, 1922, xv, p. 297.

The main characters of this genus are the elongate antennae with bare arista, the presence of three i. or., the interrupted thoracic suture, the presence of the a. sa. and of four sct., the femora spinose beneath, and the cylindrical form of body.

Only the following very characteristic species is at present known.

Munromyia nudiseta, Bezzi.

Boll. Labor. Zool. Portici, 1922, xv, p. 299.

(Pl. XII, fig. 16.)

A strikingly coloured species with a peculiar wing-pattern (fig. 16).

Numerous specimens of both sexes from Kingwilliamstown, bred from fruits of *Olea foveolata* (H. K. Munro).

SUBFAMILY CERATITINAE.

Among the numerous genera of this subfamily the large tropical forms transitional to the preceding subfamily are almost entirely wanting in South Africa; only the genus *Coelopacidia* is indeed to be found in Natal. Very numerous are the forms to be grouped near the old genus *Ceratitis*, and includes several very striking types. Numerous also are the species to be associated with the old genera *Acidia* and *Aciura*, comprising some very peculiar genera.

The genera found in South Africa may be distinguished as follows:—

1. (2) Only two or three ocp., inserted on the upper part of occipital border; prst., dc., and st. wanting; third longitudinal vein bristly; face very concave *Coelopacidia*, Enderl.
2. (1) Ocp. more numerous and forming a complete row; prst., dc., and st. present, or at least not all wanting at the same time; face usually flat or even convex.
3. (28) Third longitudinal vein bristly throughout its whole length, or at least from the base to the small cross-vein; ocp. typically black; arista very often pilose or even plumose; scp. well developed; lower angle of anal cell usually drawn out in a rather long point.
4. (17) Dc. placed on or only a little behind the line of the a. sa., more distant from the scutellum than from the transverse suture.
5. (8) Hind cross-vein placed obliquely outwardly, that is, with its upper end more distant from the base of wing than the lower.
6. (7) Body prevalently black, with yellow or white markings; wings with broad blackish oblique bands *Carpophthoromyia*, Austen.
7. (6) Body prevalently yellowish; wings with yellowish, partly infuscated, cross-bands *Leucotaeniella*, Bezzi.
8. (5) Hind cross-vein inwardly oblique, its lower end being more remote from the wing-base than the upper.
9. (16) Body prevalently reddish or yellowish, often black spotted; wings with yellowish cross-bands, that passing over the hind cross-vein not united with the others.
10. (11) Frons of the male with conspicuous spathulate appendages; arista with short pubescence *Ceratitis*, McLeay.
11. (10) Frons of male without such appendages; arista with longer pubescence or even with short plumosity.
12. (13) Middle legs of male broadly feathered, at least on the tibiae *Pterandrus*, Bezzi.
13. (12) Middle legs of male simple.
14. (15) Scutellum rounded, without distinct lateral keels, black spotted; body yellowish, black spotted *Pardalaspis*, Bezzi.
15. (14) Scutellum flat, with distinct lateral keels, not spotted; body shining black or shiny red, not black spotted *Perilampsis*, Bezzi.

16. (9) Body shining black, not black spotted; wings with blackish bands radiating from the base, that of hind cross-vein united with the basal one *Trirhithrum*, Bezzi.
17. (4) Dc. placed much behind the line of a. sa., and thus nearer the scutellum than to the transverse suture.
18. (19) Second longitudinal vein distinctly wavy; scutellum with three pairs of bristles; arista with long plumosity; head of male much dilated
Themaricteria, Hend.
19. (18) Second longitudinal vein straight; scutellum with only two pairs of bristles.
20. (21) No prst. and no oc. *Rhacochlaena*, Loew.
21. (20) Prst. always present; oc. usually present, even if little developed.
22. (25) Small cross-vein near or before the middle of the discoidal cell.
23. (24) Dc. much behind the line of a. sa.; oc. long and strong; wings broadened after the middle, with very short second posterior cell.
Taomyia, Bezzi.
24. (23) Dc. near the line; oc. short and little developed; wings and second posterior cell of usual shape *Phorellia*, R.-D.
25. (22) Small cross-vein beyond middle of discal cell; dc. much behind the line; wings narrow and long; oc. thin or even wanting.
26. (27) Two strong mpl.; three i. or.; antennae shorter than the face, with bare arista *Afrocneros*, gen. nov.
27. (26) Only one mpl. and only two i. or.; antennae as long as the face, with pubescent arista *Ocnerioxa*, Speis., p. p.
28. (3) Third longitudinal vein quite bare or with a few bristles only near the base; ocp. often whitish; arista usually bare or shortly pubescent.
29. (36) Dc. much behind the line of the a. sa.; ocp. always black.
30. (31) Wings narrow and long, with parallel sides, with elongate stigma and with the lower point of the anal cell a little longer than the second basal cell *Ocnerioxa*, Speis., p. p.
31. (30) Wings of usual shape, with short stigma and with shorter point of anal cell.
32. (33) Wings with the first vein very short and with the hind cross-vein placed near the middle of wing; frons narrow, much longer than broad
Xanthanomoea, gen. nov.
33. (32) First vein normal and hind cross-vein much beyond middle of wing; frons broad.
34. (35) No prst; ocp. only a few; small cross-vein near middle of discal cell
Coelotrypes, gen. nov.
35. (34) Prst. present; ocp. complete; small cross-vein beyond middle
Hermannloewia, gen. nov.
36. (29) Dc. before or on the line of a. sa., or only a little behind.
37. (42) Anal cell quite rounded outwardly, its lower angle being neither acute nor produced; ocp. entirely or prevalently black.
38. (41) Wings of normal shape; ocp. entirely black.
39. (40) Head broader than the thorax, with a very broad frons; antennae longer than the face *Zacerata*, Coquill.
40. (39) Head narrower than the thorax; antennae shorter than face
Urophora, R.-D.

41. (38) Wings narrow and long, with parallel sides; some whitish and thick bristles near the black ocp. *Elaphromyia*, Bigot.
42. (37) Anal cell with the lower angle acute and more or less produced into a short point.
43. (50) Body mostly yellowish or reddish, with or without black spots.
44. (45) Only one i. or., which is, moreover, very strong and curved behind; ocp. black *Allotrypes*, Bezzi.
45. (44) Two or three i. or., which are thin and curved inwardly; ocp. whitish.
46. (47) No oc.; fourth vein curved below before the small cross-vein, which is placed near middle of discal cell *Rivelliomima*, gen. nov.
47. (46) Oc. well developed; fourth vein quite straight; small cross-vein beyond middle of discal cell.
48. (49) Eyes narrow, higher than broad; dc. on the line of a. sa.; wings with yellowish longitudinal rays *Craspedoxantha*, Bezzi.
49. (48) Eyes rounded; dc. before the line; wings with brown bands or quite hyaline *Terellia*, R.-D.
50. (43) Body quite black; thorax and scutellum never black spotted.
51. (54) Small cross-vein very near the hind one and often placed on the same line with it; proboscis long and geniculate.
52. (53) Mouth border very prominent; ocp. whitish; scutellum very convex, with four bristles *Rhynchoedaspis*, gen. nov.
53. (52) Mouth border less prominent; ocp. black; scutellum flat above, with two bristles only *Munroella*, gen. nov.
54. (51) Small cross-vein at a considerable distance from the hind one; mouth border not or little prominent; proboscis simple.
55. (58) Back of mesonotum more or less shining black; scutellum short, very often with two bristles only.
56. (57) Species of greater size, with a very constant wing-pattern, consisting of two hyaline indentations of fore border and three of the hind border *Aciura*, R.-D.
57. (56) Smaller species, with a different wing-pattern *Spheniscomyia*, Bezzi.
58. (55) Thorax densely clothed with greyish pollen on the back; scutellum as long as broad, usually with four bristles *Tephrella*, Bezzi.

COELOPACIDIA, Enderlein, 1911.

Of this genus, as defined by me in Bull. entom. Res., 1920, x, p. 217, there are two species in tropical Africa, one of which is found in Natal.

Coelopacidia strigata, Bezzi, 1920.

(Pl. XII, fig. 17.)

A couple of specimens from East London, May 1923 (H. K. Munro). They are of a somewhat greater size than the type from Nyasaland; there is a white stripe below the notopleural suture, less distinct in the type; the front femora have sometimes two bristles at end; the hind cross-vein is rather broadly infuscated, chiefly below (fig. 17).

CARPOPTHOROMYIA, Austen, 1910.

This genus, as restricted by me, includes two South African species, which are distinguishable as follows:—

1. (2) Scutellum with only the tip brown; no yellow hypopleural spots; mesopleural stripe oblique; femora blackish *vittata*, Fabr.
2. (1) Scutellum with the apical half brown; two yellow hypopleural spots; mesopleural stripe horizontal; femora reddish *dimidiata*, sp. nov.

Carpophthoromyia vittata, Fabricius, 1794.

Originally described from Guinea, but recorded also from Natal; I have never seen authentic specimens from South Africa.

Carpophthoromyia dimidiata, sp. nov.

(Pl. XII, fig. 19.)

A pretty fly near *vittata*, but at once distinguished by the presence of well-developed, whitish, hypopleural spots like those of *amoena*, Enderl., from which it is distinguishable by the much broader terminal brown spot of the scutellum.

Type ♀, a single specimen from Natal, Durban, July 1921 (R. M. Lightfoot).

♀. Length of body and wing, 6 mm.; of ovipositor, 1.4 mm. Head as broad as the thorax. Occiput dark brown, with a broad whitish border, which is dilated below and extended on the anterior part of the little prominent lower swellings. Frons $1\frac{1}{2}$ times longer than broad, reddish brown on the basal half, whitish on the apical half, with a reddish transverse band at root of antennae; it is opaque, only the narrow vertical plates being shining. Face flat, whitish, opaque, with a dark spot just below the root of antennae; peristomialia narrow, margined with strong, short, dense, black bristles and destitute of dark subocular spot; parafacialia linear. Antennae a little shorter than the face, entirely reddish; second joint short, little prominent and not spinulose above; third joint about three times as long as the second, attenuated towards the end, but not acute; arista with plumosity of medium length. Palpi and proboscis dark brown. Bristles black; pvt. thin and parallel; inner vt. twice as long as the outer ones; ocp. black; oc. well developed; three strong i. or.; genal bristle strong. Thorax on the back entirely reddish brown, shining, with dark pubescence, but with a curved transverse band of whitish pubescence in front of the suture; humeral calli whitish; pleurae reddish brown, with a whitish narrow horizontal stripe extended from the humeri to

the root of the wings, but not dilated behind, as is the case in *vittata*; two contiguous whitish hypopleural spots. Scutellum whitish, with the hind half reddish brown, the brown part extending to midway between b. and a. set. Mesophragma shining reddish. Halteres with blackish knob. Bristles black and strong; dc. placed on the line of the posterior npl.; two mpl. Abdomen broad, but distinctly narrowed at base; it is shining black, with some segments margined with reddish at hind border, the second more broadly, the third very narrowly, and the fourth and the fifth rather broadly; hairs and bristles black; ovipositor shining black; venter reddish. Legs with reddish femora and whitish tibiae and tarsi; bristles and hairs black. Wing-veins disposed as in *vittata*. Wing-pattern (fig. 19) as in Loew's figure of *vittata*, and thus differing from that of *amoena* in having the hyaline band interrupted at the bend.

LEUCOTAENIELLA, Bezzi, 1918.

Only the following species is known from South Africa:—

Leucotaeniella grata, Wiedemann, 1830.

(Pl. XII, fig. 18.)

One female from Zululand, M'fongosi, February 1917 (W. E. Jones); another female from Natal, New Hanover, 29th November 1914 (C. B. Hardenberg).

To Loew's description may be added: Occiput yellowish above, whitish below, infuscated in the middle above the neck. Frons about as broad as long, convex and rather prominent on the anterior half, unspotted. Antennae only a little longer than the middle of the face. Cephalic bristles black; pvt. parallel; inner vt. twice as long as the outer ones; ocp. five to six only and rather long; oc. strong; three strong i. or.; genal bristle strong. Thoracic bristles black; dc. on the line of the a. sa.; scp. well developed, the middle ones approximated; two mpl. Ovipositor shining reddish, with black tip (in Loew's description it is said to be quite black). Hind cross-vein straight and almost perpendicular (fig. 18).

CERATITIS, MacLeay, 1829.

Ceratitis capitata, Wiedemann, 1824.

Some specimens from Stellenbosch, March 1895 (L. Peringuey); Uitenhage, 12th October 1922, bred from *Strychnos atherstonei*; Pretoria, 28th February 1913 (H. K. Munro).

PTERANDRUS, Bezzi, 1918.

The species of the present genus, very easily recognised in the male sex, are as follows :—

1. (6) Wings destitute of oblique dark band across last section of fourth vein ; femora not feathered.
2. (3) Arista with very short pubescence ; back of mesonotum with deep black spots at sides *podocarpi*, sp. nov.
3. (2) Arista with rather long plumosity ; back without such lateral spots.
4. (5) Abdomen destitute of distinct black bands *rosa*, Karsch.
5. (4) Abdomen with distinct black bands *fasciventris*, Bezzi.
6. (1) Wings with a distinct oblique dark streak across the middle of last section of fourth vein.
7. (8) Frontal bristles normal and black ; ocp. black ; legs in part black and with black feathering on tibiae *rubivorus*, Coquill.
8. (7) Frons with the s. or. thickened and yellowish ; ocp. pale yellowish ; legs entirely yellowish, with yellowish feathered femora and simple tibiae
cornutus, sp. nov.

Pterandrus podocarpi, sp. nov.

(Pl. XII, fig. 22.)

In the feathering of the legs of male this is like *rosa*, but it is distinguished from all other known species in the very shortly pubescent arista and in the black spots at sides of back of mesonotum.

Two female specimens from Uitenhage, 26th October 1922, bred from fruits of the indigenous conifer, *Podocarpus elongata* (D. Garm) ; numerous specimens of both sexes from East London (H. K. Munro).

♂♀. Length of body and wing, 4·5 mm. ; of ovipositor, 1 mm. Occiput yellowish, shining above, whitish below. Frons twice as long as broad, opaque, pale yellowish, with a black ocellar dot. Face whitish ; peristomialia yellowish, unspotted. Antennae entirely yellowish, shorter than the face ; second joint not prominent, never spinulose above ; third joint three times as long as the second, rounded at end, pubescent ; arista with very short pubescence, as in *Ceratitis capitata*. All the cephalic bristles black and normal ; oc. strong ; two i. or. ; genal bristle strong. Palpi and proboscis yellowish. Back of mesonotum opaque, grey in the middle, with three narrow blackish stripes, a rounded sutural spot on each side, and a black praesutural patch on each side, margined with yellowish behind ; on the sides it is shining black, with three broad deep black spots above the notopleural line, one praesutural. Humeri white, with a black

spot above. Pleurae dark yellowish, with a broad white stripe at upper border of mesopleura; two white hypopleural spots. Post-scutellum shining black. Mesophragma white dusted. Scutellum with three broad shining black spots, which are separated by narrow yellow lines. Pubescence on back of mesonotum pale yellowish, on pleurae longer and whiter. Bristles black; dc. on the line of a. sa.; one mpl.; four set. Calypters white. Halteres pale yellowish. Abdomen dark yellowish, with whitish pubescence and with black bristles; second segment with a narrow black hind border, but not in the shape of a definite band; first, third, and fourth segments with a broad complete white band at hind border; ovipositor shining yellowish, narrowly black at the extreme tip, as long as the three last abdominal segments together; venter entirely yellowish, unspotted. Legs entirely yellowish, with black bristles and hairs, and with the femora more or less infuscated, but irregularly; front femora of male with moderate ciliation, the other femora not feathered; middle tibiae with the apical half black and broad, broadly feathered on both sides by black feathers; middle tarsi entirely black. Wings (fig. 22) with a strong costal bristle and with normal venation. The dark basal spots and streaks are blackish; stigma blackish, with the distal third hyaline. Basal band complete, yellowish within the discoidal cell, black in the rest. Marginal band isolated, yellowish, blackened at end, with the usual marginal black dots, disposed in two regular pairs. Cubital band entirely fuscous and isolated; no middle band, but sometimes a faint trace of a dark stripe across the last section of the fourth vein.

Pterandrus rosa, Karsch, 1887.

Some specimens of both sexes from Transvaal, Prospect (H. K. Munro).

Pterandrus rosa fasciventris, Bezzi, 1920.

Numerous specimens from Stellenbosch (R. M. Lightfoot); Natal, Durban (H. W. Bell-Marley); Pretoria, from guavas; Pretoria, Port Shepstone, and Prospect (H. K. Munro).

Pterandrus rubivorus, Coquillett, 1901.

(Pl. XII, fig. 20.)

Some specimens of both sexes from Transvaal, Prospect (H. K. Munro).

Pterandrus cornutus, sp. nov.

(Pl. XII, fig. 21.)

Near *rubivorus*, but very distinct by the thickened frontal bristles and by the simple tibiae, only the femora having narrow yellowish feathers near the end; the yellow ocp. are very aberrant.

Type ♂, a single specimen from Natal, Durban, 19th January 1915 (H. W. Bell-Marley).

♂. Length of body and wing, 4.5 mm. Head entirely white, only the occiput being yellowish and rather shining on its upper part. Frons opaque, unspotted, like the face and the peristomialia. Antennae pale yellowish, shorter than the face; third joint rounded at end; arista shortly plumose, the plumosity not broader than the third joint. Palpi and proboscis yellowish. Ocp. pale yellowish, but thin and acute; outer vt. yellowish; inner vt. black, very long, as long as the vertical diameter of head; pvt. yellowish; the s. or. are reddish and thickened, chiefly those of anterior pair, which are only a little shorter than the interior vt.; two i. or. thin and pale yellowish; oc. very strong and reddish, like the s. or.; genal bristle thin and yellowish; the hairs of the lower part of occiput are white. Back of mesonotum dark reddish, grey dusted with pale yellowish pubescence, and adorned with black spots. Humeri whitish, with a black central spot; the sides of back, above the notopleural line, are shining black above and deep black below, interrupted by a narrow yellow stripe at suture; the back has three dark stripes before the suture and two pairs of black spots behind the suture, those of the last pair being more broad, more shining, and with a yellow spot in front of the scutellum. Pleurae yellowish, clothed with yellowish hairs, with a whitish line above at upper border of mesopleura, and with a second one parallel with the first on middle of mesopleura; one broad, whitish hypopleural spot. Scutellum convex, shining yellowish, with three very broad and partly confluent black spots at hind border and, moreover, with two black spots at base; it may be called shining black, with yellowish base and with two narrow yellowish stripes from the base to the a. set. All the bristles black; dc. on the line of the a. sa.; one mpl.; four set.; sep. yellowish. Postscutellum shining black. Mesophragma whitish dusted. Halteres yellowish. Abdomen shining reddish, with yellowish pubescence and with black bristles at end; hind border of first and third segments with whitish dust, forming two bands; genitalia shining reddish; venter grey dusted

and white banded. Legs entirely pale yellowish, quite unspotted; bristles and hairs yellowish, even those of front femora and the feathers of the four posterior femora, only the terminal spur of middle tibiae being black. Ciliation of front femora rather long and dense; middle and hind femora a little feathered at the extreme end, the feathers being less striking because they are yellowish, like the hairs; tibiae not at all feathered. Wings (fig. 21) broad, with yellowish pattern, and with some dark spots and streaks at base; stigma dark yellowish, with hyaline end; costal bristle small and black. Marginal band separated from the basal one. Cubital band not united with the basal one. Fuscous streak on last portion of fourth vein well developed. Marginal band with four black dots, two of which are near the costa and two on the third vein. Axillary cell broadly yellowish in the middle. Small cross-vein on the middle of the discoidal cell.

PARDALASPIS, Bezzi, 1918.

Of this characteristic Ethiopian genus there are rather numerous species in South Africa; they are as follows:—

1. (12) Wings without complete middle band and with isolated cubital band.
2. (5) Scutellum entirely black, with a narrow yellow base; black parts of back of mesonotum more developed than the yellow ones.
3. (4) Pvt. black; occiput above, with broad shining black spots; marginal band of wings united with the basal one . . . *melanaspis*, Bezzi.
4. (3) Pvt. white; occiput only slightly infuscated above; marginal band separated from the basal one . . . *asparagi*, sp. nov.
5. (2) Scutellum yellow, with some black spots; yellow parts of back as a rule more developed than the black ones.
6. (7) Dark species, with shining black sternopleura and with fuscous wing-bands; front legs of male with a striking white and black pattern
pedestris, sp. nov.
7. (6) Paler species, with reddish or yellowish sternopleura and with pale bands on wings; front legs of male without such a pattern.
8. (9) Black spots of scutellum very broad, subquadrate, and closely approximated together . . . *cosyra*, Walk.
9. (8) Black spots of scutellum much smaller and broadly separated.
10. (11) Scutellum with three black spots; wings with the marginal band separated . . . *flexuosa*, Walk.
11. (10) Scutellum with five spots; marginal band united with the basal one
quinaria, Bezzi.
12. (1) Wings with a complete middle band and with the cubital band united with the marginal one . . . *aliena*, Bezzi.

Pardalaspis melanaspis, Bezzi, 1920.

(Pl. XII, fig. 23.)

Originally described from Grahamstown, I have seen very numerous specimens from East London, December 1922, bred from fruits of *Maerna pendulosa* (H. K. Munro).

Pardalaspis asparagi, sp. nov.

(Pl. XII, fig. 26.)

Near the preceding and likewise with entirely black scutellum, but at once distinguished by the separated marginal band of the wings.

One female specimen from East London, December 1922, bred from maggot in red asparagus berry (H. K. Munro).

♀. Length of body and wing, 4 mm. Head as in *melanaspis*, but with distinctly narrower peristomialia. Occiput without shining black spots above, only a little infuscated. Frons without abbreviated black stripe at ocellar spot; pvt. and another pair of bristles near them white, but the oc. black. Back of mesonotum with shining black pattern of similar shape and extent, but without the white markings of *melanaspis*, and, moreover, with the light parts more greyish than yellowish. St. black; sep. white, not black; pleurae without distinct white band above. Scutellum shining black, with yellowish base; postscutellum shining black. Mesophragma clothed with dense white dust. Halteres yellowish. Abdomen, ovipositor, and legs as in *melanaspis*. Wings (fig. 26) as in *melanaspis*, but with a few additional dark streaks and spots at base; the marginal band is quite isolated, being separated by a rather broad hyaline space just beyond the stigma (but, notwithstanding, the species is almost certainly a *Pardalaspis* and not a *Pterandrus*). Stigma with the distal third quite hyaline, while in *melanaspis* it is yellow to the end, though more intensively in the basal part.

Pardalaspis pedestris, sp. nov.

(Pl. XII, fig. 24.)

Distinct from all the other species by the shining black sternopleura, and in the male sex by the striking coloration of the front legs.

Some specimens of both sexes from Natal, Durban, 25th April 1921, and from Transvaal, Pretoria, June–July 1917 (H. K. Munro).

♂♀. Length of body and wing, 4.5–5 mm.; of ovipositor, 1.2 mm.

Occiput yellowish, more whitish below, rather shining and reddish above, with a dark spot on each side below the reddish postvertical spot. Frons parallel-sided, yellowish, opaque, with a black ocellar spot; in the male it is unspotted, in the female it is reddish at vertex and near the root of antennae, irregularly dark spotted in the middle; sometimes even in the male there is a dark spot between the antennae and the eyes. Face creamy white in both sexes. Parafacialia and peristomialia whitish, the latter with a more or less distinct brown spot below. Antennae entirely reddish yellow, a little longer than the middle of face, more reddish in the female and paler in the male; third joint rounded at end; arista shortly pilose, the pilosity being shorter than the third joint. Palpi whitish. Proboscis yellowish. All the cephalic bristles black; two i. or. Back of mesonotum black, broadly greyish in the middle, shining at sides. Humeri shining black, margined with yellow; just behind the suture there is an oval, obliquely placed, black spot on each side; dc. placed on black patches, which are margined with whitish behind. Mesopleura white; pteropleura yellowish; sternopleura shining black, narrowly reddish at upper border. The short pubescence of the back is pale yellowish. The long hairs of mesopleura are white. Scutellum almost entirely shining black. The yellow basal line and those dividing the three spots are narrow, the latter sometimes hardly visible. Mesophragma yellowish, with white dust, like the hypopleural spots. All the bristles black; only one mpl. as a rule. Abdomen reddish, with more or less complete black band on second segment; hind border of first segment and whole third segment white dusted, forming two bands; male genitalia shining reddish; ovipositor reddish with black end, as long as the two last abdominal segments together; venter reddish; bristles black. Legs pale yellowish, the femora more or less reddish on distal half; front femora with numerous black bristles below. In the male the front coxae are shining black, with a white apical spot interiorly; the trochanters are black; the front femora are dark yellowish outwardly, deep black inwardly, and there with a white basal spot and with a broader white praeapical spot; the middle legs have a small black spot at base of femora below and at end of tibiae above, the former being sometimes absent. In the female there is no trace of this striking coloration. Wings (fig. 24) broad and short, rounded, with black dots and streaks at base, with the marginal band united with the stigma and provided with the usual two pairs of dark spots and with fuscous spot at end of third vein; middle band quite wanting; cubital band fuscous and isolated; basal band perpendicular,

extending from the fuscous stigma to before the end of the sixth vein ; it is yellowish from the second to the fifth vein and fuscous in the rest, but in the female it is entirely fuscous, even in the middle.

Pardalaspis cosyra, Walker, 1849.

(Pl. XII, fig. 27.)

The typical form is distinct by black cephalic and femoral bristles and by broad black praescutellar spots, which are margined with yellow behind.

One ♀ from Transvaal, Kaapmuiden, 30th October 1918 (W. E. Tucker) ; Barberton, 27th April 1920 (H. K. Munro). From East London and from Wolhuterskop, Transvaal, there is a variety in which the humeri have no black spot, as in the true *silvestrii*, Bezzi.

Pardalaspis flexuosa, Walker, 1853.

Described and figured from Cape, but never seen subsequently.

Pardalaspis quinaria, Bezzi, 1918.

Recently described by me from Salisbury.

Pardalaspis aliena, Bezzi, 1920.

(Pl. XII, fig. 25.)

At once distinguished from all the other species on account of its very peculiar wing-pattern (fig. 25).

Described from Grahamstown, I have seen some additional specimens from East London, 9th May 1923 (H. K. Munro).

PERILAMPSIS, Bezzi, 1920.

Of this Central African genus there is a very characteristic species from Transvaal, the description of which is as follows :—

Perilampus diademata, sp. nov.

(Pl. XII, fig. 28.)

A beautiful fly, very like *pulchella*, Austen, from Uganda, but at once distinguishable by the red colour of whole body and by the somewhat different wing-pattern.

A single male specimen from Pretoria, 10th January 1923 (H. K. Munro).

♂. Length of body about 4 mm.; of wing, 4.3 mm. Occiput yellow below, shining reddish above, a little infuscated towards the middle. Frons rectangular, distinctly longer than broad; it is reddish on the basal half, with shining ocellar and vertical plates, opaque, yellow on distal half, and yet reddish brown at root of antennae; lunula small, reddish. Face whitish yellow, with a narrow reddish-brown band below the root of antennae. Peristomialia as broad as the third antennal joint, with a brown spot below the eyes. Antennae entirely reddish, distinctly shorter than the face; third joint rounded at end; arista with very short pubescence. Palpi and proboscis reddish. Cephalic bristles black; oc. long; two i. or. Thorax on the back shining red, but shining black at sides above the notopleural line; the two bands of whitish pubescence are less developed than in *pulchella*; pleurae in part shining red and in part shining black, with a broad oblique yellow band extending from the likewise yellow humeri to the lower hind border of mesopleura. Bristles black; dc. on the line of the a. sa.; only one mpl. Scutellum entirely yellow, with four black bristles. Mesophragma shining black; one small and not very striking yellow hypopleural spot. Calypters dirty brownish; halteres red. Abdomen entirely shining red, with two bands of whitish pubescence at hind border of first and of third segment. Legs yellowish, with more or less darkened femora. Wing as in Austen's fig. 1 on p. 72; but the last portion of fourth vein is strongly S-shaped, and the small cross-vein is placed distinctly before the middle of the discoidal cell. The wing-pattern (fig. 28) is very similar, with a complete middle band and with the cubital band reduced to an infuscation of the hind cross-vein. The difference is in the fact that the basal band, instead of being perpendicular, is oblique and goes from the stigma to the end of the anal cell, filling up completely the base of the discoidal and of the third posterior cell; it is therefore not separated from the infuscation of the base of wing.

TRIRHITHRUM, Bezzi, 1918.

Even this peculiar Ethiopian genus is well represented in South Africa, not less than six species being known, as follows:—

1. (4) Back of mesonotum densely grey, tomentose on the disc, with shining black sides; humeri light yellowish; pleurae with yellowish stripes.
2. (3) Face black spotted above; humeri mostly yellowish; length 4 mm.
lycii, Coquill.
3. (2) Face not black spotted; humeri broadly black in the middle; 2 mm.
minimum, var. nov.

4. (1) Thorax entirely shining black, even on disc, humeri, and pleurae, or these latter with a white spot.
5. (8) Scutellum flat above, shining black, with more or less broadly yellow base.
6. (7) Wings with complete middle band and without basal streaks; pleurae entirely black; three i. or. *nitidum*, v. Röd.
7. (6) Wings with the middle band reduced to a very short tooth and with basal streaks; pleurae with a whitish mesopleural spot; two i. or. *albomaculatum*, v. Röd.
8. (5) Scutellum convex and entirely black even at base.
9. (10) Middle band in the shape of a rather long tooth, extended to the fourth longitudinal vein; only two set. *bimaculatum*, v. Röd.
10. (9) Middle band reduced to a very short, less distinct tooth; four set. as usual *occipitale*, Bezzi.

Trirhithrum lycii, Coquillett, 1901.

(Pl. XII, fig. 32.)

Originally described from the Cape, I have seen some specimens from Fisch Hoek, Cape Peninsula, 12th January 1920, in the Collection of the Agricultural Department.

To the original description may be added: Cephalic bristles black; two i. or.; arista bare; thoracic bristles black; only one mpl.; two whitish hypopleural spots; ovipositor shining black.

Trirhithrum lycii minimum, var. nov.

Distinct from the preceding in being much smaller and in having a different coloration of face and thorax.

A single female specimen from Grootfontein, 5th March 1916 (B. O. Wohl).

♀. Length of body, 2 mm.; of wing, 2.4 mm. Occiput with a transverse black band above, and with the lower swellings broad and white. Frons more broad than long, opaque, whitish on the basal half, yellowish on terminal half, with a dark transverse band in the middle. Face entirely whitish; peristomialia as broad as the third antennal joint, whitish, unspotted. Antennae entirely yellow, shorter than the face; third joint rounded at end; arista nearly bare. A small blackish dot between antennae and eyes. All the cephalic bristles black; oc. rather short; only two i. or. Thorax black; the back is clothed with dense grey dust in the middle, and is shining on the sides, on a broad suprahumeral patch, on a small rounded spot near the suture, and on two broad praescutellar patches; there are, moreover, two deep black spots on postalar calli and near root of wings; humeri black, with a narrow whitish border; pleurae shining black,

with a broad whitish mesopleural band and two broad white hypopleural spots. Scutellum rounded, swollen, shining black, with a narrow, sinuous, whitish band at base. All the bristles black; dc. near the line of the a. sa.; a. set. decussate. Mesophragma shining black. Halteres pale yellowish. Abdomen shining black, with two whitish bands, one at hind border of first segment, the other covering almost the whole of the third segment; ovipositor shining black, as long as the three last abdominal segments. Legs yellowish, with more or less darkened femora. Wings with regular nervation; second vein straight, long, ending nearer the end of third than to that of second vein; stigma elongate; last portion of fourth vein distinctly S-shaped; small cross-vein placed on the middle of the almost rectangular discoidal cell. Wings with a typical brown pattern, with complete middle band, and with complete cubital band, this latter united with the basal one at the small cross-vein; the marginal cell has a small hyaline border at costa and two dark spots at fore border; the basal streaks and dots are well developed.

Trirhithrum nitidum, v. Röder, 1885.

(Pl. XII, fig. 31.)

Described from Delagoa Bay, but not seen subsequently; it is allied with *albonigrum*, Enderlein, in having three i. or. and two mpl.

One male specimen from Natal, Kar Kloof, 1915 (H. W. Bell-Marley).

To the original description of this beautiful fly may be added: Cephalic bristles black; interior vt., oc. and s. or. very strong and long; three strong i. or. Second antennal joint not prominent, never spinulose above. Eyes in side view rather narrow. Pubescence of back of mesonotum dark, but yellowish in front of the suture, thus forming a distinct transverse band. Pleurae more reddish brown, unspotted. Bristles black; dc. placed on the line of the a. sa.; two mpl.; pt. very strong. While the tibiae and tarsi are whitish, the femora are reddish brown. Wings (fig. 31) with complete middle band and with the base broadly black, but with one hyaline indentation in the costal cell. Small cross-vein near middle of discoidal cell. Costal bristle distinct but short.

Trirhithrum albomaculatum, v. Röder, 1885.

(Pl. XII, fig. 29.)

Likewise described from Delagoa Bay, and not found subsequently. I have seen one ♀ specimen from East London, 2nd January 1922

(H. K. Munro), and another from Grahamstown, 14th March 1905, in the Collection of the Agricultural Department.

Only the male was described; to the original description is to be added: Occiput reddish above, with two broad white patches on the lower swellings. Frons rather narrow, blackish, with two grey spots in front; arista with very short pilosity (not bare, as described by von Röder). Palpi yellowish; proboscis blackish. Eyes very narrow in side view. Bristles black and not very strong: two i. or. only. Back of mesonotum with black pubescence, but with a praesutural band of whitish hairs, as in the preceding species; dc. on the line of the a. sa.; one mpl. The white mesopleural spot is placed obliquely; mesophragma and hypopleura shining black. The white abdominal bands are on hind border of first and of third segment; ovipositor cylindrical, shining black, as long as the three last abdominal segments. Wings (fig. 29) with the middle band reduced to a very short tooth; the base is black, with one hyaline indentation on the costal cell, and below this with some hyaline streaks; axillary lobe with the external lower angle subhyaline; small cross-vein before the middle of the discoidal cell; costal bristle short, but distinct; anal cross-vein a little sinuous above.

Trirhithrum bimaculatum, v. Röder, 1885.

Likewise from Delagoa Bay, but not seen subsequently.

Trirhithrum occipitale, Bezzi, 1918.

(Pl. XII, fig. 30.)

Originally described from Nyasaland, I have seen some specimens of both sexes from East London, June 1923 (H. K. Munro).

The as yet undescribed male is very like the female, with more striking coloration of frons and more developed abdominal-pattern; there are sometimes three i. or. In my original description the thorax is said to be yellowish, while it is shining black.

THEMARICTERA, Hendel, 1914.

Themarictera laticeps, Loew, 1861.

(Pl. XII, fig. 33.)

Some specimens of both sexes of this striking species of great size from Port Shepstone, 29th August 1920 (H. K. Munro).

The head of the male is usually twice as broad as the already broad head of female.

RHACOCHLAENA, Loew, 1862.

The species of this genus seems to be not rare in South Africa, where the three following have been found :—

1. (4) Arista with short pubescence; ovipositor shorter than the abdomen and reddish.
2. (3) Wings with a broad fuscous subapical band, which includes the broad terminal whitish spot *pulchella*, Bezzi.
3. (2) Wings without such a complete band, the whitish terminal spot being free below *fasciolata*, Loew.
4. (1) Arista with rather long plumosity; ovipositor as long as the abdomen and quite black or with reddish base *major*, Bezzi.

Rhacochlaena pulchella, Bezzi, 1920.

(Pl. XIII, fig. 35.)

Originally described from Gold Coast, there is one male specimen from Transvaal, Kaapmuiden, October 1918 (R. W. E. Tucker).

Rhacochlaena fasciolata, Loew, 1863.

(Pl. XIII, fig. 34.)

This is the typical common South African species. Kimberley, 1913 (J. H. Power); Pretoria, 16th September 1914; numerous specimens of both sexes from Bloemfontein and Pretoria, March to May (H. K. Munro).

Rhacochlaena major, Bezzi.

(Pl. XIII, fig. 36.)

An as yet undescribed species from N.W. Rhodesia, it is allied with *pulchella*, but is distinct by the plumose arista and by the narrower white terminal spot of wings. A couple of specimens from East London, 5th May 1923 (H. K. Munro).

The male is smaller than the type female, measuring only 5.5 mm. in length, but it is otherwise similar. The two black stripes of thorax are complete and placed on the same line with the abdominal ones; genitalia shining black, narrowly yellow at base above, and with a pendulous, whitish appendage below. The female has the ovipositor shorter than in the type, and with reddish base.

PHORELLIA, Robineau-Desvoidy, 1830.

I place provisionally in the present genus one species, which seems to be allied with *brunithorax*, R.-D., from Mauritius, but differs in some details of the wing-pattern. It is not typical for the genus, having the dc. placed nearer the suture; but the third longitudinal vein is bristly.

Phorellia peringueyi, sp. nov.

(Pl. XIII, fig. 37.)

A black and yellow species, distinguished by its peculiarly banded wings.

Type ♀, a single badly preserved specimen from Cape Town, September 1913 (L. Peringuey), named in honour of the collector.

Some female specimens from East London, May–October 1923, bred from *Senecio ruderalis* (H. K. Munro).

♀. Length of body and wing, 4 mm.; of ovipositor, 1 mm. Occiput pale yellowish, with a broad black spot on the upper half above the neck. Frons about as broad as long, entirely yellowish, opaque, with greyish sides, ocellar triangle and lunula. Face and peristomialia whitish, the latter narrow and unspotted. Antennae entirely yellowish, shorter than the face; third joint a little less than twice as long as the second, rounded at end, but a little concave on anterior side; arista with microscopical pubescence. Palpi and proboscis yellowish, the latter short and thick. Ocp. thin, short, acute, black; pvt. yellowish, while all the other bristles are black; oc. long; two i. or. Back of mesonotum black in the middle, densely clothed with opaque dark grey dust, yellowish on humeri and sides; pleurae yellowish, but the sternopleura and the lower part of mesopleura blackish; postscutellum and mesophragma black, grey dusted; scutellum yellowish, with narrow black base. All the bristles black; dc. a little before the line of a. sa.; four set. Halteres yellowish. Abdomen black, rather shining, grey dusted; all the segments at hind border with complete yellowish bands, which are dilated in the middle; moreover, the first segment is broadly yellow at sides; venter likewise black, with narrow yellow hind borders; bristles black; ovipositor shining black, as long as the two last abdominal segments together. Coxae and legs entirely yellowish; front femora with a row of blackish bristles below. Wings with small costal bristle; second vein straight; third vein bristly to beyond the small cross-vein, which is placed after the middle of the discoidal cell; last

portions of third and fourth vein straight and parallel; hind cross-vein about as long as its distance from the small cross-vein; lower angle of anal cell acute and rather produced. The wings (fig. 37) are hyaline, with yellowish veins, which are darkened towards the ends. Stigma entirely yellow. The bands are moderately infuscated, the first perpendicular, beginning in the middle of the second costal cell and ending at sixth vein, after the end of the anal cell. The second band is oblique outwardly, beginning at stigma, including the small cross-vein and ending at fifth vein before the end of the discoidal cell. The third band is oblique inwardly, beginning broadly just before the end of the marginal cell, and ending a little beyond the fifth vein including the hind cross-vein. Between these two last bands there is on the fore border an abbreviated narrow band, extended from the costa to the second vein. The fourth band is formed by the broad terminal spot, which fills up the ends of submarginal and first posterior cell and a very small upper corner of the second posterior cell. These fuscous bands are yellowish on certain parts, *e.g.* around the basal and small cross-veins, and within the marginal and submarginal cells.

TAOMYIA, Bezzi, 1920.

Taomyia marshalli, Bezzi, 1920.

(Pl. XIII, fig. 38.)

A magnificent species, collected in Natal by Dr. Guy A. K. Marshall.

AFROCNEROS, Bezzi, 1924.

This new name was recently proposed by me for the species formerly placed in *Ocneros*, and differing from the following genus *Ocnerioxa*, in the more developed chaetotaxy of head and thorax. They are exclusively South African, and may be distinguished as follows:—

1. (2) The hyaline indentation at fore border of wing is extended to the fourth longitudinal vein *excellens*, Loew.
2. (1) The above-named indentation stops before reaching the third longitudinal vein.
3. (4) The indentation extends into the submarginal cell; discoidal cell with a hyaline spot at end *mundus*, Loew.
4. (3) The indentation stops at second vein; discoidal cell entirely black at end *mundissimus*, sp. nov.

Afrocneros excellens, Loew, 1861.

(Pl. XIII, fig. 41.)

Not rare : Natal, Durban, 1915 (Bell-Marley) ; M'fongosi, Zululand, February 1914 (W. E. Jones) ; Pretoria and Prospect (H. K. Munro).

Afrocneros mundus, Loew, 1863.

(Pl. XIII, fig. 39.)

Considered by some authors as a simple variety of the preceding, and likewise common : Orange Free State, Pietermaritzburg, April 1918 (Miss J. Skaife) ; Maseru, Basutoland (Mrs. Dieterlen) ; Pretoria, Grootfontein, Middelburg (H. K. Munro).

Afrocneros mundissimus, sp. nov.

(Pl. XIII, fig. 40.)

About the same as the preceding species, and probably only a variety of it, distinguished by the somewhat different wing-pattern.

Type ♂, a single specimen from Dunbrody, 1899 (Rev. O'Neil).

♂. Length of body, 5.5 mm. ; of wing, 6 mm. Head, its appendages and chaetotaxy exactly as in *mundus*, also the thorax and scutellum. Mesophragma quite shining black, the middle yellowish stripe being almost indistinct. Abdomen more broadly black, even the second segment being black and the third and fourth having only a small yellow spot at hind border. Legs as in *mundus*, also the wings. The rather conspicuous differences in the wing-pattern (fig. 40) are as follows : (a) The hyaline indentation of the costal cell is rather indistinct ; (b) the triangular hyaline indentation just beyond the stigma ends at second vein, without extending into the submarginal cell ; (c) the hyaline indentation of the second posterior cell ends exactly at fourth vein, without extending into the first posterior cell ; (d) there is no hyaline rounded spot within the terminal part of the discoidal cell below the small cross-vein, the discoidal cell being almost entirely infuscated, the hyaline indentation of the third posterior cell extending only a little into its posterior border.

OCNERIOXA, Speiser, 1915.

In its more extended sense this genus includes the two following species from South Africa, excluding *gracilis*, Loew, which belongs to the genus *Allotrypes*.

1. (2) Base of wing broadly yellowish hyaline ; the fuscous part of wing is divided by a broad hyaline complete band, extending from fore to hind border of wing *interrupta*, sp. nov.
2. (1) Base of wing infuscated ; no such hyaline band present ; wings of male with a broad yellowish patch at fore border *sinuata*, Loew.

Ocnerioxa interrupta, sp. nov.

(Pl. XIII, fig. 42.)

Very distinct from all the other species on account of its reduced and peculiar wing-pattern.

A single specimen, type ♀, from Zululand, M'fongosi, February 1914 (W. E. Jones).

♀. Length of body, 4 mm. ; of wing, 5 mm. Head entirely yellowish ; occiput unspotted, paler below. Frons opaque, broad, about as long as broad, with a small black ocellar dot. Face pale yellowish, unspotted, like the rather broad peristomialia. Antennae entirely yellowish, nearly as long as the face, with the third joint broad, rounded at end ; arista microscopically pubescent. Palpi and proboscis dark yellowish. All the cephalic bristles yellow, but the short and thin ocp. black, like the outer vt. ; no oc. ; only two i. or., and no bristly hairs between them or between the s. or. Thorax yellowish, without any dark pattern, paler on the pleurae, darkened on mesophragma, rather shining on back, and there with short yellowish pubescence. All the bristles yellowish ; dc. much behind the line of the a. sa. ; only one distinct mpl. Scutellum pale yellowish, with four long, dark yellowish bristles. Halteres pale yellowish. Abdomen reddish yellow, rather shining, with slight black spots on sides of first segment and on middle of third and fourth segment ; pubescence and bristles yellowish ; venter reddish ; ovipositor reddish, as long as the three last abdominal segments together, narrowly black at end. Legs entirely pale yellowish, unspotted, with pale pubescence and bristles ; front femora with one or two yellow bristles below, near the end. Wings (fig. 42) narrow and long. The base to the basal and anal cross-veins is yellowish hyaline, quite unspotted. The stigma is as long as the second costal cell, blackish, with a broad hyaline spot at base. The blackish anterior half is extended below only a little beyond the fourth vein, and is divided into two parts by a broad hyaline band, which begins at fore border just beyond the stigma, and is continued across the middle of the submarginal cell and into the base of the first posterior cell, ending broadened at hind border almost on the

whole of the second posterior cell; the hind cross-vein shows thus a broad infuscation, which is quite isolated. In the first basal cell there is a small rounded hyaline dot; the small cross-vein is margined by narrow hyaline streaks. The whole third posterior cell is hyaline, with only a small infuscation at upper extreme base. Third longitudinal vein quite bare; hind cross-vein straight, and about as long as its distance from the small cross-vein. Costal cells entirely yellowish hyaline.

Ocnerioxa sinuata, Loew, 1861.

(Pl. XIII, fig. 43.)

Of this species, not noted since the original description, I have seen some specimens of both sexes from Prospect and from East London (H. K. Munro). It is very distinct by the peculiar wing-pattern.

The as yet undescribed male has a wing-pattern (fig. 43) very different from that of the female, because the two hyaline costal spots are less distinct, and there is a broad yellowish patch on anterior half, extended to the hind cross-vein and reaching below the third vein.

This species shows a bristly third longitudinal vein, but has only one mpl. and only two i. or., and is thus better located in *Ocnerioxa* than in *Afrocneros*.

XANTHANOMOEAE, gen. nov.

A new genus of the group of *Phagocarpus* (= *Anomoea*), with which it is related in general shape and wing-pattern and venation; but distinct on account of its entirely yellow body colour, its very narrow frons, its very short first longitudinal vein, and its very long last portion of fourth vein.

Head not broader than the thorax, in front view as high as broad. Occiput flat, a little concave above and not swollen below. Frons narrow and long, about three times as long as broad, flat but a little prominent anteriorly. Eyes ovate, bare. Face narrow and much shorter than the frons, with rather shallow antennal furrows and with no prominent mouth border. Antennae inserted below the middle of the eyes, short, not reaching the mouth border; third joint rounded at end; arista microscopically pubescent. Palpi narrow; proboscis short and thick. Ocp. numerous, thin, black; pvt. parallel; inner vt. twice as long as the exterior ones, but not very long and rather thin; no oc.; two s. or. and two i. or., these latter rather distant from each other; genal bristle not distinct. Thorax short and broad, rather flattened above, but convex in front; transverse suture broadly interrupted in the middle, and even on sides

not very distinct. Scutellum triangular, little convex above, one-third as long as the length of back, with four bristles. Thoracic chaetotaxy complete and normal; scp. very small; dc. on the line of the a. sa.; one mpl.; pt. strong; st. weak. Abdomen short, with five visible segments; ovipositor very short. Legs rather short and simple; front femora with the row of bristles below. Wings without costal bristle and with very typical venation. First longitudinal vein short, ending at the first third of the costa; stigma short; second vein straight, like the last portions of third and fourth which are distinctly diverging. Small cross-vein distinctly, but little, before the middle of the very short discoidal cell; hind cross-vein long and very oblique, the lower angle of discoidal cell being acute, placed at middle of the wing; the last portion of fourth vein is very long, being three times as long as the space between the two cross-veins and being considerably longer than the discoidal cell. Sixth vein prolonged to the hind border of wing; lower angle of anal cell acute but not produced and not longer than the rather broad second basal cell. Axillary lobe broad; alula rounded. Wing-pattern of the usual type of *Phagocarpus*.

Type: the following new species.

Xanthanomoea munroi, sp. nov.

(Pl. XIII, fig. 44.)

A pretty species, yellow with small black markings, and with very characteristic wing-pattern.

Type ♀, a single specimen from Barberton, 11th October 1919 (H. K. Munro).

♀. Length of body, 3 mm.; of wing, 3.5 mm. Head entirely yellow, with unspotted occiput; sides of frons paler; a small black ocellar dot. Face whitish, like the peristomialia, which are unspotted. Antennae pale yellowish, like the palpi and the proboscis. All the bristles yellowish, only the outer vt. and the ocp. being black. Thorax entirely yellow, rather shining on sides of back and on pleurae; two narrow parallel black stripes extended along the dorsocentral lines from the scp. to the scutellum; a white notopleural stripe from the white humeri to the root of wing; all the bristles and the pubescence yellowish. Scutellum entirely yellow, like postscutellum and mesophragma. Halteres whitish. Abdomen shining yellow, with yellowish pubescence and yellow terminal bristles; second segment with a narrow black band at base interrupted in the middle; a

similar but much smaller band at base of third segment ; fifth segment with a broad black spot on each side at base ; ovipositor yellow, shorter than the fifth abdominal segment ; venter yellow, unspotted. Legs quite pale yellowish, with yellowish hairs and bristles. Wings (fig. 44) hyaline, iridescent, with yellowish veins, which are blackish on the dark parts of the pattern. The wing-base is yellowish in the middle to the small cross-vein and to the middle of the discoidal cell ; the costal cells, the anal cell, and the axillary lobe with the alula are hyaline. The stigma and base of the submarginal cell below it are black, forming thus a single black spot ; at the anterior part of this spot begins a narrow oblique black band which, passing across the small cross-vein and becoming yellowish within the discoidal cell, ends (before reaching hind border) in the middle of the third posterior cell. Another short black oblique band begins at costa some distance beyond the stigma, and ends at third vein. Within the hyaline terminal half of the wings there is a complete narrow, arcuate black band, which begins at hind border at the end of fifth vein and, passing along the hind cross-vein, reaches the end of second vein, from which it continues outwardly along the costa to a little beyond the end of third vein.

COELOTRYPES, gen. nov.

This new genus is evidently related to *Coelopacidia*, chiefly on account of the form of head, but differs in possessing a well-developed st., and in having a bare third longitudinal vein. It is quite possible that *C. madagascariensis*, Enderl., belongs here.

Body narrow and elongate. Head broader than the thorax, higher than broad in front view. Occiput rather convex, but with the lower swellings undeveloped. Frons long, very concave ; eyes rounded, in front view prominent above the frons ; in profile the anterior part of frons is prominent, forming an antenniferous prominence. Face short, broadened below, very concave, with prominent mouth border. Peristomialia as broad as the third antennal joint. Antennae very long, longer than the face, inserted towards the middle of the eyes ; third joint linear, three times as large as the second, obtuse at end ; arista basal, in the type species with microscopical pubescence (but in another species from Sudan it is shortly plumose). Mouth opening broad ; palpi dilated at end ; proboscis short. Ocp. four to five, confined to the upper part ; pvt. very short ; the two pairs of or. are of about the same length ; no oc. ; one s. and three i. or. ; frontal vitta bare in the middle ;

genal bristle rather strong. Thorax elongate, about twice as long as broad; transverse suture broadly interrupted in the middle; back convex, but flat in the middle; one hm., no prst., two mpl., one a., and two p. sa.; one prsc. and one dc., this latter very near to the former and thus much behind the line of the a. sa.; four well-developed scp.; one mpl.; one pt.; one st. Scutellum triangular, flat above, only one-fourth of the length of back, with four strong bristles. Abdomen elongate, narrower than the thorax but about as long as it; there are four segments of equal length in the male and five segments in the female, the last shorter than the preceding; ovipositor strong, conical, only a little shorter than the abdomen; male genitalia rounded and prominent; terminal bristles of abdomen well developed. Legs proportionately short and stout; front femora rather swollen, without bristles below, but with a row on upper side; middle tibiae with one spur; hind praetarsi rather elongate, as long as all the other segments together. Wings shorter than the body, rather broad, without costal bristle. First vein long, but the stigma is not elongate; second vein straight; last portions of third and fourth veins slightly curved below and parallel; small cross-vein long, perpendicular, in the middle of the discoidal cell, the first basal cell unusually broad; second basal cell not dilated; hind cross-vein straight and perpendicular, placed very near the hind border of wing; anal cell with the lower angle acute but little produced and shorter than the second basal cell. Third longitudinal vein quite bare; sixth vein reaching hind border. Wing-pattern very simple, consisting of one praeapical dark spot, one broad terminal whitish spot, and an infuscation of the hind cross-vein.

Type: the following new species.

Coelotrypes vittatus, sp. nov.

(Pl. XIII, fig. 45.)

A reddish species, with a strikingly vittate thorax.

One female from Tsumeb, S.W. Africa, December 1919 (R. W. Tucker); another female from Salisbury, S. Rhodesia, May 1917 (same collector).

♀. Length of body, 4.5–5.5 mm.; of wing, 3.7–5 mm.; of ovipositor, 1.3–1.6 mm. Occiput reddish yellow, with a yellow postvertical spot, and with two broad, shining black patches above. Frons shining yellowish, with a small black ocellar dot. Face shining yellowish, with a rounded black spot on each side near the mouth border;

peristomialia unspotted. Antennae yellowish, with the third joint blackened at end; arista microscopically pubescent. Palpi and proboscis yellowish. All the bristles black; three i. or. Thorax shining reddish; a black longitudinal line on each side, originating in front as a broad patch near the scp., and continued as a narrow line to the dc.; just beyond the suture in the middle of the back is a broad white stripe, margined by a black line on each side, both continued along the middle of the scutellum and becoming gradually broader towards the end. Humeri white, as is a notopleural stripe, which is narrowly margined with black. Pleurae and mesophragma reddish, unspotted. Scutellum reddish, with the above-described middle stripe. Halteres whitish. Abdomen shining reddish, with two broad black stripes extending from the base to the middle; pubescence and bristles black; ovipositor shining reddish, narrowly black at tip. Venter reddish. Legs entirely yellowish, with black hairs. Wings (fig. 45) hyaline, iridescent, with yellowish veins; stigma blackish. There is a triangular blackish spot at end of second and third veins, filling up the extreme corners of the marginal and submarginal cells, and extending below into the first posterior cell. The whitish apical spot is broad, occupying the end of first posterior cell and extending below into the upper part of the second posterior cell. Hind cross-vein margined with fuscous.

HERMANNLOEWIA, gen. nov.

The present genus is named after Hermann Loew, who has contributed so much to the knowledge of the Trypaneid fauna of South Africa. It is distinct from the genus *Notomma*, to which it is related in general appearance and coloration, by the quite bare third longitudinal vein, by the different head, and by the first posterior cell being suddenly dilated outwardly. Type of the genus: *Trypeta jucunda*, Loew, 1861.

Head as broad as the thorax, in front view distinctly higher than broad, not flattened in profile, the eyes being rather round. Occiput a little concave above and rather swollen below, without distinct lateral swellings. Frons flat, broad, gradually narrowed towards the antennae, in profile only a little prominent in front. Lunula broad, free. Face shorter than the frons, broadened below, with little prominent mouth border and with rather deep antennal furrows; peristomialia as broad as the third antennal joint or even a little broader. Eyes banded in life. Antennae inserted at

or a little below the middle of the eyes, shorter than the face; third joint rounded at end; arista bare. Palpi broad; proboscis short. Ocp. numerous, acute, black; pvt. parallel; outer vt. twice longer than the inner ones; oc. short but well developed; one or two s. or. and three i. or.; genal bristle little developed. Thorax flat, about as broad as long, with the suture broadly interrupted in the middle; chaetotaxy complete; scp. strong, those of middle approximated; dc. much behind the line of the a. sa.; two mpl. pt. and st. well developed. Scutellum convex, rounded, with four bristles, the apical ones decussate. Abdomen in the middle as broad as the thorax, with four segments in the male and five in the female; ovipositor short, broad, obtuse; terminal and lateral bristles well developed. Legs short and stout; front femora with the row of bristles below; middle tibiae with one spur; hind tibiae bristly behind. Wings long and narrow, with short costal bristle. First longitudinal vein long; stigma elongate, about as long as the second costal cell; second vein straight; third quite bare; last portion of third vein strongly bent above, while the last portion of fourth is bent below, the first posterior cell being thus dilated outwardly; small cross-vein on the last third of the discoidal cell; hind cross-vein straight, perpendicular, very near the hind border of the wing; lower angle of the anal cell acute and produced, but considerably shorter than the second basal cell, which is not dilated. Sixth vein prolonged to the hind border; alula rounded; axillary lobe broad and short. Wing-pattern consisting of two yellowish longitudinal rays, the inferior one more or less incomplete and sometimes bifurcate, but never recurrent along the hind border, as it is in *Notomma*.

Hermannloewia jucunda, Loew, 1861.

(Pl. XIII, fig. 46.)

One female from Pretoria, 25th October 1913, on *Protea* (H. K. Munro); eye in life blue green, with two transverse red bands.

To Loew's careful original description may be added: All the cephalic bristles black, only one s. or., but three i. or.; two mpl.; vt. long and strong, twice as long as the pt. Mesophragma with two shining black spots above, approximated to each other. Bristles and pubescence of abdomen black. Ovipositor reddish brown, with shining black tip. Bristles of legs black. Wing venation very peculiar in the curvature of the last portion of the fourth vein, and thus in the shape of the first posterior cell (fig. 46).

Hermannloewia dissoluta, Bezzi.

Of this as yet undescribed species there is one female specimen from Pretoria in the Museum of Budapest. It is distinguished from the preceding one in having two s. or., in having the last portion of fourth vein less curved, and in lacking the dark oblique band across the last portion of that vein.

ZACERATA (Coq.), Aldrich, 1924.

Proc. Ent. Soc. Wash. xxvi, p. 64.

The present genus was named but not described by the late Mr. Coquillett many years ago; as I have seen the original specimens of the type species in the U.S. National Museum at Washington, I can give the following description:—

Head very large, broader than the thorax. Occiput concave above, distinctly swollen at sides below. Frons very broad, broader than long, convex but gently rounded; the lunula is proportionately small, much broader than long. Face very broad, longer than the frons, convex or even tuberculate in the middle; mouth border very little prominent; parafacialia narrow, peristomialia broad. Eyes bare, small, oval, their vertical diameter more than twice the horizontal one. Antennae inserted distinctly above the middle of eyes and rather widely separated at base; they are linear and much longer than the face; the first joint is very long, the second is small and short, the third is linear, obtuse at end; arista bare. Ocp. short, not numerous, black, acute; pvt. diverging; inner vt. very long; oc. well developed; two s. and three i. or. directed inwards. Thorax short and broad, with interrupted suture and with complete chaetotaxy. Scutellum with four bristles. Abdomen with the segments of about the same length; male genitalia large; ovipositor flat, broad, short. Legs short and stout; front femora with a row of bristles below. Wings short and broad, without costal interruption and without costal bristle. Second vein long and straight; third vein bare; small cross-vein a little beyond the middle of the discoidal cell, the portion of fourth vein before it sometimes curved as in *Rivellia*; last portions of third and fourth veins parallel; hind cross-vein curved outwardly, perpendicular, much longer than its distance from hind border, and shorter than its distance from the anterior one. Anal cell short and rounded outwardly, but with the lower angle right; sixth vein reaching hind border; axillary lobe broad; alula rounded. Wing-pattern of banded type.

Type: *Zacerata asparagi*, Coquillett.

The two known species may be distinguished as follows:—

1. (2) Antennae much longer than the face; fourth longitudinal vein bent downwards before the small cross-vein, the basal part of the discoidal cell being thus much narrower than the terminal half; wings hyaline, with brown fore border and three fuscous bands *asparagi*, Coquill.
2. (1) Antennae only a little longer than the face; fourth vein quite straight before the small cross-vein, the discoidal cell regular; wings brown, with narrow hyaline indentations at fore and at hind border
taomyioides, sp. nov.

Zacerata asparagi (Coq.), Aldrich, 1924.

(Pl. XIII, fig. 47.)

A shining black, grey spotted fly, with very broad head and very long antennae.

Some specimens of both sexes in the Agricultural Department Collection and in the U.S. National Museum, from Worcester, January 1908, bred from asparagus. The species is not unlike some South African species of *Rivellia*, like *latifascia*, Hend., or *tomentosa*, Hendel, from India.

♂♀. Length of body, 4 mm.; of wing, 3 mm.; of ovipositor, 0.6 mm. Occiput shining black, grey dusted below. Frons dark reddish brown, with shining black vertical plates; the orbits are whitish, but interrupted by broad rounded black spots at insertion of the or., forming thus five or six white spots; parafacialia shining white; peristomialia reddish. Face shining black, with a narrow, whitish, black-dotted lateral border. Palpi and proboscis black. Antennae with the basal joints reddish, the third joint black; arista whitish. All the bristles black. Back of mesonotum black, but with eight to ten narrow parallel stripes of grey dust, with small black dots; pleurae greyer, with black dots on the mesopleura. Scutellum and mesophragma shining black. Calypters white; halteres black. All the bristles black. Abdomen black, but grey dusted and black punctulate at hind border of the segments; hairs black; ovipositor and genitalia black. Legs with black coxae and femora, blackish tibiae and reddish tarsi. Wings (fig. 47) whitish hyaline, with blackish pattern. A black marginal band along the fore border from the extreme base to the very small stigma, ending there quite straight; this band is prolonged below to the fourth vein, but includes the whole anal cell. The terminal pattern is formed by three bands; one at small cross-vein, ending

below in the middle of the third posterior cell ; one at hind cross-vein, ending at hind border ; and one along the wing-tip, ending beyond the end of fourth vein ; there is a dark streak in the narrowed base of the discoidal cell. It may be said that the fore half of wing is black, with three hyaline indentations, one at fore border just beyond the stigma and extending to the fourth vein, the other two at hind border, one from the middle of the second posterior cell to a little above the third vein, and the other from the end of the third posterior cell across the end of the discoidal cell to a little above the fourth vein.

Zacerata taomyioides, sp. nov.

(Pl. XIII, fig. 48.)

Differing from the preceding species in the wing-pattern, as well as in the shorter antennae and in the straight base of fourth vein ; but agreeing with it in shape of head, antennae, and body. It cannot be located in the genus *Taomyia*, with which it agrees in wing-pattern, on account of its bare third vein and of its rounded anal cell.

A single male specimen in the Entomological Department Collection from Great Brak River, Mossel Bay, on orange tree, 1st April 1906.

♂. Length of body and wing, 4.4 mm. Head entirely black, broader than the thorax. Occiput rather shining, chiefly above and at sides. Frons parallel-sided, very broad, about twice as broad as one eye, only a little longer than broad ; it is shining black at vertex and on the ocellar plate, dark grey dusted at sides, and there with black dots at insertion of bristles. Face much shorter than the frons, broadened below, convex in the middle, but not tuberculate, and with the mouth border not prominent ; it is entirely black, opaque, grey dusted ; antennal furrows directed obliquely outwardly. Lunula broad but short, reddish white. Antennae inserted below the middle of eyes, a little separated at base ; the short first joint and the rather long second joint are reddish ; third joint linear, black, reddish at inner side, longer than the two first joints together, gradually attenuated towards the end, and thus rather acute, a little longer than the face ; arista bare and thin. Palpi dark reddish ; proboscis blackish, short, and thick. Parafacialia linear ; peristomialia narrow and short, reddish brown. Eyes oval, proportionately small. All the bristles black ; ocp. very short, but thin and acute ; oc. strong and long ; three pairs of equally strong i. or., curved inwardly, but not touching each other. Thorax entirely black, a little shining, with reddish brown humeral calli, notopleural sutures,

ptero- and hypopleura ; on the back it is clothed with a faint greyish dust and with short, pale pubescence ; all the bristles are black ; the dc. are placed at middle distance between the line of the a. sa. and the scutellum ; there are two equally strong mpl. Scutellum reddish brown, with only the basal pair of bristles (?). Mesophragma shining black. Squamulae whitish. Halteres pale yellowish. Abdomen elongate, narrowed at base, shining black, with short black pubescence and with black bristles ; the two first segments with a whitish line at hind border ; fourth segment a little longer than the preceding one ; venter shining black ; genitalia black. Legs reddish, with more or less blackened femora, chiefly those of the front pair, which have the usual row of black bristles below ; hind tibiae without posterior row. Wings (fig. 48) narrow in the basal half, broad and rounded in the terminal half. Costal bristle not very distinct ; stigma very short. Second vein rather wavy ; third straight, and parallel with the last portion of the fourth, which is straight before the small cross-vein ; second posterior cell short, as broad as high ; third vein quite bare ; hind cross-vein straight and perpendicular ; lower angle of anal cell not prolonged, rectangular. Wings with *Aciura*-like pattern, being entirely blackish, with five whitish hyaline indentations, but without hyaline discal spots. The first indentation is in the middle of the second costal cell, extending from the costa to the fourth vein and ending there very narrow and acute ; the second indentation is of triangular shape, extending from just beyond the stigma to the fourth vein. The other three indentations are at hind border, and are narrow and long ; the first is within the base of the third posterior cell, extending from hind border to the fifth vein, just below the end of the second basal cell ; the second is before the end of the third posterior cell, across the middle of the discoidal cell and extending with a short point into the base of the first posterior cell, before the small cross-vein ; the third, long and arcuate, is parallel with the terminal border of the wing, extending from before the end of the second posterior cell to the end of the second vein. This last hyaline indentation being more distant from the others, there is a broad rounded blackish patch, recalling that characteristic of the genus *Taomyia*. Small cross-vein before the middle of the discoidal cell.

UROPHORA, Robineau-Desvoidy, 1830.

This name is used here in its usual sense, while in my preceding papers the name *Tephritis* was employed for it.

Urophora indecora, Loew, 1861.

Originally described from Caffraria, but not found subsequently: it may be distinguished from all the South African Trypaneids on account of its quite hyaline wings, destitute of any pattern, and with a rounded anal cell.

ALLOTYPES, Bezzi, 1920.

Allotrypes gracilis, Loew, 1861(=*brevicornis*, Bezzi, 1920).

(Pl. XIII, fig. 49.)

One ♀ specimen from Zululand, M'fongosi, May 1917 (W. E. Jones), already mentioned by me in the original description of *brevicornis*; one male from East London, 7th January 1923 (H. K. Munro).

The above-quoted synonymy is without doubt; and it is curious that I have not recognised Loew's species before describing my new one.

The as yet undescribed male is very like the female, but the wings (fig. 49) have the hyaline spot in the base of the marginal cell of more whitish colour, with a broad orange spot in the middle. The genitalia are shining reddish, like the whole abdomen.

RIVELLIOMIMA, gen. nov.

The present new genus is allied to those which have a bare third vein, the dc. placed only a little behind the line of the a. sa., yellowish body, and no oc.; it is distinguished on account of its peculiar venation, the portion of fourth vein before small cross-vein being curved below into the base of the discoidal cell, as in the Ortalid genus *Rivellia*, or in the above-described *Zacerata*. It seems to be allied with the Oriental genus *Acidioxantha*, Hendel, 1914, the type species of which has a likewise black-spotted abdomen; but the wing-pattern is different.

Head in front view about as high as broad, in lateral view rather narrowed above and with prominent lower occipital swellings. Occiput distinctly concave on its upper half. Frons narrow and long, narrower than one eye, with parallel sides, more than twice as long as broad, not at all prominent in profile. Antennae inserted distinctly below the middle of eyes, the face being considerably shorter than the frons; they are extended to the mouth border, have rounded third joint and a microscopically pubescent arista.

Eyes oval, with the vertical diameter one and one-half times as long as the horizontal one. Face with a much prominent middle keel, but the mouth border not prominent; peristomialia narrow. Proboscis short and thick. Ocp. very numerous, but short and dense, all of yellowish colour; inner vt. longer than the outer ones, but not much developed; no oc.; two s. and three or four i. or. Back of mesonotum little convex, one and one-half times longer than broad, with broadly interrupted suture; chaetotaxy complete; dc. placed only a little behind the line of the a. sa.; only one strong mpl., which is as strong as the pt. Scutellum rounded, flat, bare above, with four bristles. Abdomen rounded, shorter than the thorax, with some short bristles at end; genitalia small; ovipositor not longer than the last abdominal segment. Legs rather short and stout; front femora with three or four bristles below; hind tibiae behind with a row of bristly hairs; all the tarsi shorter than their tibiae. Wings rather long, with small costal bristle; stigma normal; second and third veins straight and approximated, only a little diverging outwardly, the latter quite bare; small cross-vein a little beyond middle of discoidal cell. The portion of fourth vein before the small cross-vein is longer than the following one and is curved below into the discoidal cell; the last portion is straight and gradually but little diverging. Hind cross-vein long and straight, placed oblique outwardly, a trifle longer than the terminal portion of fifth vein; discoidal cell very broad at end; anal cell acute below but little produced; sixth vein reaching hind border; axillary lobe short but broad, rounded; alula rounded. The pattern consists of several narrow and oblique, complete, blackish cross-bands.

Type: the following new species.

Rivelliomima punctiventris, sp. nov.

(Pl. XIII, fig. 54.)

A quite reddish-yellow fly, with five black spots on abdomen and with three narrow blackish bands on wings.

Some specimens of both sexes from East London, May 1923 (H. K. Munro).

♂♀. Length of body and wing, 4 mm. Occiput pale yellowish, unspotted, more whitish on the lower swellings. Frons entirely yellowish, opaque, unspotted, with shining vertical plates; lunula whitish. Antennae entirely yellowish. Face pale yellowish, with whitish middle keel; peristomialia unspotted. Palpi and proboscis

yellowish. All the cephalic bristles yellowish. Mesonotum shining reddish, unspotted, with a white notopleural stripe from the humeri to the root of wings. All the bristles yellowish, as is the short pubescence of the back. Scutellum yellowish, very shining on the disc, unspotted, with yellowish bristles. Squamulae whitish; halteres pale yellowish; mesophragma shining yellowish, unspotted; no distinct hypopleural spots. Abdomen shining yellowish, with yellowish pubescence and bristles; a broad rounded shining black spot on middle of second segment, and another smaller one on each side of same segment; a similar spot on each side of last segment. Ovipositor very short, shining yellowish. Legs entirely yellowish, unspotted, with yellowish bristles, only those of front femora and the spur of middle tibiae being blackish. Wings (fig. 54) hyaline, iridescent, with yellowish unspotted stigma, and with yellowish veins, which are darkened only in the portions included in the blackish bands. First band narrow, perpendicular, extending from the base of stigma across anal cross-veins to the end of anal cell. Second band narrow, oblique outwardly, extending from the costa at middle of marginal cell across the small cross-vein to the middle of the third posterior cell. The third band is even more oblique, beginning at costa before end of second vein, and going across the hind cross-vein to the hind border of wing at end of third posterior cell, and ending there very near the end of the second band. Moreover, there is a short costal streak from end of marginal cell to a little beyond the end of third vein. At extreme base of wing, across the humeral and basal cross-veins, there is a rather indefinite yellowish band; the second and third bands are also sometimes tinged with yellowish at sides towards the middle.

CRASPEDOXANTHA, Bezzi, 1913.

All the South African species of the present genus have two mpl. and a black-spotted scutellum; they may be distinguished as follows:—

1. (4) Scutellum with one or with two black spots; thorax blackish on the back, and with a black triangular spot on lower part of sternopleura.
2. (3) Scutellum with two black spots well separated, even if much approximated
marginalis, Wied.
3. (2) Scutellum with the two spots united into a single black spot
unimaculata, var. nov.
4. (1) Scutellum with four black spots; thorax quite yellowish, without black spots on back or on sternopleura *polyspila*, sp. nov.

Craspedoxantha marginalis, Wiedemann, 1830.

(Pl. XIII, fig. 50.)

One female from South Rhodesia, Salisbury (D. Dodds); numerous specimens of both sexes from Pretoria, December–January (H. K. Munro), bred from flowers of Composite plant, *Gerbera jamesoni*.

To the original description may be added: Eyes in life light green, with reddish tinge. The black middle spots of the abdomen are at base of fourth and of fifth segment, but they are distinct only in the female, being often concealed below the hind border of the preceding segment; moreover, in the male the last segment has a black basal band and two spots at end.

Craspedoxantha marginalis unimaculata, var. nov.

One male specimen from Gt. Winterhoek Mt., Tulbagh, 3800 ft., April 1916 (R. M. Lightfoot). Distinguished from the preceding in being of a distinctly darker colour and with the bristles dark yellowish; the apical spots of scutellum are fused together to form a single broad black spot, which fills up the space between the a. sct.

Craspedoxantha polypila, sp. nov.

(Pl. XIII, fig. 51.)

Nearly allied with *marginalis*, but distinct by the quite yellowish thorax, and by the scutellum having two additional black spots at insertion of the b. sct.

Type ♀, a single specimen from Salisbury, S. Rhodesia, May 1917 (R. W. Tucker).

♀. Length of body, 6 mm.; of wing, 5 mm.; of ovipositor, 2 mm. Head yellowish, with quite unspotted occiput; frons of a purplish colour on the basal half; parafacialia with perlaceous reflexions, like the face; peristomialia unspotted, as broad as the third antennal joint. Antennae as long as the face, entirely yellowish; third joint obtuse at end, but with a rather acute and prominent upper external corner; arista bare. Palpi and proboscis yellowish. All the bristles yellowish; three i. or. Thorax entirely yellowish, with no blackish parts on back, and without black spots on pleurae or on breast; on the back there is a short yellowish pubescence; there are some small, deep black, rounded spots, as follows: four disposed in a square at

the insertion of prsc. and dc., two at sides behind the prst., and two near the a. sa., and two on postalar calli, one internal, the other external. Of the four black spots of scutellum, two are smaller and basal, and two a little broader and apical, these latter being distinctly more distant from each other than those of *marginalis*. Postscutellum and mesophragma yellowish, unspotted. All the bristles yellow; scp. not distinct; dc. on the line of the a. sa.; two mpl. Halteres pale yellowish. Abdomen entirely yellowish, opaque, with two pairs of approximated small black spots, two at base of fourth and two at base of fifth segment, in part concealed below hind border of preceding segments. Ovipositor as long as the three last abdominal segments together, yellowish, with a black basal spot on each side and with narrow black tip. Venter yellow, unspotted. Legs entirely yellowish, unspotted; bristles of front femora yellow; spur of middle tibiae dark yellowish. Wings (fig. 51) with same neuration and pattern as in *marginalis*, but the small cross-vein distinctly more oblique.

TERELLIA, Robineau-Desvoidy, 1830.

There are two South African species before me, one of which has banded wings, and thus belongs to the subgenus *Sitarea*, R.-D., the other with unspotted wings, and thus a *Terellia*, s. str. They are as follows:—

1. (2) Wings with two dark bands and with some isolated fuscous spots; scutellum black spotted *taeniaptera*, sp. nov.
2. (1) Wings hyaline, quite unspotted; scutellum unspotted *planiscutellata*, Beck.

Terellia taeniaptera, sp. nov.

(Pl. XIII, fig. 52.)

Allied with *hysia*, Walker, from Sierra Leone, but distinct by the very different wing-pattern, which is somewhat like that of the European species *ruficauda*, Fabr., and *winthemi*, Meig.

One specimen from Pretoria, August 1916 (H. K. Munro); but the species is known also from East Africa and even from Madagascar.

♂. Length of body and wing, 4 mm. Head entirely yellowish. Occiput opaque, with two broad black spots above, united together above the neck and prolonged in a point to reach the upper inner corner of the eyes. Frons with a black ocellar dot, one and one-half times longer than broad; lunula pale yellowish; face narrow, whitish; peristomialia unspotted, narrower than the third antennal

joint. Eyes ovate, bare. Antennae inserted at middle of eyes, shorter than the face, entirely yellowish; third joint rounded at end, distinctly pubescent; second joint rather prominent and black, spinulose; arista bare. Palpi and proboscis yellowish. Cephalic bristles yellowish, even the long and acute occipital ones; oc. strong; two or three or.; genal bristle strong; lower part of occiput with yellowish bristly hairs. Thorax entirely blackish, with reddish humeri, notopleural region, and root of wings; it is grey-dusted with yellowish pubescence. Bristles yellowish; sep. not distinct; dc. before the line of the a. sa.; one mpl.; pt. as strong as the st. Scutellum triangular, flattened above; it is yellowish, with a broad, triangular black spot in middle; at sides there are four black spots at insertion of the four set., the two apical being a little broader than the basal ones. Halteres pale yellowish. Abdomen blackish, grey-dusted, with pale pubescence and yellowish bristles; hind border of all the segments distinctly yellowish, and, moreover, the first segment with reddish sides; genitalia black, concealed; venter blackish grey, with reddish hind border of the sternites. Legs short and stout, entirely yellowish, the hind femora with a rather indistinct and incomplete dark ring before the end; hairs pale, bristles yellowish, spur of middle tibiae dark yellowish. Wings (fig. 52) with well-developed costal bristle. Veins yellowish, but blackish on the dark parts; last portions of third and fourth veins straight and parallel; small cross-vein beyond middle of discoidal cell; hind cross-vein straight and perpendicular, its distance from the small one being equal to its own length; lower angle of anal cell acute, but not produced. The dark pattern consists of two complete bands and some isolated spots. The first band goes from the end of costal cell across the middle of first basal cell and base of discal and third posterior cells to hind border in middle of axillary lobe. The second band begins at end of marginal cell and goes obliquely across middle of submarginal and first posterior cell to the hind cross-vein and ends at hind border before the end of the third posterior cell. Stigma yellowish, with a black spot at end. An abbreviated band goes from end of stigma to the fourth longitudinal vein, including the small cross-vein. The isolated dark spots are as follows: one in the middle of the marginal cell, extending from costa to the second vein; a broader one at end of submarginal cell and of first posterior cell, forming a triangular patch, which is not extended beyond the fourth vein and is narrowly united with the external oblique band along the third vein; two spots in the middle of the second posterior cell, a smaller one above, near the fourth vein,

and a larger one below at hind border ; one in middle of third posterior cell, in the shape of a short streak beginning at fifth vein. Along the fore border of wing, the spots at end of second costal cell, at end of stigma, at middle and at end of marginal cell, are blacker, and thus more striking than the other dark markings.

Terellia planiscutellata, Becker, 1903, var. *australis*, var. nov.

(Pl. XIV, fig. 53.)

A readily recognisable species on account of its quite unspotted, milky wings.

Some female specimens from Barberton and Pretoria (H. K. Munro). I have compared them with paratypes of the type species from Egypt.

This South African variety differs from the Egyptian form in being of a distinctly greater size (3.5-4 mm. in length), and in having a more yellowish, nearly golden pubescence on back of mesonotum, scutellum, and abdomen. Costal bristle well developed ; stigma yellowish ; last portions of third and fourth veins straight and parallel ; hind cross-vein a little curved, its distance from the small one greater than in *planiscutellata*, being equal to or even a little more than its own length (fig. 53).

RHYNCHOEDASPIS, gen. nov.

This is the first representative of the *Oedaspis*-group in South Africa, and is distinct from its allies by the form of head and of proboscis, which are similar to those observed in the genus *Gonyglossum* ; that is, depressed head, very prominent mouth border, and very long bent proboscis.

Head more narrow than the thorax, depressed above, obliquely prominent forwards, in front view higher than broad. Occiput distinctly concave above and little prominent below, with undeveloped lateral swellings. Frons very long and narrow, twice as long as broad, with parallel sides, not prominent in profile except a little above root of antennae ; lunula broad, long, and free ; frontal stripe bare. Face narrow, only one-half as long as the frons, with a sharp middle keel and with very prominent mouth border, which is hollowed in the middle above. Parafacialia and peristomialia linear. Eyes bare, narrow, twice as high as broad, placed obliquely. Antennae inserted distinctly below the middle of eyes, as long as the face ; third joint rather narrow, twice as long as the second, rather curved forward at end, but not pointed ; arista bare. Palpi broadened at

end, with some bristly hairs. Proboscis long, bicubitate, with the basal portion a little longer than the already long lower border of head, the terminal portion a little shorter. Ocp. four or five, very long and white, but acute; pvt. parallel and white like the outer vt., only the longer inner vt. being black; sc. black, thin, distant from each other at base; two s. or.; three strong and equidistant i. or. Thorax as long as broad, flattened above, with broadly interrupted suture, clothed on back and pleurae with long, tow-like pubescence; chaetotaxy normal; sep. not distinct; dc. before the line of a. sa.; one mpl.; pt. thinner than the st. Scutellum swollen, rounded, shining black, quite bare, with four bristles. Abdomen elongate, narrower than the thorax, with normal pubescence and with short bristles at sides and at end; in the male there are four segments, and the genitalia are concealed; in the female the segments are five, and the ovipositor is about as long as the entire abdomen. Legs rather stout, front femora with the usual bristles below; middle tibiae with one spur; hind tibiae with little developed posterior row. Wings rather broad, with distinct costal bristle. Stigma short; second vein a little curved in the middle, like the last portion of third and fourth, which are parallel; small cross-vein nearly approximated to the hind one, which is a little curved but placed perpendicularly; anal cell acute below, but little prolonged. Wing-pattern as in *Cecidochoares*.

Type: the following new species.

Rhynchoedaspis munroana, sp. nov.

(Pl. XIII, fig. 55.)

A very distinct fly.

Some specimens from Barberton in May, and from Pretoria in October (H. K. Munro).

♂♀. Length of body and wing, 3.5–4 mm.; of ovipositor, 1.5 mm. Occiput black, clothed with dense grey dust above, whitish below and there with white hairs. Frons with yellowish middle stripe and with broad whitish sides; lunula whitish. Face whitish; antennae entirely yellowish, like the palpi; proboscis yellowish, with the basal portion darkened below; the sides of the prominent mouth border with short black hairs. Ocp., pvt., outer vt., and basal s. or. white; inner vt., oc., terminal s. or. and all the i. or. black. Thorax entirely black, dark grey dusted on the back, white dusted on upper half of pleurae and rather shining on lower half; the back and the upper half of pleurae with whitish, tow-like pubescence. Scutellum, post-

scutellum, and mesophragma shining black. All the bristles black. The rather large calypters are white and white fringed; halteres pale yellowish. Hind border of mesopleura with three white bristles below the single black mpl. Abdomen of male quite shining black, that of female a little grey dusted; pubescence and bristles black; venter grey dusted; ovipositor black. Legs with black coxae and femora, these latter with yellowish tips, which are broader on middle pair; tibiae and tarsi entirely yellowish; hairs and bristles black. Wings (fig. 55) with dark bands, the hyaline parts between them being distinctly whitish; veins and costa blackish on the dark parts; yellowish on the whitish parts. There is a blackish spot at extreme base on first costal cell; following this spot a complete basal band, quite isolated from all the others, extending from end of second costal cell and stigma to the hind border in the middle of the axillary lobe; this band is broader at fore border and goes across the extreme base of the discoidal cell and across the ends of anal and second basal cells. On the terminal half of wing there is a peculiar pattern, formed by four dark bands, all radiating from the fore border; the first is parallel with the basal one and goes from the fore to the hind border in the middle of the third posterior cell; the second extends along the hind cross-vein and last portion of fifth vein; the third crosses the base of first posterior and the middle of second posterior cell; the fourth goes along the fore border to below the end of fourth vein. The terminal half of wing may thus be described as black with three hyaline indentations at hind border, the distal of which reaches into the submarginal cell, the middle one to the third vein just along the small cross-vein, and the shorter proximal one extends a little into the terminal part of the discoidal cell. Stigma black, with the external upper corner yellowish.

MUNROELLA, gen. nov.

This new genus seems to be allied with *Spheniscomyia*, being distinguished by the prominent mouth border, by the geniculate proboscis, and by both the cross-veins being placed on the same line.

Head a little broader than the thorax, in front view broader than high. Occiput flattened above, without distinct lower swellings. Frons rather broad, not prominent in profile. Face narrow, with a sharp middle keel and with prominent mouth border; peristomialia linear. Eyes bare, rounded; antennae shorter than the face, inserted at middle of eyes; third joint with the upper terminal corner

a little prominent, but not pointed; arista bare. Palpi normal; proboscis shortly geniculate. Ocp. short and black; no oc.; two i. or.; frontal stripe bare. Thorax convex, shining black, as long as broad, with the transverse suture broadly interrupted in the middle; chaetotaxy normal; dc. before the line of the a. sa.; scp. small but distinct; one mpl. Scutellum short, flattened above, with only the basal pair of bristles. Abdomen a little broader than the thorax, with four segments in the male and five in the female; ovipositor as long as the four last abdominal segments together. Legs rather long; front femora with only two bristles below at end; hind tibiae without posterior row. Wings long and narrow, with small costal bristle; stigma rather long, but normal. Second vein straight; last portions of third and fourth veins quite straight and parallel; small cross-vein placed on same line with the hind one, both straight, and placed perpendicularly; lower angle of anal cell acute, but not actually produced. Wing-pattern consisting of some narrow, parallel dark bands.

Type: the following new species,

Munroella myiopitina, sp. nov.

(Pl. XIII, fig. 56.)

A small, shining black fly, not unlike some species of the genus *Myiopites*.

Type ♀, from Zululand, M'fongosi, May 1916 (W. E. Jones); numerous specimens of both sexes from Pretoria and Barberton, January–May, on bushes of *Lippia asperifolia* (H. K. Munro).

♂♀. Length of body, 2–2.2 mm.; of wing, 2.3–2.6 mm. Occiput shining black, with dark hairs below. Frons yellowish, with whitish ocellar triangle and with rather broad whitish borders. Face shining yellowish. Antennae quite yellowish; palpi and proboscis likewise yellowish. Eyes in life dull fuscous. All the bristles black. Thorax entirely shining black, with not very distinct blackish pubescence. Scutellum shining black; all the bristles black. Calypters and halteres whitish. Abdomen entirely shining black, with black pubescence, and with short, black bristly hairs at end; ovipositor shining black. Legs with black coxae and femora; tips of these latter, tibiae, and tarsi yellowish, but the hind tibiae black on the basal half; hairs black. Wings (fig. 56) whitish hyaline, iridescent, with pale yellowish veins, which are blackish on the narrow dark bands; stigma yellowish hyaline, with only the extreme corner very narrowly fuscous. The

dark bands are not much infuscated, and are all equally narrow; the first begins at fore border, just before the stigma, and ends a little below the anal cell; the second begins at end of stigma, and goes obliquely to the hind border, reaching it in middle of third posterior cell; the third is straighter, begins at fore border at end of marginal cell, and passing over the two cross-veins ends at hind border at end of fifth vein. There is, moreover, a narrow terminal spot at end of first posterior cell, prolonged above into the lower corner of submarginal cell.

ACIURA, Robineau-Desvoidy, 1830.

In the present genus, as it is here limited, are included only species with typical wing-pattern; that is, with two hyaline indentations at fore border and with three at hind border; the remaining species are transferred to *Spheniscomyia*. The former are as follows:—

1. (8) All the bristles of the occipital border whitish.
2. (5) Scutellum with four bristles; halteres black; wings with a costal black stripe at base before the stigma.
3. (4) Femora for the most part black; ovipositor longer than the abdomen
tetrachaeta, Bezzi.
4. (3) Femora and coxae entirely reddish; ovipositor as long as the abdomen
haematopoda, var. nov.
5. (2) Scutellum with two bristles only; halteres whitish.
6. (7) Wings quite cuneiform at base, and there with an isolated oblique black band *angusta*, Loew.
7. (6) Wings of usual shape at base, and there with a marginal black stripe.
oborinia, Walk.
8. (1) All the bristles of the occipital border black; four set.; halteres black; wings with a complete costal stripe at base . . . *nigriseta*, sp. nov.

Aciura tetrachaeta, Bezzi, 1918.

(Pl. XIII, fig. 57.)

This species, originally described from N.W. Rhodesia, seems to be common in South Africa. Salisbury, May 1917 (R. W. Tucker); Pretoria, Livingstone (M. Powell); Durban, August (C. v. d. Merwe); Pretoria, Bloemfontein, March–June (H. K. Munro).

Aciura tetrachaeta haematopoda, var. nov.

About the same as the preceding, but distinct by the entirely reddish legs and by the shorter ovipositor.

Type ♂ and type ♀, without other specimens, from Zululand, M'fongosi, April 1917 (W. E. Jones).

♂♀. Size, coloration, and wing-pattern exactly as in the preceding species; antennae a little shorter. Coxae and femora entirely reddish, only the hind tibiae blackish. Ovipositor not longer than the abdomen.

Aciura angusta, Loew, 1861.

(Pl. XIII, fig. 60.)

Very distinct from all the other species on account of the peculiar shape of wings and of the isolated black band in the hyaline base of wing.

Natal, Durban, 1914 (W. Haygarth); E. Transvaal, Komati Poort, November 1918 (R. W. Tucker); Pretoria (H. K. Munro).

Aciura oborinia, Walker, 1849.

(Pl. XIII, fig. 59.)

Very well characterised by the broad oval hyaline spot in the first posterior cell.

Natal, Port Shepstone, January 1913 (K. H. Barnard); Port St. John, 1915 (Shortridge); Pretoria (H. K. Munro).

Aciura nigriseta, sp. nov.

(Pl. XIII, fig. 58.)

Closely allied with *tetrachaeta*, but distinguished by the quite black bristles of the occipital border and by the more faintly dusted back of mesonotum.

Some specimens from Barberton and from Pretoria (H. K. Munro).

♂♀. Length of body, 4-4.5 mm.; of wing, 4.5-5 mm.; of ovipositor, 3 mm. Head, its appendages and chaetotaxy as in *tetrachaeta*, but all the bristles of the occipital border—that is, ocp., vt., and pvt.—quite black. Thorax, scutellum, halteres, abdomen, ovipositor, and legs as in *tetrachaeta*, but the back of mesonotum distinctly more shining. Wings (fig. 58) with the same pattern; the costal basal stripe broadly united with the stigma; the external of the two hyaline indentations of fore border usually extending into the base of the first posterior cell.

SPHENISCOMYIA, Bezzi, 1913.

In the present genus are now placed smallish species which have not the typical wing-pattern of *Aciura*; they have four or very often

only two set. and have usually black ocp. ; but there are some species with whitish ocp., and these belong probably to the genus *Metasphenisca*, Hendel, 1914.

The following species are at present known from South Africa :—

1. (14) All the bristles of the occipital border black.
2. (7) Scutellum with four bristles.
3. (4) Wings with but a single hyaline indentation at fore border
sexmaculata, Macq.
4. (3) Wings with two hyaline indentations at fore border, one approximated to the other.
5. (6) Wings with three rounded hyaline spots in the middle *ternaria*, Loew.
6. (5) No hyaline spots in the middle of wings *capensis*, Rond.
7. (2) Scutellum with two bristles only.
8. (9) Halteres black ; wings with only one hyaline indentation at fore border and with two only at hind border, and with the extreme base black
compacta, sp. nov.
9. (8) Halteres whitish ; wings with hyaline base, with two hyaline indentations at fore border, and with four or more at hind border.
10. (11) Fore border of wings with two regular hyaline indentations ; one hyaline spot into the base of discoidal cell *neavei*, Bezzi.
11. (10) Fore border with two irregular hyaline spots ; one spot in the discoidal and another in the first posterior cell.
12. (13) Within the hyaline hind border of wing there is but a single fuscous ray reaching the hind margin *binaria*, Loew.
13. (12) There are two complete fuscous rays at hind border of wing
binaria, variety.
14. (1) Bristles of the occipital border whitish ; scutellum with two bristles only ; wing-base always hyaline.
15. (16) Femora black ; second hyaline indentation of fore border of wing much smaller than the first one *quaternaria*, sp. nov.
16. (15) Femora quite orange ; second hyaline indentation about as long as the first *quinaria*, sp. nov.

Spheniscomyia sexmaculata, Macquart, 1843.

(Pl. XIII, fig. 61.)

Zululand, M'fongosi, April 1917 (W. E. Jones) ; E. Transvaal, Komati Poort, November 1918 (R. W. Tucker) ; Mafa, Ovamboland, S.W. Africa, February 1921 (K. H. Barnard) ; Andoni, Ovamboland, March 1923 (K. H. Barnard) ; Barberton, August, and East London, June (H. K. Munro).

Spheniscomyia ternaria, Loew, 1861.

Described from Caffraria, but not seen subsequently.

Spheniscomyia capensis, Rondani, 1863.

Described from Cape, but not found subsequently.

Spheniscomyia compacta, sp. nov.

(Pl. XIII, fig. 62.)

A very peculiar, shining black, stout species, which shows a very characteristic wing-pattern.

Type ♀, S. Rhodesia, Salisbury, May 1917 (R. W. Tucker); type ♀, Barberton, 5th May 1913 (H. K. Munro).

♂♀. Length of body, 2.5–2.8 mm.; of wing, 2.7–3 mm.; of ovipositor, 1 mm. Occiput entirely black. Frons only a little longer than broad, reddish, with blackish ocellar dot and with paler sides; the large lunula is reddish, with whitish reflexions. Antennae entirely reddish, only a little shorter than the face. Face, parafacialia, and peristomialia reddish, the latter unspotted, as broad as the third antennal joint; mouth border not prominent. Palpi reddish, with short black bristles; proboscis dirty brownish. All the cephalic bristles black, even those of occipital border; three i. or. Thorax short, about as broad as long, quite shining black; on the back there is no distinguishable dust, and the short pubescence is black; all the bristles are likewise black; scp. not distinct; dc. on the line of the a. sa.; two mpl.; pt. and st. rather strong. Scutellum with only the b. set.; it is shining black, flat above, one-half as long as the back. Halteres quite black. Abdomen shining black, with black pubescence and black bristles; ovipositor shining black, as long as the abdomen, or even longer when the terminal segments are exerted. Legs black, with yellowish tibiae and paler tarsi; hind tibiae more or less, or even entirely black; front femora with a row of four or five black bristles below. Wings (fig. 62) long, with small or indistinct costal bristle; both the cross-veins perpendicular, straight, and approached together, the distance between them being only a little longer than the small cross-vein. They are entirely blackish to the extreme base, with the following whitish hyaline markings, which are broader in the female than in the male: a small rectangular spot in the middle of the second costal cell; a single indentation at fore border, just after the stigma, in the shape of a short triangle, with the vertex a little below the second vein; three spots in the middle, one in the base of first posterior cell, and two in the discoidal cell, one at base and the other placed more obliquely near the end; there is, moreover, a fourth spot in the second basal

cell. At hind border there are only two indentations, one in the second posterior cell and one in the middle of the third posterior cell, this last ending at fifth vein; these two indentations are much broader in the female than in the male; moreover, the base of the axillary lobe and the anterior part of the alula are also hyaline, forming thus a third indentation.

Spheniscomyia neavei, Bezzi, 1920.

(Pl. XIII, fig. 63.)

One male of this very distinct species from S. Rhodesia, Salisbury (D. Dodds).

Spheniscomyia binaria, Loew, 1861.

(Pl. XIII, figs. 64 and 65.)

Some specimens from Pretoria (H. K. Munro). This species shows two distinct types of wing-pattern. The typical form has only one complete fuscous ray at hind border of wing, as is to be seen in fig. 64; in the variety, as shown in fig. 65, there is a second complete dark ray at hind border; this ray is the more or less developed prolongation of the dark tooth in the middle of third posterior cell, well shown even in Loew's original figure. Even the terminal wing-pattern is somewhat different in the two forms. But I refrain from naming the variety, because it seems to be due to sexual dimorphism, the supernumerary fuscous ray of hind border being developed mostly in female specimens only.

Spheniscomyia quaternaria, sp. nov.

(Pl. XIV, fig. 67.)

Distinguished from all the preceding species on account of its whitish occipital bristles. Numerous specimens of both sexes from Pretoria and Barberton (H. K. Munro).

♂♀. Length of body, 2-2.5 mm.; of wing, 2.4-2.8 mm.; of ovipositor, 0.5-0.6 mm. Occiput black, grey dusted. Frons reddish, with dark ocellar area, pale yellowish sides and lunula. Face pale yellowish; peristomialia whitish, unspotted, not quite as broad as the third antennal joint; mouth border more prominent than in the allied species. Antennae entirely reddish; third joint a little shorter than the face, attenuated at end and prominent but not pointed; arista short, bare, thickened basally. Palpi and proboscis yellowish, the latter short and thick. All the cephalic bristles yellowish, those of the occipital border whitish, the long outer vt. darkened; only

two i. or. Thorax shining black, but clothed on the back with rather dense grey dust and with pale pubescence; all the bristles yellowish; no distinct sep.; dc. a little before the line of a. sa. Scutellum shining black, less dusted than the back, rather convex above, with only the basal set. Calypters white; halteres pale yellowish. Abdomen shining black, more or less grey dusted, with pale pubescence; ovipositor shining black, pale pubescent, as long as the three last abdominal segments. Femora black, with yellowish end; tibiae and tarsi yellowish; front femora with only two long, yellowish bristles below on terminal half. Wings long (fig. 67) and narrow, with blackish veins, which are pale yellowish at base; costal bristle short; cross-veins rather distant, the distance between them being about twice as long as the small cross-vein; last portions of third and fourth veins straight and parallel. They are broadly hyaline at base, from the root to the stigma; within the blackish part there are the following hyaline indentations and spots: two at fore border beyond the stigma, the first with the point at third vein, the second reduced to a simple spot ending at second vein; two hyaline rounded spots in the base of the first posterior cell, more or less completely separated from the two hyaline indentations of the second posterior cell; likewise two spots of greater size in the discoidal cell, more or less separated from the indentations of the third posterior cell. Base of axillary lobe and alula whitish hyaline. The hind border of the wing has therefore four irregular indentations, and may be described as hyaline, with four complete fuscous rays, besides the fuscous apex.

Spheniscomyia quinaria, sp. nov.

(Pl. XIII, fig. 66.)

Some specimens of both sexes from Pretoria, on the plant *Lippia asperifolia* (H. K. Munro).

♂♀. Same size as the preceding species, and almost identical with it, but certainly distinct by the following characters: (a) The mouth border is less prominent; (b) the front coxae and all the femora are entirely orange, without any trace of black; (c) the second hyaline indentation of fore border is more distant from, and about as long as the first, being prolonged beyond the second vein to reach with its lower point the third longitudinal vein; but these two points of both the indentations may be sometimes separated from the spots of the marginal cell, forming thus two isolated hyaline spots in the submarginal cell (fig. 66).

TEPHRELLA, Bezzi, 1913.

In the present genus are provisionally placed the species with four sct. and with white ocp., which have a densely grey dusted back of mesonotum, the dc. nearer the line of the a. sa. than to the transverse suture, and an *Aciura*—or *Spheniscomyia*—pattern of wings, with no hyaline apical spot. They are very close to species of *Spathulina*, making thus a connecting-link between Ceratitinae and Trypaneinae. In case the present species should be separated from the typical ones of the Oriental region (which have only two sct.), the name *Metasphenisca*, Hendel, 1914, may be used for them; the type species *gracilipes*, Loew, is indeed the same as my *Tephrella cyclopica*, 1908.

The South African species are as follows :—

1. (2) Second posterior cell quite hyaline, with an isolated fuscous spot at hind border; femora black; wing-pattern of male very different from that of female *dispar*, sp. nov.
2. (1) Second posterior cell infuscated, with the usual hyaline indentations; femora orange; both sexes with the same wing-pattern . . . *distigma*, sp. nov.

Tephrella dispar, sp. nov.

(Pl. XIV, figs. 69 and 70.)

Distinct from the allied species by the black femora and by the wing-pattern being very different in the two sexes (a unique case in the genus).

Several specimens of both sexes from Pretoria (H. K. Munro).

♂♀. Length of body, 3.2–3.6 mm.; of wing, 3.2–3.6 mm.; of ovipositor, 0.6 mm. Occiput black, densely grey dusted, with a narrow complete yellowish border to the eyes. Frons broad and short, scarcely longer than broad, opaque yellowish with greyish sides and lunula, and with darkened ocellar area. Face short, yellowish grey, with distinct middle keel and with a little prominent mouth border; parafacialia and peristomialia paler, the latter unspotted and narrower than the third antennal joint. Eyes in life light green, with purplish or reddish reflections. Antennae considerably shorter than the face, entirely yellowish, with obtuse third joint and bare arista. Palpi whitish, with stout black bristles; proboscis short, dirty yellowish. Ocp. and pvt. white, long, acute; vt., oc., and two or three or., all blackish. Thorax black, densely grey dusted, opaque, clothed with short yellowish pubescence on the back; all the bristles black; no distinct scp.; dc. on the line of a. sa.; only

one mpl. Scutellum triangular, flattened above, grey dusted, bare, with four black bristles, the apical ones long, strong, and decussate. Mesophragma densely grey dusted, opaque. Calypters white; halteres pale yellowish. Abdomen entirely black, opaque on account of the dark grey dust; the short pubescence is black, but that of sides is yellowish, like the bristly hairs. Male genitalia rounded, black; ovipositor shining black, as long as the three last abdominal segments. Coxae and femora black, grey dusted; tips of femora yellowish, especially middle pair; tibiae and tarsi entirely yellowish; front femora below with a row of five to six long blackish bristles. Wings of female (fig. 70) with a more typical pattern; they are blackish, with broad hyaline base, with two broad rectangular (not triangular) hyaline indentations of fore border extended to the third vein, and with two very broad hyaline indentations of hind border, the external of which, occupying the whole of the second posterior cell, extending above into the first posterior cell, and bearing a fuscous isolated spot in middle of second posterior cell, which is to be considered as the rest of the dividing streak of the two normal indentations of this cell; the second, or internal hyaline indentation, extends above the middle of the discoidal cell. Stigma deep black, with the upper external corner narrowly yellow; axillary lobe hyaline, with a fuscous middle patch in continuation of the basal dark band. In the male (fig. 69) the pattern is very different at fore border, because there is no division between the hyaline base and the two hyaline indentations, which are all fused together to form one broad hyaline patch, extending from the base to a little before end of marginal cell; the stigma is yellow, with a black rounded basal spot. The two broad hyaline indentations of hind border are much as in the female, but the isolated fuscous spot in the second posterior cell is shorter, and the axillary lobe has only a fuscous spot above. Costal bristle well developed; distance of cross-veins a little shorter than the length of the hind cross-vein; third vein bare; lower angle of anal cell acute, but little produced.

Tephrella distigma, sp. nov.

(Pl. XIV, fig. 6S.)

Distinct from all the other species on account of the presence of two rounded hyaline spots in the otherwise entirely black discoidal cell. Type ♂ and type ♀ from S. Rhodesia, Salisbury, May 1917 (R. W. Tucker).

♂♀. Length of body, 3.2–3.5 mm.; of wing, 3.3–3.6 mm.; of ovipositor, 1 mm. Occiput black, opaque, densely grey dusted. Frons narrow, twice as long as broad, opaque yellowish with paler sides. Face pale yellowish; the narrow peristomialia whitish; mouth border a little prominent. Antennae about as long as the face, entirely yellowish, with the third joint rounded at end and with bare arista. Palpi and proboscis yellowish, the latter very short. Ocp. whitish; frontal bristles yellowish; three i. or. Thorax entirely black; on the back it is clothed with dense, opaque grey dust, and with pale yellowish pubescence; the pleurae are less densely dusted, but are always opaque; all the bristles are yellowish; dc. on line of a. sa.; one mpl. Scutellum like back, but less densely dusted, with four yellowish bristles, the apical ones being only a little shorter. Mesophragma like scutellum. Calypters white; halteres pale yellowish. Abdomen shining black, with faint dust and with thin yellowish pubescence; male genitalia black; ovipositor shining black, a little shorter than the abdomen. Legs entirely reddish, even the coxae; bristles and hairs yellowish. Wings (fig. 68) elongate, with small costal bristle; third vein bare; third and fourth veins straight and parallel; distance of the cross-veins a little shorter than the length of the hind cross-vein. Stigma deep black, with a very small yellowish point at upper external corner. Wings blackish, with the following hyaline parts: the base to the stigma and to a little before the anal cross-vein; two equal triangular indentations at fore border with the apex at third vein; two rounded spots in the blackish discoidal cell; four paired indentations at hind border, two into the second posterior cell, the external of which is prolonged above to reach the third vein, while the internal stops at fourth vein, and two into the third posterior cell, both stopping at fifth vein without entering into the discoidal cell, the internal one twice as broad as the external.

Note.—The present species seems to be like *Spheniscomyia ternaria*, Loew, but is distinct in having no rounded hyaline spot in the base of the first posterior cell, and in having the external posterior indentation extended into the first posterior cell; moreover, the ocp. are whitish instead of being black.

SUBFAMILY RHABDOCHAETINAE.

This subfamily is separated from that of the Schistopterinae on account of the presence of poc. and of the whitish and obtuse ocp.;

moreover, it is characterised by the subulate third antennal joint and by the distinct costal nick of the wings. In the character of the wing-pattern it is related to the Trypaneinae, having, however, strikingly coloured "bullae," peculiar to the group. While the true Schistopterinae have at present not been found either in South Africa or in the Oriental region, the Rhabdochaetinae are represented by all the known genera (one of which, *Rhabdochaeta*, is also Oriental), as follows :—

1. (2) Wings broad and rounded, with bristly first and third longitudinal veins, with the hind cross-vein placed very obliquely and with the anal cell drawn out in a rather long point ; no poc. *Perirhithrum*, Bezzi.
2. (1) Wings of normal shape, with bare veins, with the hind cross-vein regular and with the lower angle of anal cell not so produced ; poc. always present.
3. (4) Costal nick less developed ; a black spot between antennae and eyes ; wings with close reticulation and paler apex *Eutretosoma*, Hendel.
4. (3) Costal nick well developed ; no black spot near the eyes ; wings with radiating streaks and less distinct reticulation.
5. (6) Only two i. or. ; scutellum with two or with four bristles ; thorax and abdomen normally haired *Rhabdochaeta*, De Meij.
6. (5) Two to four i. or. ; six set. ; thorax and abdomen with peculiar, erect bristly hairs *Rhochmopterum*, Speis.

PERIRHITHRUM, Bezzi, 1920.

A very peculiar and magnificent South African genus, which shows some aberrant characters.

Perirhithrum marshalli, Bezzi, 1920.

(Pl. XV, fig. 137.)

Originally described from Natal. I have seen another specimen from Transvaal, from which the present fig. 137 is made, showing the peculiar characters much better than the original photograph of my paper of 1920.

EUTRETOSOMA, Hendel, 1914.

The present genus is now recognised as belonging to the Rhabdochaetinae, with the separation of some heterogeneous elements (*bipunctatum*, Loew, and *frauenfeldi*, Schin.), which are removed to the new genus *Afreutreta* of the Trypaneinae. There are the following South African species :—

1. (4) Very dark or even black species, with black halteres and mainly black legs ; wings more intensively infuscated.

2. (3) Tibiae black, with a whitish band ; tarsi in part black . . . *polygramma*, Walk.
3. (2) Tibiae and tarsi entirely pale yellowish *woodi*, Bezzi.
4. (1) Pale reddish species, with whitish halteres, and mainly yellowish legs ; wings paler *marshalli*, Bezzi.

Eutretosoma polygramma, Walker, 1861.

Described from Natal, but not seen subsequently.

Eutretosoma woodi, Bezzi.

(Pl. XV, fig. 134.)

Very distinct on account of the dark coloration of body, legs, and wings.

Described from Nyasaland in British Museum. I have seen some specimens from Pretoria and Barberton, October and November 1923 (H. K. Munro).

Eutretosoma marshalli, Bezzi.

(Pl. XV, fig. 133.)

A very pale species, described from Natal in my general paper of 1924 on Ethiopian *Trypaneidae*.

RHABDOCHAETA, De Meijere, 1904.

Only the following species is known from South Africa :—

Rhabdochaeta marshalli, Bezzi.

(Pl. XV, fig. 135.)

Distinct from all known species on account of its more robust size, the predominant reddish colour of body, and the very peculiar wing-pattern (fig. 135).

Described by me in my general paper of 1924 as another of the numerous and important discoveries made in South Africa in 1905 by Dr. Guy A. K. Marshall, Director of the Imperial Bureau of Entomology, London.

RHOCHMOPTERUM, Speiser, 1910.

The present genus is doubtfully distinct from the preceding one ; it contains at present two peculiarly coloured species, one of which is described here from South Africa for the first time.

Rhochmopterum munroi, sp. nov.

(Pl. XV, fig. 136.)

Closely allied with the type species *neuropteripenne*, Speiser, from Kilimandjaro, but distinct in having the small cross-vein well developed and adorned with only two (not four) white spots at sides, and in having one horn-like orbital bristle.

Some specimens of both sexes from Pretoria in June, and from East London (H. K. Munro).

♂♀. Length of body and wing, 2–2.5 mm.; of ovipositor, 0.6–0.8 mm. Occiput yellowish, with opaque grey dust, and with a black spot in the middle above the neck. Frons about as broad as long, opaque yellowish, infuscated towards the vertex, and with very narrow white orbits; lunula yellowish; a small black dot between the eyes and the root of antennae. Antennae entirely yellowish, as long as the face; third joint very subulate, with a thin, acute point, concave at upper border; arista with a thick yellowish base, but whitish on the rest, bare. Face and peristomialia whitish, unspotted; mouth border rather prominent. Palpi longer than the mouth, pale yellowish; proboscis short and thick. Ocp. white; inner vt. short and thick, dark yellowish; oc. and poc. whitish, parallel, widely separated; three or four i. or., the first of which is black and very thickened, horn-like, while the others are of normal size and dark yellowish in colour. Thorax black on the back, with yellowish humeri and with broad yellowish notopleural stripe; it is densely clothed with opaque, dark grey dust, and shows small black spots at insertion of bristles; mesopleurae yellowish, with a black patch in the middle; sternopleurae black. The chaetotaxy is regular, but besides the usual bristles, which are yellowish with blackish base, there are several erect, whitish, supernumerary bristles, one of which looks like a regular praesutural dc. Scutellum yellowish, with long dark yellowish b. set. inserted on dark spots, and with two pairs of smaller whitish bristles, the apical ones decussate. Calypters and halteres pale yellowish; mesophragma black, grey dusted. Abdomen entirely yellow, with two rows of dark spots along the middle, and with the last segment shining black in both sexes; male genitalia black; ovipositor a little shorter than the abdomen, shining black, but dark reddish across the middle. The abdominal segments bear at hind border peculiar, erect, whitish bristles. Legs entirely yellowish, but the four posterior femora with two black spots on the underside, forming incomplete basal and subapical rings; the four posterior

tibiae with a small black ring at base ; front femora below with four yellowish bristles, and one or two black ones at end. Wings (fig. 136) with deep costal nick, and with double costal bristle ; venation of the normal type of *Rhabdochaeta*. They are hyaline, with colourless stigma, which is, however, narrowly black at both ends. The pattern forms a broad reticulation, with long radiating streaks at border ; in the middle it is yellowish brown, with two white dots, one before and one behind the small cross-vein, and these two dots are very striking, being bordered with black ; there are, moreover, the usual reddish "bullae." In the marginal cell there are two narrow black streaks and another, very characteristic and abbreviated, just beyond the stigma ; submarginal cell with three streaks, one basal, one middle, and one terminal, this last being interrupted at base ; first posterior cell with a black isolated streak in the middle at end ; second posterior cell with three interrupted streaks at hind border ; discoidal, third posterior, and axillary cells with a few very broad and uncertain hyaline spots, which are surrounded by fuscous. Second costal cell with a perpendicular black streak in the middle.

SUBFAMILY TRYPANEINAE.

This subfamily is abundantly represented in South Africa ; a thing of great importance, because it is very scarce, or even almost entirely wanting, in the centre of the Continent.

The genera are at present not well established, being usually based on uncertain characters of the wing-pattern. They are as follows :—

1. (2) Wings with *Aciura*-like wing-pattern, that is, with hyaline indentations at fore and at hind border, and without hyaline spot at end of first posterior cell *Tephrella*, Bezzi, p. p.*
2. (1) Wings with a different pattern, more or less reticulate and typically with hyaline spot at extreme end of first posterior cell.
3. (4) Head much broader than high, considerably flattened and with narrow eyes placed horizontally ; wings practically entirely black
Platomma, gen. nov.
4. (3) Head not so shaped, and with rounded eyes ; wings with a variegated pattern.
5. (6) Wings very narrow and long, with parallel sides, almost truncate at end, and with obtuse anal cell ; ocp. in part black . . . *Elaphromyia*, Big.
6. (5) Wings of regular shape or even sometimes rather broad and rounded, with the lower angle of anal cell acute even if very little produced ; ocp. quite whitish.

* This genus is repeated here for convenience, but it is placed among the Ceratitinae.

7. (8) Wings rather widened, with numerous and minute hyaline or subhyaline dots on the disc, but not definitely reticulated; frons or face typically with black spots *Afreutreta*, Bezzi.
8. (7) Wings not widened, pattern otherwise; or if widened they are reticulate; frons and face not black spotted.
9. (16) Wings with the black pattern more extensive than the hyaline one, the discal hyaline spots being very few in number, and thus the wing not appearing reticulate.
10. (11) Wings with the black pattern distinctly radiating at apex and along the hind border; proboscis short and not geniculate *Euaresta*, Loew.
11. (10) Wing-pattern not distinctly radiating.
12. (13) Proboscis short and simple; wings rather broad *Pliomelaena*, Bezzi.
13. (12) Proboscis distinctly geniculate; wings of usual shape.
14. (15) Proboscis shorter than the head, with its basal portion longer than the terminal one *Spathulina*, Rond.
15. (14) Proboscis longer than the head, with its terminal portion as long as, or longer than, the basal one *Ensina*, R.-D., p. p.
16. (9) Wings with the hyaline parts more extensive than the black ones, or appearing reticulate owing to the numerous and broad hyaline discal spots, or having a complete dark band in the middle, or being longitudinally dimidiate, or having a star-shaped terminal pattern.
17. (18) Wings in the middle with a complete dark band, which includes the rather approximate cross-veins; proboscis geniculate *Sphenella*, R.-D.
18. (17) Wings without such a pattern and with more distant cross-veins.
19. (20) Head depressed, considerably longer than high, with very narrow peristomialia; if head not so depressed, the proboscis is very long and geniculate, its terminal part being as long as, or longer than, the lower border of head *Ensina*, R.-D.
20. (19) Head not so depressed, and proboscis usually short and simple; if the proboscis is geniculate, its terminal part is shorter than the basal one.
21. (26) Wings with a definitely reticulate pattern, extending over all or almost all their surface.
22. (25) Frons flat, and not at all, or little, produced above; ovipositor flat.
23. (24) Frons of usual breadth; antennae rather approximate; wings not at all widened, with the stigma unicolorous or with no more than one hyaline spot *Euribia*, Meig.
24. (23) Frons very broad; antennae broadly separated; wings distinctly widened, usually with short, radiating, marginal streaks, and with a bimaculate stigma *Campiglossa*, Rond.
25. (22) Frons convex and prominent above; ovipositor conical
Camatomyia, Hend.
26. (21) Wing-pattern not extended over the greater part of surface, but either the hind or the basal part is quite hyaline or very faintly reticulated.
27. (28) Wings longitudinally dimidiate; that is, black or black spotted on fore half, and hyaline or faintly reticulate on hind half, with no radiating streaks at end *Acanthiophilus*, Beck.
28. (27) Wings with a star-shaped pattern on the terminal half, or at least with the pattern radiating toward the apex of wing *Trypanea*, Schrank.

PLATOMMA, gen. nov.

This new genus is erected here for *Trypeta lunifera* of Loew, a species which was indicated by its author as being very different from all the others, and as having no allies in the Ethiopian fauna; it is, however, evidently related with the genus *Afreutreta*, being very distinct from it as well as from all the others on account of the very peculiar shape of head. Its type of wing-pattern is also unique among Ethiopian Trypaneids.

Head very compressed, with the eyes placed almost horizontally, their longitudinal diameter being about parallel with the frons; in front view the head is more than twice as broad as high. Occiput concave, with its upper border very sharp, the head being very close to the prothorax; ocelli very near the vertical keel. Frons a little concave, with parallel sides, twice as long as broad, not at all prominent in profile; lunula broad, rounded, free. Face very short, only one-half of the length of frons; peristomialia narrow; mouth border considerably prominent. Antennae short, but extending to the mouth border; third joint obtuse at end; arista bare; mouth opening exceedingly broad and rounded; palpi short; proboscis very short. Ocp. whitish and thick, obtuse; oc. short; two or three or. Thorax flat, about as broad as long, with the transverse suture broadly interrupted in the middle; chaetotaxy apparently complete; dc. before the line of a. sa., very near the suture. Scutellum about one-half the length of back, triangular, flat above, with four bristles. Abdomen of female with five segments, and with flat, rather long ovipositor. Legs rather stout; front femora with the usual row of bristles below; middle tibiae with one spur. Wings short and broad, with distinct costal bristle; stigma short; second vein straight; last portions of third and fourth veins gradually diverging; cross-veins approximated; lower angle of the anal cell acute, but little produced; third vein bare; axillary lobe normal. Pattern consisting in a uniform infuscation of the whole wing, without hyaline spots or indentations, with a whitish terminal lunate border.

Type: *Trypeta lunifera*, Loew, 1861.

Platomma luniferum, Loew, 1861.

(Pl. XIV, fig. 71.)

A strikingly characterised species, with very peculiar coloration of body and wings. A single, rather badly preserved female specimen from Otjiwarongo, South-West Africa, February 1920 (R. W. Tucker).

To Loew's good original description may be added: Frontal bristles yellowish; occipital bristles yellowish; halteres yellowish; venter entirely reddish; distance between the cross-veins about as long as, or only a little longer than, the length of the small cross-vein; stigma blacker than the surrounding parts; it is shorter than the second costal cell, and about as long as the first costal cell (fig. 71).

ELAPHROMYIA, Bigot, 1859.

Elaphromyia adatha, Walker, 1849.

(Pl. XIV, fig. 72.)

A very peculiar species on account of the body coloration and of the shape and pattern of wings (fig. 72).

A couple of specimens from Zululand, M'fongosi, March and May (W. E. Jones); East London, July (H. K. Munro).

This singular species is widely spread over the Ethiopian region, and seems to be the unique representative of its genus in Africa; but it shows a good deal of variation, and has thus received several other names (*melas*, Big., and *ulula*, Loew). Dr. G. Enderlein of Berlin has recently placed this same species in his genus *Mesanopin*, 1912, among the Ortalids, in Stett. entom. Zeit., 1922, p. 6.

AFREUTRETA, Bezzi, 1924.

This name was proposed by me for the species previously placed in *Eutretosoma*, this last genus belonging to the Schistopterinae, as already stated.

The species have normal head, with perpendicular eyes; broad frons, usually with black spots near the root of antennae; broad or narrow peristomialia; not very broad mouth-opening; short proboscis; ocp. of the trypaneinine type. Thorax with interrupted suture, complete chaetotaxy, with the dc. before the line of the a. sa.; scutellum flat, with four bristles. Abdomen and legs normal. Wings more or less broad, with a broadened second basal cell, but sometimes they are quite normal; they are black, with numerous and small hyaline or subhyaline dots; third longitudinal vein bare; lower angle of anal cell acute, but little produced.

All the species seems to be galligenous in their habits; they are as follows:—

1. (4) Wings distinctly dilated, with broadened second basal cell; frons with black spots at root of antennae.

2. (3) Wings with very numerous hyaline dots on the disc, and even with some hyaline spots within the stigma *frauenfeldi*, Schin.
3. (2) Wings with only a few subhyaline dots, but with a broad, yellowish hyaline patch near the middle; stigma entirely black, unspotted; abdomen red
discoidalis, sp. nov.
4. (1) Wings not dilated, with normal second basal cell.
5. (6) Frons with black spots near the antennae; first posterior cell hyaline at end
bipunctata, Loew.
6. (5) Frons without black spots; first posterior cell black at end
biseriata, Bezzi.

Afreutreta frauenfeldi, Schiner, 1868.

Described from the Cape, but not seen subsequently.

Afreutreta discoidalis, sp. nov.

(Pl. XIV, fig. 73.)

A robust species with dilated wings, with red abdomen and with very peculiar wing-pattern.

Some female specimens from East London, April–June, bred from galls of the Composite plant *Vernonia anisochaetoides* (H. K. Munro).

♀. Length of body, 4·6–5 mm.; of the wing, 5–5·2 mm.; of ovipositor, 1 mm. Head flattened in profile, higher than broad; occiput blackish above, yellowish below. Frons concave, only a little broader than long, not prominent in profile; it is brownish yellow along the middle, paler at sides; lunula broad, rounded, pale yellowish; on each side of the antennae there is a rounded, deep black spot. Face broad, concave, pale yellowish; mouth border a little prominent; peristomialia very broad, about as broad as the length of third antennal joint, pale yellowish, unspotted. Antennae inserted below the middle of the eyes, not extended to the mouth border; third joint rounded at end; arista bare. Mouth opening rather broad; palpi long and spathulate, pale yellowish; proboscis short, thick, dirty yellowish. Ocp. whitish and thick; vt., oc., and or. dark yellowish or blackish; three i. or. Thorax blackish brown, with reddish humeri and root of wings; it is clothed with thick, whitish, tow-like pubescence, which on the upper part of meso- and pteropleura is tuft-like; bristles dark yellowish or blackish; dc. very near the suture; two or three mpl. Scutellum flat, blunt at end, reddish with blackish-brown base, with four bristles, but without tow-like pubescence. Calypters and halteres reddish. Abdomen entirely red,

even on venter; on back there is an ill-defined darkish middle stripe on the first four segments, the extreme base being, moreover, blackish; pubescence thin, not tow-like, reddish, longer at sides. Ovipositor red, narrowly black at end, as long as the two last abdominal segments together; male genitalia red. Legs rather short and stout, entirely reddish even on the coxae; bristles of front femora dark reddish. Wings (fig. 73) broad and rounded, but distinctly longer than broad; costal bristle very small; second vein short; last portions of third and fourth veins gradually, but not much, diverging outwardly; second basal cell considerably dilated, subquadrate, about as broad as the discoidal cell, which is proportionately short and almost rectangular, being only a little broader at end than at base; small cross-vein only a little beyond middle of discoidal cell, its distance from the hind one being only a little longer than the length of the straight and perpendicular hind cross-vein; anal cell broad; with its lower angle acute, but shorter than the second basal cell. Axillary lobe broad. Stigma short, black, unspotted, about one-half as long as the rather dilated second costal cell. The wings are entirely and equally infuscated, with rounded, not very numerous or striking subhyaline spots, extending across all the cells, except the costal and marginal ones; moreover, there is a broad, rounded, yellowish patch, which extends over the basal half of discoidal cell and over the upper part of the third posterior cell; the fifth vein is yellowish on the portion which runs precisely through the middle of this peculiar patch. Even the dilated second basal cell and the anal cell are a little yellowish.

Afreutreta bipunctata, Loew, 1861.

(Pl. XIV, fig. 74.)

Some specimens of both sexes from East London, March, bred from galls of the plant *Brachylaena discolor* (H. K. Munro).

To Loew's description may be added: Three i. or.; oc. well developed; dc. very near the suture; four mpl. in one row. Small cross-vein beyond middle of discal cell, its distance from the hind one about as long as the length of the hind cross-vein. The characteristic wing-pattern was already well figured by Loew. The as yet undescribed male is very like the female and shows the same wing-pattern (fig. 74). Abdomen very broad, with the terminal segment one and one-half times as long as the preceding one, margined with black bristles; genitalia blackish, not visible from above.

Afreutreta biseriata, Bezzi.

(Pl. XIV, fig. 75.)

Recently described by me from British Museum specimens, collected in Natal by Dr. Guy A. K. Marshall.

EUARESTA, Loew, 1873.

Three South African species can be provisionally placed in the present genus, as follows:—

1. (4) Scutellum with only two bristles.
2. (3) Abdomen reddish yellow, with strikingly deep black terminal segment; discoidal and third posterior cells mainly hyaline . . . *amplifrons*, Bezzi.
3. (2) Abdomen blackish grey with reddish bands; wings with the above-named cells mainly dark, with hyaline spots *lunifrons*, sp. nov.
4. (1) Scutellum with four bristles; abdomen blackish grey; wings with dark, hyaline-spotted discoidal cell, but with mainly hyaline third posterior cell *planifrons*, Loew.

Euaresta amplifrons, Bezzi, 1920.

(Pl. XIV, fig. 76.)

A very characteristic fly on account of its peculiarly coloured abdomen, and of its rather *Trypanea*-like wing-pattern (fig. 76). Described from Natal.

Euaresta lunifrons, sp. nov.

(Pl. XIV, fig. 78.)

Allied with the preceding species in having only two sct., but different by the peculiar and more extended wing-pattern.

A single specimen from East London, June 1923 (H. K. Munro).

♂. Length of body, 3.5 mm.; of wing, 4 mm. Head entirely yellowish, but the occiput with a black grey-dusted spot in the middle. Frons opaque, with grey-dusted sides; it is as broad as one eye, being a little longer than broad; lunula very broad, rounded, reddish. Face narrow above, yellowish, white dusted, like the linear parafacialia and the narrow, unspotted peristomialia. Antennae short, extending only a little beyond middle of face, entirely yellowish; third joint rounded at end, but with the upper external corner acute

and a little prominent; arista bare. The palpi, and the short and thick proboscis are pale yellowish. Ocp., outer vt., and pvt. whitish; inner vt. and frontal bristles dark reddish; oc. rather short; three i. or. Thorax black, but densely clothed with opaque grey dust, yellowish along the notopleural line and on the pteropleura; back of mesonotum unspotted, with short, yellowish pubescence; pleurae with longer yellowish hairs; all the bristles dark yellowish, inserted on small black dots; dc. very near the suture; only one mpl. Scutellum like back, with reddish hind border and with only the basal pair of bristles, which are long, yellowish, with black base. Mesophragma black, grey dusted; calypters whitish; halteres pale yellowish. Abdomen reddish, the second and third segment with black grey-dusted base, and the fourth entirely black, grey dusted; pubescence yellowish and terminal bristles brownish; last segment longer than the preceding one; genitalia small, reddish; venter reddish, grey dusted. Legs entirely yellowish, even the coxae; front femora with a row of yellowish bristles below. Wings long and proportionately narrow; veins with pale yellowish base and dark brown end; costal bristle well developed; stigma elongate; second, third, and fourth veins straight, the two latter parallel in their terminal portions, the third quite bare; cross-veins approximated, the distance between them being a little shorter than the perpendicular and straight hind cross-vein; lower angle of anal cell acute, but not produced. The wings are brown, with hyaline base and with numerous hyaline spots and indentations, thus appearing almost reticulate. Stigma entirely brown, unspotted. Marginal cell with two broad approximated hyaline spots in the middle and with a small hyaline dot before the end; submarginal cell with two hyaline spots just below the above-named, another rounded at end just below the end of the second vein, and another larger before the end of the third vein, forming the upper one of the terminal radiating streaks. First basal cell with one in middle and another before the small cross-vein; first posterior cell with one beyond the small cross-vein, another beyond this, and another quite rounded at end; discoidal cell with three small hyaline spots on the basal half, another larger one beyond the middle, and two smaller ones before the end; second posterior cell with three of greater size into the basal part and another terminal one, forming the lower radiating streak; third posterior cell with three larger ones along the hind border and two less-defined ones into the basal part. Axillary lobe grey, with six rounded hyaline spots, three above and three below the axillary vein. Second costal

cell quite hyaline, unspotted; base of first basal, second basal, and anal cells partly greyish. Very characteristic for the present species are the two triangular hyaline streaks, one on each side of the small cross-vein.

Euaresta planifrons, Loew, 1861.

(Pl. XIV, fig. 77.)

Distinct from all the others on account of its four set.

PLIOMELAENA, Bezzi, 1918.

The following species have been found in South Africa :—

1. (4) Frons as broad as or broader than one eye; halteres with whitish knob; arista nearly bare; pterostigma with yellowish spot.
2. (3) Abdomen in both sexes entirely shining black . . . *brevifrons*, Bezzi.
3. (2) Abdomen in both sexes mainly reddish, or at least with broad reddish hind borders of the segments . . . *rufiventris*, var. nov.
4. (1) Frons narrower than one eye; halteres with blackish knob.
5. (6) Stigma blackish, with a single hyaline spot at base . . . *strictifrons*, Bezzi.
6. (5) Stigma yellowish, with two hyaline spots . . . *stigmatica*, sp. nov.

Pliomelaena brevifrons, Bezzi, 1918.

Described from Natal.

Pliomelaena brevifrons, var. *rufiventris*, var. nov.

(Pl. XIV, fig. 79.)

Type male and female, a couple of specimens from Zululand, M'fongosi, February 1917 (W. E. Jones); Pretoria, Arnoldton, and East London (H. K. Munro).

Like the type, and with the same wing-pattern (fig. 79); but the basal hyaline spot of the discoidal cell is more or less completely united with the opposite spot of the third posterior cell. The abdomen, instead of being entirely shining black as in the type, shows in the male broad, reddish hind borders of all the segments; and in the female it is sometimes quite reddish, with a more or less distinct black band at base of each segment. Ovipositor shining black.

Pliomelaena strictifrons, Bezzi, 1918.

Described from Natal.

Pliomelaena stigmatica, sp. nov.

(Pl. XIV, fig. 80.)

Very distinct from all the other forms on account of its yellowish pterostigma, which shows two hyaline spots.

Type ♂, from Natal, Durban, 1914 (W. Haygarth), and an additional male from the same locality, 1891; some male specimens from Port Shepstone, July–August (H. K. Munro).

♂. Length of body and wing, 5–5.5 mm. Occiput yellowish, with a blackish, grey-dusted spot in the middle. Frons narrow, twice as long as broad, reddish yellow, with darkened ocellar spot and greyish lunula. Face yellowish, white dusted; peristomialia very narrow, unspotted. Antennae entirely yellowish, considerably shorter than the face; third joint rounded at end; arista with rather long pubescence. Palpi and proboscis pale yellowish, the latter short and thick. Ocp. whitish; vt. dark yellowish, two blackish s. or., and three black i. or. Thorax black, densely grey dusted on the back, reddish on humeri, sides of back, and pleurae; all the bristles pale yellowish, inserted on small black dots; sep. small but distinct; dc. a little before the line of the a. sa.; one mpl. Scutellum distinctly reddish at hind border, with the a. set. only a little shorter than the b. set., decussate. Mesophragma black, grey dusted; calypters dirty yellowish; halteres with yellowish stalk and with blackish knob. Abdomen entirely shining black, narrowly reddish at sides near the base; the short pubescence and the bristles are black; venter entirely reddish; genitalia black above. Legs and coxae entirely pale yellowish; front femora with four or five long, dark yellowish bristles below. Wings (fig. 80) long and rather broad, with a well-developed costal bristle; stigma a little shorter than the second costal cell, yellowish, with two broad hyaline spots, that of base larger; second vein straight; third vein bare; last portion of third and fourth parallel, but a little converging at end; small cross-vein beyond middle of discoidal cell, its distance from the hind one almost equal to the length of hind cross-vein, which is straight and perpendicular; lower angle of anal cell acute, but little produced. Base of wing hyaline, with a fuscous spot in middle of the second costal cell; marginal cell with two subquadrate spots at costa, just beyond the stigma, and with a row of six or seven irregular spots along the second vein, but without spot at end; submarginal cell with four rounded spots of about equal size along the second vein, one at base, two close to each other in middle, and one just at end of second vein;

first basal cell with one hyaline dot before the small cross-vein; first posterior cell with one dot at base and with a broad, semicircular spot at end; discoidal cell with only one spot in the middle near the fifth vein; second posterior cell with two larger spots at wing-border and another at upper corner; third posterior cell with three spots at wing-border, two in the middle close together and one at the extreme base. Alula and axillary lobe greyish, unspotted.

SPATHULINA, Rondani, 1856.

The species are numerous, and among them I have found the lost *hessii*, Wied. They are as follows:—

1. (10) Scutellum with four bristles, the apical pair sometimes very small.
2. (9) Three i. or.; legs quite orange; abdomen shining black or shining red; wings with terminal hyaline spot.
3. (6) A. set. about as long as the b. set.; stigma without hyaline spot; second posterior cell with three hyaline spots.
4. (5) Abdomen entirely black; bristles dark brownish *semiatra*, Loew.
5. (4) Abdomen broadly red at sides, chiefly in the male; bristles pale yellowish
semirufa, var. nov.
6. (3) A. set. much smaller than the b. set.; stigma with hyaline spot at base.
7. (8) Second posterior cell with five separated hyaline spots *munroi*, sp. nov.
8. (7) Second posterior cell with three elongated hyaline indentations
majuscula, var. nov.
9. (2) Only two i. or.; legs with black femora; abdomen not shining; wings without terminal hyaline spot *anomalina*, sp. nov.
10. (1) Scutellum with only two bristles, the apical pair being quite wanting; only two i. or.; pterostigma always unspotted; first posterior cell with terminal hyaline spot; legs all orange.
11. (12) Second posterior cell with a single hyaline indentation, the whole wing with no more than seven hyaline spots or indentations *peringueyi*, sp. nov.
12. (11) Second posterior cell with two or three hyaline indentations, the wing with more than seven hyaline spots.
13. (24) Second posterior cell with two hyaline indentations.
14. (15) Wings with quite hyaline base and with an isolated black spot at end of third longitudinal vein *parceguttata*, Beck.
15. (14) Wings with fuscous spots or bands in the hyaline base, and without isolated black spot at end of third vein.
16. (17) The hyaline spots at end of submarginal and of first posterior cell are united together to form an arcuate border at wing-tip
arcucineta, sp. nov.
17. (16) The above-named hyaline spots are quite separated.
18. (21) Wings with whitish base, and there with some isolated fuscous spots.
19. (20) Submarginal cell with two hyaline spots at end *elegantula*, sp. nov.
20. (19) Submarginal cell with only one hyaline spot at end *diminuta*, var. nov.
21. (18) Wings with yellowish base, and there with a fuscous oblique band, proceeding from the infuscated anal cell.

22. (23) Third posterior cell with two hyaline indentations . . . *hessii*, Wied.
 23. (22) Third posterior cell with only one hyaline indentation *simplex*, var. nov.
 24. (13) Second posterior cell with three hyaline indentations.
 25. (26) Third posterior cell with only one hyaline indentation; base of wing
 with a fuscous stripe from anal cell to humeral cross-vein
hessii euarestina, var. nov.
 26. (25) Third posterior cell with two hyaline indentations; wing-base quite
 hyaline, unspotted *biseuarestina*, sp. nov.

Spathulina semiatra, Loew, 1861.

All the specimens of this species which I have so far seen belong to the following form.

Spathulina semiatra, var. *semirufa*, var. nov.

(Pl. XIV, fig. 81.)

Distinguished by the red abdomen and by the paler bristles.

A couple of specimens from Zululand, M'fongosi, May 1916 (W. E. Jones); one male from E. Transvaal, Komati Poort, November 1918 (R. W. Tucker); Pretoria and Barberton (H. K. Munro).

I think that this form may be the male of Loew's *semiatra*, because in the female the abdomen is only narrowly red at sides near the base, and Loew had only females. All the bristles of head and thorax are pale yellowish; the entire abdomen or the intermediate segments are broadly red at sides (male); the first posterior cell always shows the two small hyaline dots, besides the larger apical hyaline spot (fig. 81).

Spathulina munroi, sp. nov.

(Pl. XIV, fig. 82.)

A species with four set., allied with *margaritifera*, Bezzi, from East Africa, but distinguished by the somewhat different wing-pattern (fig. 82). Some specimens of both sexes from Pretoria in March (H. K. Munro).

♂♀. Length of body and wing, 3-3.2 mm.; of ovipositor, 0.8 mm. Occiput grey, narrowly yellowish at vertex and whitish below. Frons one and one-half times longer than broad, yellowish, with greyish sides and lunula; face and peristomialia whitish, the latter narrow and unspotted. Antennae entirely pale yellowish, shorter than the face, with shortly pubescent arista. Palpi whitish; proboscis yellowish, thick but distinctly elongate, with short recurrent flaps. Ocp. whitish; vt. and frontal bristles dark yellowish; three i. or. Thorax opaque, densely clothed with grey dust, the humeri and the

pleural sutures being more or less distinctly reddish; pubescence and bristles pale yellowish; dc. much before the line of a. sa.; one or two mpl. Scutellum like back of mesonotum, with reddish hind border; a. sct. decussate and much shorter than the b. sct. Calypters white, halteres pale yellowish. Abdomen shining black, with the first segment very narrowly reddish at sides; pubescence and bristles blackish; venter reddish at base; ovipositor shining black, about as long as the two last abdominal segments together. Coxae and legs entirely yellowish; front femora with two or three long yellowish bristles below. Wings (fig. 82) with long costal bristle, distance between the cross-veins shorter than the length of the hind cross-vein. They are entirely brown, with hyaline base; second costal cell with a perpendicular dark band in the middle, stigma with a rather broad, not rounded, yellowish hyaline spot at base. Marginal cell with two broad, rectangular, hyaline indentations and with a small rounded spot at end; submarginal cell with four rounded spots along the second vein, one at base, two in middle (the external one sometimes wanting) just below the two hyaline indentations of fore border and fused with them, and the fourth before the end; second basal cell without hyaline spot. First posterior cell with a rounded spot at base and with another at end, both of equal size and narrower than the space between third and fourth veins, and, moreover, in the middle with one or two smaller dots (one above the other); discoidal cell with two rounded spots near the fourth vein, the basal one broader; second posterior cell with five spots, three at border in the shape of elongate indentations and two at upper corner as rounded spots; third posterior cell with six spots, three at wing-border and three in the middle, the four median spots disposed one above the other and sometimes fused together in the shape of two indentations. Axillary lobe not very distinctly infuscated, with two hyaline indentations, resulting from four spots fused together.

Spathulina munroi, var. *majuscula*, var. nov.

(Pl. XIV, fig. 84.)

Described from East Africa.

Spathulina anomalina, sp. nov.

(Pl. XIV, fig. 87.)

Distinct from all the other species with four sct. in having only two i. or., black femora, and no hyaline terminal spot on wings. This is an

atypical species, perhaps better placed in *Euribia*, like other similar species (*euryomma* and *abyssinica*), which have, however, only two set. ; it seems to be near *Eur. conyzae*, Frauent., from Egypt, which has also four set. and bicubitate proboscis, but different wing-pattern.

One male specimen from Pretoria, January 1923 (H. K. Munro).

♂. Length of body, 3 mm. ; of wing, 3.1 mm. Occiput black, grey dusted, pale yellowish below and narrowly reddish above at vertex. Frons one and one-half times as long as broad, opaque reddish, with whitish sides and with blackish ocellar spot ; lunula whitish. Antennae entirely yellowish, as long as the face ; third joint with rounded but rather prominent upper corner ; arista bare. Face and peristomialia whitish, the latter as broad as the third antennal joint, unspotted ; mouth border a little prominent ; palpi and proboscis yellowish, the latter elongate, with recurrent but short terminal flaps. Ocp. whitish, but rather thin and acute ; frontal bristles black, only two i. or. Thorax black, but densely clothed with opaque grey dust ; on the back there are three brownish stripes, the middle of which is less distinct ; pubescence whitish ; all the bristles black, the dc. very near the suture, much before the line of the a. sa. Scutellum coloured like back of mesonotum, with four black bristles, the apical much smaller than the basal ones. Mesophragma black, grey dusted ; calypters white ; halteres yellowish. Abdomen black, clothed with opaque grey dust, with two rows of blackish and rather broad spots along the middle ; pubescence whitish ; genitalia black. Legs with yellowish coxae and blackish-grey femora ; tips of femora, tibiae, and tarsi yellowish ; front femora with black bristles below. Wings (fig. 87) elongate, with small costal bristle ; third vein bare ; third and fourth veins straight and parallel ; distance between the cross-veins as long as the hind cross-vein ; lower angle of anal cell acute and a little produced. They are hyaline, with a blackish pattern and with some isolated fuscous spots, but not definitely reticulated. Stigma black, unspotted. Marginal cell with two broad, irregular hyaline spots, which are separated by a perpendicular dark streak, which ends at third vein and is quite isolated ; submarginal cell with a broad hyaline patch in the middle, extending from the second to the third vein, and with a similar broad, rectangular, subapical hyaline spot ; first basal cell with two approximated rounded hyaline spots ; first posterior cell with a broad spot near the base, a smaller one in the middle, and another pre-apical, this last united with that of the submarginal cell ; the end of the first posterior cell is thus without the usual hyaline spot ; discoidal cell with more than

the basal half hyaline; second posterior cell mainly hyaline, the upper corner blackish with one hyaline spot, and with an isolated fuscous spot in the middle at hind border; third posterior cell hyaline, with the upper corner blackish with one hyaline spot, and with two fuscous spots in the middle, one at fifth vein and one at end of sixth vein; lower angle of the anal cell with a fuscous spot; axillary lobe quite hyaline, unspotted.

Spathulina peringueyi, sp. nov.

(Pl. XIV, fig. 83.)

A small species, distinct by the few hyaline spots of wings, all of rather large size.

Type ♀, a single specimen from Stellenbosch, 1897 (L. Peringuey).

♀. Length of body and wings, 2.2 mm. Occiput black, grey dusted, very narrowly yellowish below. Frons one and one-half times longer than broad, yellowish, with blackish ocellar patch and with broad whitish orbits; lunula whitish; face and peristomialia whitish yellow, the latter unspotted and about as broad as the third antennal joint. Antennae shorter than the face, entirely yellowish, with microscopically pubescent arista. Palpi and proboscis yellowish, the latter with short, recurrent terminal portion. Ocp. whitish; inner vt. and or. black, only two i. or. Thorax entirely black, densely clothed with opaque greyish dust; pubescence whitish, bristles black; dc. much before the line of the a. sa.; one mpl., with some whitish long hairs. Scutellum like back of mesonotum, with only the b. set., which are very long and black. Calypters white; halteres yellowish. Abdomen entirely shining black, with black pubescence and black bristles; ovipositor shining black, short, about as long as the last abdominal segment. Legs all orange, with the front femora a little darkened on the external side and with two yellowish bristles below. Wings (fig. 83) with short costal bristle; distance between the cross-veins shorter than the length of the hind cross-vein. They are entirely blackish, with hyaline base, in which there is a darkish oblique band extending from the anal cell to the humeral cross-vein. Stigma quite black. Marginal cell with a broad hyaline spot just beyond the stigma, forming a single indentation with the subquadrate spot of the submarginal cell, and, moreover, with a small hyaline spot before the end; submarginal cell with a broad hyaline spot at end. First basal cell without terminal spot; first posterior cell with a broad rounded spot near the base and another

at end. Discoidal cell with a single broad spot in the middle, fused with that in the middle of the third posterior cell; second posterior cell with only one broad indentation, extending to the fourth vein; base of discoidal cell with one hyaline spot fused with the hyaline basal portion of wing. Axillary lobe hyaline, unspotted.

Spathulina parceguttata, Becker, 1903, var. *parca*, Bezzi, 1913.

(Pl. XIV, fig. 85.)

Well distinguished by the isolated black spot at end of third vein; in this character it agrees with my *acrosticta*, 1918, from Durban, being very probably conspecific with it.

Numerous specimens of both sexes from East London, on the Composite plant *Helichrysum*, sp. (H. K. Munro).

This species, originally described from Egypt, seems to be widely spread over the Ethiopian and Oriental regions, because I now think that my *parca* is only a variety distinct by lacking the hyaline spot in the middle of the first posterior cell (fig. 85).

Spathulina biseuarestina, sp. nov.

(Pl. XIV, fig. 88.)

A typical *Spathulina* near *parceguttata*, but distinct by the much richer wing-pattern, which shows three hyaline indentations in the second and two in the third posterior cell.

Both sexes from Pretoria, January 1923 (H. K. Munro).

♂♀. Length of body and wing, 3 mm. Occiput black, grey dusted, narrowly pale below. Frons broad, one and one-half times as long as broad, opaque, dirty yellowish, with whitish sides and lunula, and with blackish ocellar spot. Antennae yellowish, shorter than the face; third joint rounded at end; arista bare. Face and peristomialia whitish, the latter narrow, unspotted; mouth border very little prominent; palpi and proboscis yellowish, the latter elongate, with short recurrent flaps. Ocp. whitish and thick; frontal bristles black; only two i. or. Thorax black, clothed with opaque, light grey dust, not distinctly striped on the back; pubescence whitish; bristles black, but st. and pt. whitish; dc. very near the suture. Scutellum like back, with only the b. set. Halteres pale yellowish. Abdomen shining black, unspotted, a little grey dusted in the male; ovipositor shining black, as long as the three last abdominal segments

together. Legs quite orange. Wings (fig. 88) normal, with the base whitish hyaline, unspotted, with pale yellowish veins; stigma black, with the base narrowly yellowish below. Marginal cell with two hyaline spots just beyond the stigma; submarginal cell with three, one below and in contact with the first of the two above-named, one below the end of second vein, and one just before the apex, its corner extending into the first posterior cell. First basal cell unspotted; first posterior cell with a small spot near the base and another larger at end; second posterior cell with three indentations, the posterior one extending with a point into the first posterior cell, and forming thus the lower ray of the terminal fork; discoidal cell with the extreme base hyaline, with one spot near the end and with another very small at lower corner; third posterior cell with two hyaline indentations, one very large in the middle and another smaller before the end. Axillary lobe almost entirely hyaline, only a little infuscated in the middle, near the sixth vein.

Spathulina arcucineta, sp. nov.

(Pl. XIV, fig. 86.)

A pretty species, very distinct from all the others on account of its arcuate hyaline apical band on the wings.

Type, a single specimen without abdomen from Kleinfontein, Cape Province (R. M. Lightfoot).

Length of body and wing, 3 mm. Occiput yellowish, with a black, grey-dusted broad spot above the neck. Frons about as broad as long, reddish yellow, with broad whitish borders, with greyish dark-spotted ocellar triangle and with whitish lunula. Face and peristomialia whitish, the latter unspotted, a little narrower than the third antennal joint. Antennae wanting in the type; there are only the two basal joints, which are yellowish. Palpi and proboscis yellowish, the latter with short, recurrent terminal part. Ocp. whitish: inner vt., oc., and or. black; only two i. or. Thorax black, densely clothed with opaque grey dust, with reddish humeri and pleural sutures; scutellum like back, with only the b. set. Halteres and abdomen wanting. Legs quite orange, the front femora with strong dark yellowish bristles below. Wings (fig. 86) with short costal bristle; second, third, and fourth veins gradually diverging towards the end; distance between the cross-veins shorter than the length of the hind cross-vein. They are completely black to the extreme base, the black of the base being separated from the rest by a

rather narrow hyaline band, extending from the second costal cell to the base of the discoidal cell. Stigma black. Marginal cell with a broad rounded hyaline spot just beyond the stigma, fused with an equally broad spot in the submarginal cell, and with another much smaller spot near the costa. Submarginal cell, besides the above-named spot, with the extreme base hyaline and with narrowly hyaline end; first basal cell without spot at end. First posterior cell with a broad rounded hyaline spot near the base, and with a narrow terminal hyaline streak, which forms the terminal hyaline arcuate band in union with the similar spot at end of submarginal cell. Discoidal cell with a small spot at extreme base, another broad rounded one in the middle, and a smaller one on the lower external angle. Second posterior cell with two hyaline indentations, a smaller narrow terminal one, and a larger basal one, resulting from two spots fused together. Third posterior cell with a broad rounded spot in the middle, just below the equally large spot of the discoidal cell. Axillary lobe greyish hyaline, unspotted. The whole wing has only ten spots or indentations.

Spathulina elegantula, sp. nov.

(Pl. XIV, fig. 89.)

Closely allied with *hessii*, but distinct by the whitish base of the wings bearing some isolated fuscous spots.

Type ♀, a single specimen from Matroosberg, Ceres Division, 3500 ft., January 1907 (R. M. Lightfoot).

♀. Length of body and wing, 3 mm.; of ovipositor, 0.8 mm. Occiput black, dark grey dusted, narrowly yellowish below and at sides. Frons about as broad as long, but distinctly narrowed in front; it is reddish yellow, with broad whitish sides and ocellar triangle, this latter with a dark spot at base. Face and peristomialia whitish, the latter unspotted. Antennae entirely yellowish, shorter than the face; third joint with prominent upper terminal corner; arista with short pubescence. Palpi and proboscis reddish yellow, the latter with rather long terminal flaps. Ocp. whitish; inner vt., oc., and or. black; only two i. or. Thorax black, with reddish humeri and sutures, densely clothed with opaque, bluish grey dust and with whitish pubescence; bristles black; dc. much before the line of the a. sa.; scutellum like back, with only the b. set., which are very long and diverging. Calypters and halteres whitish. Abdomen shining black, with black pubescence and black bristles; ovipositor likewise, about as long as the two last abdominal segments

together. Coxae and legs quite orange, the front femora with dark yellowish bristles below. Wings with short costal bristle; third and fourth veins parallel at end; distance of cross-veins shorter than the hind cross-vein. Base broadly whitish hyaline, with three isolated fuscous spots, one at humeral cross-vein, one darker in the middle of the second costal cell, and one at base of the basal cells. Stigma black. Marginal cell with two hyaline spots at costa, that just beyond the stigma broader and fused with a small rounded spot of the submarginal cell. Submarginal cell with two hyaline spots at end, that at end of second vein much smaller. First basal cell without hyaline terminal spot. First posterior cell with one rounded spot near the base and another at end, this latter forming a radiating *Euaesta*-like pattern. Discoidal cell with one spot at base, another larger one in the middle, and a smaller one in the lower outer corner. Second posterior cell with two hyaline indentations, the smaller external one prolonged as a hyaline spot into the first posterior cell. Third posterior cell with only one rounded spot in the middle; axillary lobe whitish, unspotted.

Spathulina elegantula, var. *diminuta*, var. nov.

(Pl. XIV, fig. 90.)

Very much like the preceding, distinct only by lacking the upper terminal hyaline spot of submarginal cell, below the end of second longitudinal vein (fig. 90). This character is equally developed in both sexes.

Type ♂♀, a single couple of specimens from Matroosberg, Ceres Division, 5000 ft., November 1917 (R. M. Lightfoot).

Spathulina hessii, Wiedemann, 1819.

(Pl. XIV, fig. 92.)

A characteristic species, somewhat variable in wing-pattern, distinct by the yellowish hyaline base of wing.

Two female specimens from Hottentots Holland Mts., 4000 ft., Caledon Division, January 1916 (K. H. Barnard); one ♀, Kimberley, 1912 (J. H. Power).

To Wiedemann's original description may be added: Occiput black, grey dusted, yellowish below and at border. Frons only a little longer than broad, with sides and lunula whitish; face and peristomialia pale yellowish, the latter unspotted. Antennae shorter than the face; third joint with prominent upper corner; arista

with short pubescence. Proboscis with rather long and recurrent terminal part. Ocp. whitish; inner vt., oc., and or. black; only two i. or. Thoracic bristles black, but pt. and st. pale yellowish; dc. much before the line of a. sa.; one mpl. Scutellum with only the b. set., which are long and diverging. Halteres pale yellowish. Abdomen shining black, with black pubescence and bristles; ovipositor shining black, as long as the whole abdomen. Front femora with numerous dark yellowish bristles below. Wings (fig. 92) with short costal bristle; third and fourth veins parallel; distance between the cross-veins shorter than the hind cross-vein. Stigma black. Base with an oblique dark band, extending from the third posterior cell to the humeral cross-vein; second costal cell with a fuscous band in the middle. Pattern very like that of *elegantula*; submarginal cell with two hyaline spots at end; third posterior cell with two hyaline indentations, the external one narrower and fused with the hyaline spot at lower outer corner of the discoidal cell. Axillary lobe hyaline. Sometimes there are small spots at end of first basal cell and two small hyaline dots, one above the other, in the middle of the first posterior cell, and one hyaline dot near upper outer corner of discal cell.

Spathulina hessii, var. *simplex*, var. nov.

(Pl. XIV, fig. 91.)

Differs from type form in lacking the outer hyaline indentation of the third posterior cell and in having the ovipositor shorter than the abdomen. The wing-pattern (fig. 91) is more reduced, lacking the additional hyaline spots of first posterior and of discoidal cell.

One ♂, one ♀. Hottentots Holland Mts., 4000 ft., Caledon Division, January 1916 (K. H. Barnard).

Spathulina hessii, var. *euarestina*, var. nov.

(Pl. XIV, fig. 93.)

Distinct from the two preceding forms in having three hyaline indentations in the second posterior cell. It is also very like the type species of the genus (*tristis*, Loew) from South Europe, even this last being perhaps a form of *hessii*.

Type ♀, a single specimen from Bethulie, O.F.S., April 1918 (H. K. Munro).

♀. Length of body and wing, 3.5 mm.; of ovipositor, 1 mm.

Head, its appendages and chaetotaxy as in *hessii*; thorax, scutellum, halteres, abdomen, and legs likewise. Wing-pattern (fig. 93) the same, but there is a third hyaline indentation in the second posterior cell, between the two of the preceding forms; third posterior cell without terminal hyaline indentation. No additional hyaline spots in first basal, first posterior, or discal cells. *S. tristis*, which has also three hyaline indentations of the second posterior cell, is different in having two hyaline indentations and one hyaline spot in the third posterior cell; the femora are, moreover, distinctly darkened, almost blackish.

SPHENELLA, Robineau-Desvoidy, 1830.

Even this genus is an artificial one, being distinguished mainly on wing-pattern from the following one. I have omitted reference to it in my previous papers, having overlooked the species published by myself in *Denkschrift. med.-naturwiss. Ges. Jena*, 1908, xiii, p. 193. The South African species are as follows:—

1. (4) Face, antennae, and femora quite yellowish.
2. (3) Pterostigma with a yellowish spot at end; apical fuscous patch with a tooth-like prolongation at third vein *marginata*, Fall.
3. (2) Wings with entirely black stigma and without the above-named prolongation
melanostigma, Bezzi.
4. (1) Face and antennae quite black; femora with broadly black base
nigricornis, sp. nov.

Sphenella marginata, Fallén, 1820.

(Pl. XIV, fig. 94.)

This European species is widely spread over the whole Ethiopian region.

Cape Town, September 1913 (L. Peringuey); Cedarbergen, Clanwilliam Dist., 4000–5000 ft., September 1923 (K. H. Barnard); E. Transvaal, Acornhoek, November 1918 (R. W. Tucker); Knysna, Cape Province, October 1916 (L. Peringuey); Durban, September 1920 (C. v. d. Merwe); Gt. Winterhoek, Tulbagh Division, 3800 ft., April 1916 (R. M. Lightfoot); East London, Bloemfontein, Peddie, May–December (H. K. Munro).

Sphenella melanostigma, Bezzi, 1908.

(Pl. XIV, fig. 95.)

Probably only a variety of the preceding species, distinguished by the quite black unspotted stigma, by the wing-bands destitute of hyaline spots, and by the single fuscous spot along the fifth vein.

From *indica*, Schiner, it is distinguished by lacking the fuscous tooth at the apical fuscous patch of the wings (fig. 95).

Described by me in the female sex from Namaland. I have seen a female specimen from Pretoria, November 1917 (H. K. Munro).

Sphenella nigricornis, sp. nov.

Very distinct from all the other species on account of the black antennae and of the black base of femora, the wing-pattern being very like that of *melanostigma*.

Type ♂, a single specimen from N. Transvaal, Messina, December 1918 (R. W. Tucker).

♂. Length of body and wing, 3 mm. Occiput reddish, but more pale yellowish below. Frons twice as long as broad, distinctly narrowed in front, entirely reddish, opaque, with dark ocellar spot; lunula infuscated. Face narrow, blackish, with little prominent mouth border; parafacialia and peristomialia narrow, pale yellowish, unspotted. Antennae a little shorter than the face, entirely black; third joint truncate at end, but with the upper outer corner acute; arista bare. Palpi and proboscis yellowish, the latter with the terminal recurrent part a little shorter than the basal one. Ocp. whitish; oc. and or. blackish; only two i. or. Thorax black, opaque, dark grey dusted, but the humeri and the pleural sutures reddish; pubescence whitish, bristles black. Scutellum entirely yellowish, with four equally strong black bristles. Calypters white; halteres pale yellowish. Abdomen black, grey dusted, opaque, the last segment reddish behind; it is clothed with rather thick yellowish pubescence; genitalia reddish, black spotted above at base. Legs with blackish-grey coxae and femora; tips of the latter, tibiae, and tarsi yellowish. Wings with small costal bristle; last portions of second, third, and fourth veins quite straight and parallel; third vein bare; cross-veins approximated, their distance apart being less than the length of the small cross-vein. They are hyaline, with blackish, unspotted stigma; costal cells infuscated; middle band complete, equally extended from the costa to the hind border of wing, quite unspotted; marginal apical patch isolated, entire, without projecting tooth, and quite unspotted. Lower angle of anal cell acute and rather produced.

ENSINA, Robineau-Desvoidy, 1830.

An artificial agglomeration of species, chiefly based on the prolongation of the proboscis, which has the terminal portion longer,

or at least as long as the basal one. We have seen the following numerous species from South Africa :—

1. (2) Head depressed, much longer than broad, with very broad parafacialia ; four equally strong set. ; wing-pattern *Aciura*-like *barnardi*, sp. nov.
2. (1) Head not so depressed, and with much narrower parafacialia ; wings without such a pattern.
3. (8) Scutellum with two bristles only ; two i. or. ; wings with faint and scattered reticulation.
4. (5) Head depressed and elongate ; femora yellowish, with more or less broad black base *sororcula*, Wied.
5. (4) Head not so depressed, nor so elongate ; femora black, with tips narrowly yellow, even those of the front pair.
6. (7) Femora rather broadly yellow at tip ; hind tibiae yellowish ; ovipositor as long as the body ; length 3 mm. *gladiatrix*, Bezzi.
7. (6) Femora almost entirely black ; hind tibiae broadly black ; smaller species, not over 2 mm. in length *liliputiana*, sp. nov.
8. (3) Scutellum with four bristles.
9. (20) A. set. much smaller than the b. set. ; palpi rather narrow and of usual shape ; frontal stripe usually entire.
10. (11) Wings quite hyaline, without any dark pattern, only the stigma being pale yellowish ; proboscis about as long as the entire body ; femora black *hyalipennis*, sp. nov.
11. (10) Wings with a well-developed dark pattern.
12. (17) Wings distinctly more banded than reticulate ; discoidal cell almost entirely hyaline.
13. (16) No hyaline spot at end of first posterior cell ; wing-bands well marked.
14. (15) Marginal cell with three hyaline spots *anceps*, Loew.
15. (14) Marginal cell with two spots only, the terminal one quite wanting or very faintly developed *fasciolata*, var. nov.
16. (13) One hyaline spot at end of first posterior cell ; wing-bands less differentiated *myiopitoides*, Bezzi.
17. (12) Wings more reticulate than banded ; discoidal cell with more extended dark pattern ; all the femora black, with yellowish tips.
18. (19) Stigma unspotted *ignobilis*, Loew.
19. (18) Stigma with a broad, yellowish hyaline spot *plebeja*, var. nov.
20. (9) A. set. about as long as the b. set. ; palpi unusually developed, very broad ; frontal stripe divided by a whitish line.
21. (26) Wings with numerous, rather broad hyaline spots.
22. (25) The fuscous part of wing in the shape of two distinct broad bands, one in middle, the other at end ; only a few hyaline dots along the second vein.
23. (24) Stigma black, with narrow yellowish irregular spot at end ; second costal cell black, with only one hyaline spot at end *dubia*, Walk.
24. (23) Stigma black, with regular hyaline spot at end ; second costal cell with two rounded hyaline spots *magnipalpis*, Bezzi.
25. (22) No differentiated dark bands : very numerous hyaline dots along the second vein *hieroglyphica*, sp. nov.
26. (21) Wings with not numerous and very small hyaline dots in the middle, and with some broader spots along the border *cribripennis*, Bezzi.

Ensina barnardi, sp. nov.

(Pl. XIV. fig. 96.)

A robust species, very distinct from all the others in shape of head and in wing-pattern; probably requiring the erection of a new genus.

Type ♀. Narebis and Otjikoto, South-West Africa, February 1921 (K. H. Barnard); named in honour of its discoverer.

♀. Length of body and wing, 5 mm.; of ovipositor, 1 mm. Head very depressed and elongate, in side view about twice longer than high; eyes proportionately small, rounded. Occiput black in the middle above the neck, yellowish at sides and below. Frons very elongate, with parallel sides, about three times longer than broad, flat, but in profile prominent on the distal third; it is reddish along the middle in the apical half, greyish at sides and on basal half, entirely opaque, with small black ocellar dot; lunula of very large size, elongate, greyish red. Face narrow and short, whitish; mouth border exceedingly prominent, channel-like; parafacialia whitish, unusually broad, about as broad as the third antennal joint, peristomialia whitish, narrow, unspotted; lower border of head very long. Antennae as long as the face, entirely yellowish, with the third joint acute and prominent at upper outer corner; arista bare. Palpi whitish, flattened but narrow, and not spathulate; proboscis yellowish, very long, about as long as the entire body, with the terminal part as long as the basal. Ocp. whitish and thick; oc., vt., and or. dark yellowish; three i. or. Thorax elongate, entirely black, dark grey dusted, opaque, with reddish humeri and wing-root; pubescence whitish; all the bristles pale yellowish; dc. near the suture; one mpl. Scutellum entirely blackish grey, with four equally strong pale yellowish bristles. Mesophragma grey; calypters whitish; halteres yellowish. Abdomen entirely black, dark grey dusted; ovipositor shining black, as long as the two last segments. Legs entirely yellowish, but the front femora blackish grey on the basal half. Wings (fig. 96) with distinct costal bristle; first posterior cell distinctly narrowed at end, the last portion of third vein curving downward towards the end; third vein bare; cross-veins parallel and approximated, the distance between them being about equal to the length of the small cross-vein; lower angle of anal cell acute, but little produced. They are whitish hyaline, with a black, *Aciura*-like pattern; veins blackish at end, pale yellowish near the base. The wing-base is broadly hyaline to the stigma and quite unspotted;

stigma entirely black. Just beyond the stigma there are two equal, triangular, hyaline indentations, with their rounded apex at third vein; moreover, there is a rounded hyaline spot before the end of the marginal cell and another before the end of the submarginal cell. First basal cell unspotted; first posterior cell with two hyaline rounded spots in the middle, nearer the fourth vein, the internal one twice as broad as the external; second posterior cell with three broad, parallel, obtuse, hyaline indentations, the middle one extending to the fourth vein. Discoidal cell with a broad, rounded hyaline spot near the base, extending from fourth to fifth vein, and one or two smaller other spots, of which the middle one is often of an elongate shape; third posterior cell with two broad hyaline indentations, in part fused together, and having an isolated brown spot between them, and, moreover, with a rounded hyaline spot at end, just below the hind cross-vein; the small cross-vein and the upper end of the hind cross-vein are narrowly margined with yellowish hyaline.

Ensina sororcula, Wiedemann, 1830.

(Pl. XIV, fig. 97.)

Numerous specimens of both sexes of this common and widely spread species, Salisbury, S. Rhodesia, May 1917 (R. W. Tucker); Onambeke, Andoni, Tamansu, S.W. Africa, March 1923 (K. H. Barnard); East London, July 1914 (R. M. Lightfoot); Natal, Durban, July 1921 (R. M. Lightfoot); Gaub, S.W. Africa, December 1919 (R. W. Tucker); Durban, August 1920 (C. v. d. Merwe); East London, Prospect, Pretoria, Barberton, Irene, Peddie (H. K. Munro).

Ensina gladiatrix, Bezzi, 1920.

(Pl. XIV, fig. 98.)

Distinguished from preceding species in the form of head, which is not depressed, and in the black femora, which have only the extreme tip yellow, even those of the front pair.

One male specimen from Gt. Winterhoek (Tulbagh Division), 3800 ft., April 1916 (R. M. Lightfoot); East London, July 1922 (H. K. Munro).

The as yet undescribed male is like the female: the third antennal joint is not infuscated: the abdomen has two longitudinal rows of broad, blackish spots: the genitalia are black, of proportionately great size and rather prominent.

Ensina liliputiana, sp. nov.

(Pl. XIV, fig. 99.)

Nearly allied with the preceding, but of much smaller size, with darker legs and with shorter ovipositor.

Some specimens of both sexes from Prospect, C.P., October 1922 (H. K. Munro).

♂♀. Length of body and wing, 1.8–2 mm.; of ovipositor, 0.7 mm. Head not depressed, with short lower border. Occiput entirely black, dark grey dusted. Frons about as broad as long, distinctly narrowed in front, reddish opaque, with whitish sides and with blackish ocellar spot; lunula small. Face pale yellowish; the linear parafacialia and the peristomialia are whitish, unspotted. Antennae entirely yellowish, only a little shorter than the face; third joint with acute upper outer corner; arista short, bare. Mouth border not prominent; palpi and proboscis yellowish, the latter with the terminal part about as long as the basal. Ocp. whitish; vt., oc., and or. blackish; two i. or. Thorax black, grey dusted, opaque; on the back there are three narrow postsutural dark stripes, fused together to form a praescutellar patch; pubescence pale yellowish; bristles black; dc. much before the line of a. sa. Scutellum entirely black, grey dusted, with only the b. set. Halteres pale yellowish. Abdomen black, grey dusted, with pale yellowish pubescence; male genitalia black; ovipositor shining black, about as long as the whole abdomen. Legs with black coxae and femora, the latter with very narrowly yellow tips; tibiae and tarsi yellowish, but the hind tibiae broadly blackish in the middle. Wings the same as those of *sororcula*, and with about the same faint pattern; stigma black; lower angle of anal cell less acute (fig. 99).

Ensina hyalipennis, sp. nov.

Distinct from any other known species on account of its quite hyaline wings, which lack any dark pattern; in the allied species *evanida*, Bezzi, from Abyssinia, and *siphonina*, Bezzi, from British East Africa, the wing-pattern is always distinct, even if more or less faintly indicated.

Type ♀, a single specimen from Cape, Cedarbergen, Clanwilliam, 4000–5000 ft., September 1923 (K. H. Barnard).

♀. Length of body and wing, 2.5 mm.; of ovipositor, 0.7 mm. Head a little depressed and rather elongate; occiput black, with dark

grey dust. Frons parallel sided, a little narrowed in front, not quite twice as long as broad; it is yellow in the middle, white near the eyes, grey at vertex, with a black ocellar spot; lunula white. Face yellowish, with much prominent mouth border; parafacialia and peristomialia narrow, whitish; lower border of head long. Antennae yellow, as long as the face; third joint obtuse at end, with blackish, bare arista. Palpi very long and narrow, whitish, nearly bare; proboscis as long as the body, pale yellowish, its basal part much longer than the palpi, twice as long as the head, the terminal part about as long as the basal; ocp., pvt., and outer vt. white; inner vt. and or. blackish; two i. or. Thorax black, but densely clothed with opaque grey dust, which is paler on pleurae; the pubescence whitish; bristles black; dc. at suture; one mpl., black, pt. whitish. Scutellum like back, but yellowish at hind border, with four black bristles, the apical pair decussate and much smaller than the basal. Halteres pale yellowish. Abdomen black, grey dusted, with rather long, pale yellowish pubescence; ovipositor shining black. Legs with black coxae and black femora; tips of femora, tibiae, and tarsi yellowish; bristles of front femora pale yellowish and thin. Wings hyaline, quite unspotted, even the stigma being very faintly yellowish. Costal bristle small; stigma longer than broad. The veins are yellowish, only the costa and the ends being darkened. Last portions of third and fourth veins straight and parallel; hind cross-vein straight and perpendicular, its distance from the small one about as long as its own length; small cross-vein beyond the middle of the elongate discoidal cell; lower angle of the anal cell acute, but little produced; sixth vein reaching the hind border; third vein quite bare.

Ensina anceps, Loew, 1861.

Wanting in the present collection, all the specimens belonging to the following form.

Ensina anceps, var. *fasciolata*, var. nov.

(Pl. XIV, fig. 100.)

Distinguished from the type by the want of the third hyaline spot in the marginal cell, or sometimes with only a small dot at its place (fig. 100).

One male specimen, Krantzkop, Natal, November 1917 (K. H. Barnard); both sexes, Matroosberg, Ceres Division, 3500 ft., and

Oudebosch, Caledon Division, November–December (R. M. Lightfoot); Prospect, Grootfontein (H. K. Munro).

Ensina myiopitoides, Bezzi, 1908.

(Pl. XIV, fig. 101.)

Allied with the preceding, but with less differentiated wing-bands, and with a hyaline spot at end of first posterior cell. In this last character it agrees with the following species, of which it is perhaps a variety with reduced and variable wing-pattern (fig. 101).

One female from Cape, determined by Bigot as *Tephritis hottentot*, an unpublished name; Gt. Winterhoek, Tulbagh Division, 4500 ft., November, Matroosberg, Ceres Division, 3500 ft., November (R. M. Lightfoot); Hottentots Holland Mts., 4000 ft., Caledon Division, Zonder End Peak, 4600 ft., French Hoek, 2500–3600 ft., December (K. H. Barnard); Narebis, South-West Africa, February 1921 (K. H. Barnard).

Ensina ignobilis, Loew, 1861.

The typical form, with quite unspotted pterostigma. Gt. Winterhoek, Tulbagh, 3800 ft., April 1916 (R. M. Lightfoot); Matroosberg, Ceres Division, 3500 ft., November 1917 (R. M. Lightfoot); Cedarbergen, 4000–5000 ft., September 1923 (K. H. Barnard).

Ensina ignobilis, var. *plebeja*, var. nov.

(Pl. XIV, fig. 102.)

Distinguished by the yellowish hyaline spot of pterostigma; but the character is variable, one wing having sometimes the spot, while in the same specimen the other wing is without it. Even the Indian species *lyncea*, Bezzi, 1913, is allied.

Cape Town, 1915 (L. Peringuey); Table Mt., February 1919 (R. W. Tucker); Cedarbergen, September 1923 (K. H. Barnard); East London, Pretoria (H. K. Munro).

Ensina dubia, Walker, 1853.

(Pl. XV, fig. 103.)

Very distinct by the characteristic wing-pattern. Cape Town, January 1913 (R. M. Lightfoot); Table Mt., 2500 ft., December 1918 (K. H. Barnard); Oudebosch, Caledon Division, December 1920 (K. H. Barnard).

To Loew's good description must be added: Only two i. or.; dc. at suture; one mpl.; a. sct. as strong as the b. sct.; pleurae light grey, brown at upper border of mesopleura, thus forming a

stripe. Last abdominal segment reddish behind; ovipositor reddish, narrowly black at tip, as long as the two last abdominal segments together; male genitalia reddish. Front femora with a row of six or seven whitish bristles below. Last portions of third and fourth vein parallel; distance between the cross-veins less than the length of hind cross-vein; lower angle of anal cell acute, but little produced. Costal cells wholly infuscated, with a hyaline spot of irregular shape at end; only a few hyaline dots along the second longitudinal vein (fig. 103). Halteres yellowish.

Ensina magnipalpis, Bezzi, 1920.

(Pl. XV, fig. 104.)

Nearly allied with the preceding, but with a somewhat different wing-pattern (fig. 104). One female specimen, Kimberley, 1912 (J. H. Power); originally described from Durban.

Ensina hieroglyphica, sp. nov.

(Pl. XV, fig. 105.)

Distinct from both the preceding species in the more numerous hyaline spots of wings.

Type ♀ from Cape, without precise locality; some specimens of both sexes from East London, July 1921 (H. K. Munro).

♂♀. Length of body and wing, 4 mm.; of ovipositor, 0.6 mm. Head, its appendages, and chaetotaxy exactly as in *dubia*; thorax, scutellum, and abdomen likewise. Legs with more broadly darkened femora. Wings (fig. 105) with the same venation, but with a different pattern. The broad ocellar spots are more numerous and closer together, the two dark bands of *dubia* being thus not differentiated. The stigma has one definite, rounded, hyaline spot before the end. The costal cells show some hyaline spots along the costa, two of which are larger, and, moreover, a row of small dots along the first vein. Characteristic are the numerous and closely placed hyaline dots, disposed in two irregular rows on each side of the second longitudinal vein.

Ensina cribripennis, Bezzi, 1924.

(Pl. XV, fig. 106.)

Distinct from the three preceding species in having the hyaline spots of the wing much smaller and scattered (fig. 106).

Recently described from a specimen from East London in the Paris Museum.

EURIBIA, Meigen, 1800.

The generally accepted name for the present genus is that of *Tephritis*, but I have followed Professor Hendel in retaining *Euribia*. The following are the species at present known from South Africa, including those previously placed in *Oxya* by some authors:—

1. (2) Pterostigma very small, shorter than high; wing-pattern radiating at end; only two scutellar bristles *tuckeri*, sp. nov.
2. (1) Pterostigma of normal shape, longer than high; wing-pattern not radiating at end; four set.
3. (4) Wings with quite black stigma and with a broad black border, in which are included a few sharply defined hyaline marginal spots
 *praetexta*, Loew.
4. (3) Wings not so patterned, and with spotted stigma.
5. (6) Stigma with one hyaline spot in the middle; back of mesonotum cinereous, with a broad brown stripe along the middle *peringueyi*, sp. nov.
6. (5) Stigma with yellowish base; back not at all striped, or with three narrow stripes.
7. (8) No hyaline spot at end of first posterior cell *lightfooti*, sp. nov.
8. (7) A hyaline spot at end of first posterior cell.
9. (10) Wings with a distinct dark band across the middle and with the terminal hyaline spot of the first posterior cell proportionately small
 *caffra*, Loew.
10. (9) Wings with a diffuse reticulation in the middle and with the above-named spot much larger *dissoluta*, Loew.

Euribia tuckeri, sp. nov.

(Pl. XV, fig. 107.)

A remarkably distinct species on account of its very short stigma, which is unique among the species of the present genus. On account of this character and of the radiating pattern, one would place the species in the genus *Trypanea*, but the fuscous reticulation is extended to the base.

Type ♂, a single specimen from E. Transvaal, Komati Poort, November 1918 (R. W. Tucker); named in honour of the discoverer. But I have seen the species also from Madagascar, and thus it seems to be widely spread.

♂. Length of body and wing, 3.6 mm. Occiput pale yellowish, blackish grey towards the middle. Frons very broad, flat, even broader than long, entirely whitish yellow, opaque, with a small black ocellar dot and with lighter sides; lunula short but broad, whitish. Antennae pale yellowish, a little shorter than the face; third joint about as long as the second, rounded at end, but with the

upper outer corner distinctly acute; arista bare. Face and peristomialia whitish, the latter narrow and unspotted. Palpi whitish; proboscis yellowish, short, and thick, with the terminal part not prolonged. Ocp. whitish; vt., oc., and or. yellowish; only two i. or. Thorax entirely black, but densely clothed with light grey opaque dust, without any pattern; bristles yellowish, darkened at base, while the short pubescence is whitish; dc. near the suture; one mpl. Scutellum like back, with only the b. sct., which are yellowish. Halteres pale yellowish. Abdomen entirely black, but densely grey dusted like the mesonotum. Coxae and legs entirely pale yellowish; front femora with a row of three yellowish bristles below. Wings (fig. 107) proportionately short, with small costal bristle; second vein a little wavy in the middle; last portions of third and fourth veins gradually diverging; third vein bare; cross-veins approximated, their distance apart being less than the length of the small cross-vein, which is placed on the distal fifth of the discoidal cell; lower angle of the anal cell acute, but not produced; hind cross-vein curved outwardly. Stigma very short, being about as long above as high; it is yellowish on basal part, blackish on terminal part. Veins yellowish, darkened outwardly. Base of wing hyaline to the basal cross-veins, with only one dark spot in middle of the second costal cell. Marginal cell with three broad hyaline spots at base, one following the other and the middle one being larger; moreover, there is a smaller hyaline spot just before the end. Submarginal cell broadly hyaline at base, with a rounded hyaline spot in the middle, just above the small cross-vein, and with two spots at end, the superior one larger. First basal cell with three, partly confluent, rounded hyaline spots of greater size. First posterior cell with two small spots in middle, one above the upper end of the hind cross-vein, the other in the middle, followed by two spots of greater size placed one above the other, and, moreover, with a broad terminal spot, the blackish pattern being thus radiating; discoidal cell with three broad hyaline spots; second posterior cell with three broad spots at border and with two smaller ones in the middle; third posterior cell with one before the end, and several others, in part confluent, at base. Axillary lobe hyaline, with a brown spot in middle at sixth vein.

Euribia praetexta, Loew, 1861.

(Pl. XV, fig. 108.)

Very distinct from all the other species on account of its very characteristic wing-pattern. Some specimens of both sexes from

Salisbury, S. Rhodesia, May 1917 (R. W. Tucker); same locality (D. Dodds).

To Loew's original description may be added: Ocp. whitish; vt., oc., and or. blackish; two i. or. Peristomialia unspotted, as broad as the third antennal joint; frons distinctly longer than broad. Dc. near the suture; one mpl.; a. sct. about as long as the b. sct.; mesophragma black, grey dusted. Ovipositor shining red, dark pubescent, about as long as the entire abdomen. Front femora with four or five yellowish bristles below. Marginal cell with two or three hyaline spots, the middle one often wanting; second posterior cell with two or three small hyaline spots, besides the three larger marginal ones. Second costal cell black, with one terminal and often with another basal hyaline spot at wing-border (fig. 108).

It is possible that *cyana*, Walker, 1849, may be the present species.

Euribia peringueyi, sp. nov.

(Pl. XV, fig. 109.)

A small, elegant species, distinct by the peculiar coloration of the back of mesonotum.

Type ♀, a single specimen from Cape Town, September 1913, L. Peringuey, in whose honour it is named.

♂. Length of body, 2.5 mm.; of wing, 3 mm. Occiput black, grey dusted, narrowly yellowish at border of eyes. Frons broad, flat, about as long as broad, entirely and uniformly pale yellowish, opaque. Antennae reddish yellow, shorter than the face; third joint rounded at end, but with the upper corner rather acute; arista bare. Face and peristomialia whitish yellow, the latter narrow, unspotted. Mouth opening broad; palpi pale yellowish, proboscis yellowish, with short terminal flaps. Ocp. whitish; vt., oc., and or. blackish; two i. or. Thorax short and broad, subquadrate, convex, entirely black, but densely clothed with light grey opaque dust; along the middle of back there is a broad, brown stripe, as broad as the space between the dc., extending equally from in front, a little above the not dusted postcephalic patch, to the scutellum, and continued also on this latter; the short pubescence is pale yellowish on the back, white on the pleurae; bristles black, the dc. near the suture. Scutellum narrowly grey at sides, with four bristles, but the apical much smaller than the basal ones. Mesophragma convex, densely grey dusted. Halteres blackish. Abdomen narrower than, but about as long as, the thorax; it is entirely black, grey dusted, opaque, with

two blackish stripes formed by confluent spots ; pubescence whitish ; terminal bristles black, venter and genitalia black. Legs rather short and stout ; coxae and femora black, grey dusted ; tips of femora, tibiae, and tarsi yellowish ; front femora with two or three blackish bristles below. Wings long (fig. 109), with small costal bristle ; last portions of third and fourth veins straight and parallel ; small cross-vein beyond the middle of the discoidal cell, its distance from the hind one being a little longer than the hind cross-vein ; lower angle of anal cell acute but little produced. Veins black, narrowly yellowish at base ; third vein bare. Stigma elongate, black, with a rounded, yellowish hyaline spot in the middle. The dark reticulation is rather faint and diffuse. Wing-base hyaline ; marginal cell with three hyaline spots, the basal one larger ; submarginal cell with six spots, the two last formed by two confluent spots ; first basal cell with three confluent spots ; first posterior cell with eight spots in two rows and, moreover, with a small one at end ; second posterior cell with three marginal spots and another larger at inner corner ; discoidal cell with five spots, one basal, the others in two confluent pairs ; third posterior cell with five or six indefinite and partly confluent spots.

Euribia lightfooti, sp. nov.

(Pl. XV, fig. 110.)

Distinct by having a broad fuscous patch at end of wing, without the usual hyaline spot at end of first posterior cell.

Type ♂ and type ♀ from East London, July 1914 (R. M. Lightfoot), and named in his honour ; some additional specimens from Barberton, May 1914 (H. K. Munro).

♂♀. Length of body and wing, 3.5–3.6 mm. ; of ovipositor, 1 mm. Occiput yellowish, with a black spot in the middle, above the neck. Frons a little longer than broad, entirely reddish, opaque ; ocellar dot black ; lunula whitish. Face and peristomialia yellowish, the latter unspotted. Antennae entirely yellowish, shorter than the face ; third joint about as long as the second, obtuse at end ; arista bare. Palpi short, whitish, with yellowish end ; proboscis yellowish, elongate, but with short terminal portion. Ocp. whitish ; vt., oc., and or. dark yellowish ; two i. or. Thorax black, grey dusted, opaque, with yellowish humeri and pleural sutures ; pubescence pale yellowish ; bristles dark yellowish or blackish ; dc. much before the line of the a. sa. Scutellum yellowish, narrowly darkened at sides near the base, with four bristles, all dark yellowish, the apical pair a little smaller.

Mesophragma black, grey dusted; halteres pale yellowish. Abdomen yellowish, with two rows of broad, black, grey dusted spots, which extends almost on the whole of the dorsal surface; pubescence pale yellowish; terminal bristles dark yellowish; genitalia and venter yellowish; ovipositor broad, flat, as long as the two last abdominal segments, reddish, with black tip. Coxae and legs entirely yellowish, unspotted; front femora below, with a row of three or four yellowish bristles. Wings (fig. 110) long, with very small or indistinct costal bristle; second vein straight, third bare, last portions of third and fourth straight and parallel; small cross-vein beyond middle of discoidal cell, its distance from the hind one being a little longer than the hind cross-vein; lower angle of the anal cell acute but little produced. Stigma black, with yellowish hyaline base. The fuscous reticulation is complete; base yellowish hyaline, with some faintly infuscated spots. Marginal cell with hyaline base, with two larger hyaline spots beyond the stigma and with another smaller rounded one before the end; submarginal cell with hyaline base and with eight hyaline spots, two of which are before the end, one above the other; first basal cell with three spots; first posterior cell with two larger spots at base and with six others in two rows in the middle, the lower ones broader, entirely black at end; discoidal cell with five or six spots, the terminal ones disposed in two rows; second posterior cell with three or four spots along the border and with one or two, often confluent, in the middle; third posterior cell with five to seven faint and partly confluent spots; axillary lobe with four or five less distinct spots.

Euribia caffra, Loew, 1861.

(Pl. XV, fig. 111.)

Distinct by the two differentiated fuscous bands of the wing, and from the preceding one by the small hyaline spot at end of first posterior cell (fig. 111).

One male specimen from Bulawayo; same specimens from Pretoria, November 1917 (H. K. Munro).

To Loew's description may be added: Eyes in life light brown, with greenish tinge. Occiput black in the middle, densely grey dusted, with yellowish border; two i. or.; frons one and one-half times longer than broad; lunula short, whitish yellow. Back of mesonotum with three narrow dark stripes, evanescent behind, the middle one less developed; dc. not much before the line of the a. sa.; one mpl.; a. set. only a little smaller than the b. set. Mesophragma black, with

a whitish dusted transverse band in the middle. Halteres whitish. Abdomen with the hind borders of the segments often yellowish at sides; the blackish dorsal spots are small. Ovipositor broad, flat, shining reddish, with black base and black tip, as long as the two last abdominal segments together. Front femora with four or five blackish bristles below. Veins yellowish; last portions of third and fourth straight and parallel; distance between the cross-veins less than the length of the hind cross-vein; lower angle of anal cell acute and rather produced.

Euribia dissoluta, Loew, 1861.

I have never succeeded in finding what could be this species, though I think that my *tristrigata* from Central Africa may be a form of it. Even the Indian *spiloptera*, Bezzi, 1913, seems to be very nearly allied.

CAMPIGLOSSA, Rondani, 1870.

Campiglossa perspicillata, Bezzi, 1918.

(Pl. XV, fig. 114.)

One female specimen, Gt. Winterhoek, Tulbagh Division, 3000 ft., April 1916 (R. M. Lightfoot); Prospect, C.P., October 1922 (H. K. Munro).

CAMAROMYIA, Hendel, 1914.

Camaromyia helva, Loew, 1861.

(Pl. XV, fig. 113.)

One female specimen, Krantzkop, Natal, November 1917 (K. H. Barnard); Cape Flats, December 1900 (C. P. Lounsbury).

The ovipositor is short and flattened, but the shape of head and the wing-pattern are typical. To Loew's description may be added: Frons about as broad as long; two i. or. De. much before the line of the a. sa.; one mpl., but below this there is another bristle shorter and whitish; a. set. about as long as the b. set.; halteres pale yellowish. Front femora with six or seven yellowish bristles below. Second vein quite straight; last portions of third and fourth veins parallel; the distance between the cross-veins is about equal to the length of the hind cross-vein. Lower angle of anal cell acute but not produced (fig. 113).

ACANTHIOPHILUS, Becker, 1908.

There are only two South African species of this "genus," very easily distinguished by their very different wing-pattern.

Acanthiophilus ochraceus, Loew, 1861.

(Pl. XV, fig. 112.)

One specimen from Peddie, December 1921, and another from Pretoria, January 1923 (H. K. Munro). To Loew's description may be added: Two i. or.; proboscis with the terminal part shorter than the basal one. Mesonotum short and broad, nearly quadrate; dc. before the line of a. sa. Front femora with three or four yellowish bristles below. Wing-pattern (fig. 112), with faint reticulation, but with three blackish spots in the marginal cell, and with a broad apical spot, without hyaline dots, extending across the ends of submarginal and of first posterior cell. Third and fourth veins parallel; distance between the cross-veins less than the length of hind cross-vein; lower angle of anal cell acute and rather produced. Stigma black, narrowly hyaline yellowish at the base, while Loew says that it has a middle hyaline spot, well shown in the figure.

Acanthiophilus muiri, Bezzi, 1924.

(Pl. XV, fig. 115.)

Some specimens from East London, March 1923, bred from galls on *Brachylaena elliptica*, Less.

The male is like the female; the last abdominal segment is not bristly, only with whitish hairs; genitalia blackish, concealed. Back of mesonotum not striped. Characteristic is the hyaline streak along the costa just beyond the stigma, very like that observed in *Afreutreta bipunctata*, Loew. The hyaline dots at base of first posterior cell vary in number from one to two. The faint reticulation in the third posterior cell and in the axillary cell is always distinct (fig. 115).

TRYPANEA, Schrank, 1795.

There are in South Africa very numerous species and forms of this genus, distinguishable as follows:—

1. (8) Pterostigma very short, higher than long, or nearly as long as high.
2. (3) Proboscis long and bicubitate; pterostigma black, and united with the black terminal pattern *rivularis*, sp. nov.
3. (2) Proboscis short and not bicubitate.
4. (7) Pterostigma not united with the terminal pattern; basal hyaline spot of the first posterior cell broad.
5. (6) Discoidal cell with a faintly infuscated band across the middle
peregrina, Ad.

6. (5) Discoidal cell without such a band *mundella*, var. nov.
7. (4) Stigma united ; basal hyaline spot narrow, fuscous reticulation extending to the basal cross-veins *tuckeri*, Bezzi.*
8. (1) Pterostigma of usual shape, distinctly and usually two or three times longer than high.
9. (20) Pterostigma usually black, and always united with the terminal black pattern, even if it is hyaline ; hyaline spot at base of first posterior cell always small.
10. (15) The black pattern is extended towards the base of wing to the second basal cell and below into the discoidal cell ; only two set. ; proboscis bicubitate.
11. (14) Wings of male with a " bulla " in the first posterior cell ; pterostigma hyaline.
12. (13) Dark stripe of the discoidal cell narrow, not extending to the middle of the cell ; first basal cell unspotted *bulligera*, sp. nov.
13. (12) The above-named stripe extended beyond the middle of discoidal cell ; first basal cell with hyaline spot *bullosa*, var. nov.
14. (11) Male wings destitute of " bulla " ; stigma infuscated along fore border *euarestina*, sp. nov.
15. (10) Black terminal pattern of wings ending much before the second basal cell.
16. (17) Proboscis short and simple ; four set. ; a tooth-like black stripe in the first basal cell along the third vein *dentiens*, sp. nov.
17. (16) Proboscis long and bicubitate.
18. (19) Only two set. ; no black stripe in the first basal cell *confluens*, Wied.
19. (18) Four set. ; a black stripe into the first basal cell *auguralis*, Bezzi.
20. (9) Pterostigma always hyaline or at most pale yellowish, not united with the black terminal pattern ; proboscis always short and simple.
21. (30) Four set. ; apical dark fork of wings usually present.
22. (27) Wings with the usual dark terminal fork.
23. (26) There is a yellowish patch around the small cross-vein ; basal half of wing quite hyaline.
24. (25) End of discoidal cell with two fuscous rays ; submarginal cell with rounded hyaline spot just above the small cross-vein *lutescens*, sp. nov.
25. (24) End of discoidal cell without fuscous rays ; submarginal cell with no rounded complete spot *arrhiza*, var. nov.
26. (23) No yellowish patch around the small cross-vein ; basal half of wing with faded reticulation *furcatella*, var. nov.
27. (22) Wings without complete terminal fork, the lower ray only being present ; basal hyaline spot of first posterior cell broad.
28. (29) Basal half of wing with a faded reticulation ; abdomen reddish at base *pulchella*, sp. nov.
29. (28) Basal half of wing quite hyaline ; abdomen not red *mutila*, sp. nov.
30. (21) Only two set. ; apical fork incomplete or quite wanting.
31. (32) Lower ray of apical fork complete ; a black spot at end of third vein *superdecora*, sp. nov.
32. (31) Lower ray quite wanting or very abbreviated, never extended to the wing-border ; no black spot at end of third vein.

* Repeated here for comparison ; see in the genus *Euribia*.

33. (36) Terminal fuscous spot much reduced, sending no fuscous rays into the second posterior cell *bisreducta*, sp. nov.
 34. (33) Terminal spot sending two fuscous rays into the second posterior cell.
 35. (36) Species of greater size, with a peculiar pattern into the terminal half of the discoidal cell; bristles black *diversa*, Wied.
 36. (35) Smaller species, without such a pattern at end of discoidal cell and with yellowish bristles *decora*, Loew.

Trypanea rivularis, sp. nov.

(Pl. XV, fig. 116.)

Very distinct among the species with shortened stigma, on account of its long and bicubitate proboscis and of its peculiar wing-pattern.

Type ♂, Matroosberg, Ceres Division, 5000 ft., November 1917; type ♀, Gt. Winterhoek, Tulbagh Division, 4500 ft., November 1916 (R. M. Lightfoot).

♂♀. Length of body, 2.5–2.8 mm.; of wing, 2.8–3 mm.; of ovipositor, 0.8 mm. Head as depressed as in *Ensina* s. str.; occiput pale yellowish, with a rounded, black patch in the middle. Frons flat, very broad, gradually narrowed in front, about as broad as long; it is opaque yellowish, with whitish orbits and with a small, whitish ocellar triangle bearing a blackish dot; lunula whitish. Face short, whitish, with very prominent mouth border; peristomialia narrow, white, unspotted. Antennae entirely yellowish, short, but as long as the face; third joint with sharp, prominent upper corner; arista bare, with thickened base. Lower border of head long; eyes elongated, with the greatest diameter horizontal; mouth opening broadly oval; palpi whitish; proboscis yellowish, elongate, its basal part a little longer than the mouth, the terminal part a little shorter than the basal one. Ocp. white; inner vt., oc., and or. dark yellowish; two i. or. Thorax black, densely clothed with opaque, cinereous dust; humeri and notopleural sutures a little yellowish; pubescence pale yellowish; bristles dark yellowish; dc. much before the line of a. sa. Scutellum like back, with reddish hind border and with only the b. set., which are inserted on small black dots. Halteres whitish. Abdomen cinereous, with pale yellowish pubescence; hind border of the segments narrowly reddish in the female; last segment of the male as long as the two preceding segments; ovipositor shining black, only a little shorter than the abdomen. Legs slender, entirely pale yellowish; front femora with three or four yellowish bristles; spur of middle tibiae yellowish. Wings (fig. 116) with small costal bristle and with very short stigma,

which is twice as high as long; second vein short and turned up at end; third and fourth veins very divergent at end, the third being upturned at end, and bare; distance between the cross-veins a little shorter than the length of the hind cross-vein; lower angle of anal cell acute but not produced. Terminal pattern black, elongate, with very long black rays; basal half of wing quite hyaline, with a dark spot at extreme base of first basal cell and with a rounded dot at lower end of anal cell; stigma black and united with the black pattern by a black curved stripe, which is as broad as the breadth of the base of submarginal cell. Marginal cell entirely black, with three hyaline spots along the costa, two just beyond the stigma, the first of which is of much greater size, and a smaller one at end; submarginal cell black, with two hyaline spots at end, the upper one smaller; the apical fork is formed by two narrow, very long, diverging black rays, each of which includes a small hyaline spot near the base. Second posterior cell with three perpendicular black rays, the basal one running along the hind cross-vein; discoidal cell with two dark rays, one of which is near the end and extends to hind border forming sometimes a hyaline rounded spot, the other, near the middle, ending in the third posterior cell. First posterior cell with a rounded hyaline spot at base, in contact with the fourth vein, but above not reaching the third vein. First basal cell hyaline, only a little blackened before the small cross-vein, which is narrowly yellowish hyaline.

Trypanea peregrina, Adams, 1905 (= *urophora*, Bezzi, 1918).

(Pl. XV, fig. 117.)

Among the species with short stigma, this is distinct by having the first posterior cell broadly hyaline at base, the small cross-vein being thus not included in the terminal black patch and being usually not margined with fuscous (fig. 117).

Some specimens from Prospect, November 1922 (H. K. Munro).

Trypanea peregrina, var. *mundella*, var. nov.

(Pl. XV, fig. 118.)

Differing from the preceding only in the complete want of the fuscous band across the middle of the discoidal cell, even as a spot on the fifth vein.

Some specimens of both sexes from Prospect and from Pretoria, December 1922 and January 1923 (H. K. Munro).

Trypanea bulligera, sp. nov.

(Pl. XV, fig. 119.)

A species of proportionately greater size, distinct by the characteristic wing-pattern and by the peculiar, prominent "bulla" near the end of the wing in the male sex.

Type ♂ and ♀, a couple of specimens from Gt. Winterhoek, Tulbagh Division, 4500 ft., November 1916 (R. M. Lightfoot).

♂♀. Length of body and wing, 4 mm.; of ovipositor, 1 mm. Occiput pale yellowish, with a triangular blackish spot above, extending from the neck to the vertex. Frons flat, but rather prominent in profile near the root of antennae, one and one-half times longer than broad, opaque reddish, with whitish sides and blackish ocellar spot; lunula whitish; face and peristomialia yellowish, the latter unspotted. Antennae entirely reddish, shorter than the face; third joint rounded at end; arista bare. Mouth border prominent, but the lower border of head short; mouth opening broad; palpi and proboscis yellowish, the latter elongate, its basal part longer than the mouth, the terminal part shorter than the basal. Eyes rounded, their longest diameter being the vertical one. Ocp. whitish; inner vt., oc., and or. black; two i. or. Thorax entirely black, clothed on the back with a bluish cinereous dust, and on the sides and pleurae with dark grey, but on the sternopleura again bluish cinereous; the short pubescence is whitish; bristles black; dc. placed much before the line of a. sa. Scutellum like back, with only the b. set.; mesophragma like back. Halteres yellowish, with darkened knob. Abdomen broad, coloured like back of mesonotum, but more shining blackish in the female; pubescence in both sexes whitish; ovipositor shining black. Legs entirely reddish yellow; front femora with a row of yellowish bristles below. Wings (fig. 119) elongate, with small costal bristle; second vein long and straight; third vein bare, straight in the female, curved below just beyond the peculiar "bulla" in the male, but in both parallel with the last portion of the fourth vein; cross-veins closely approximated, chiefly in the male, their distance apart being less than the length of the small cross-vein; lower angle of anal cell rectangular, not at all acute. Stigma hyaline, distinctly longer than high. The blackish pattern is characterised by the broad prolongation to the basal cross-veins; the costal and marginal cells and the stigma are hyaline, forming a hyaline costal stripe, which is broader in the male than in the female; moreover, the marginal cell has a

triangular, hyaline indentation before the end. The dark middle stripe of wing is extended only a little below into the discoidal cell, without reaching its middle. In the male the black, rounded "bulla" is a little before the middle of the first posterior cell, near the third longitudinal vein, and extending below not beyond the middle of the cell; this "bulla" is concave on upper surface of wing and prominent on lower surface, and is, moreover, more intensively black than the surrounding parts. There is a small hyaline spot in the submarginal cell just below the end of the second vein. Apical fork complete; in the middle of the second posterior cell there are two perpendicular dark rays, another along the hind cross-vein, and one in the discoidal cell, prolonged in the male to the hind border of wing, but not in the female. A small hyaline spot at base of first posterior cell, just above the upper end of hind cross-vein. First basal cell entirely black to the end.

Trypanea bulligera, var. *bullosa*, var. nov.

(Pl. XV, fig. 120.)

One male specimen from Hottentots Holland Mts., 4000 ft., Caledon Division, 1916 (K. H. Barnard).

♂. Differs from the above description as follows: The hyaline stripe along the fore border of wing is interrupted by a black, oblique band just beyond the stigma. The first basal cell has a rounded hyaline dot before the small cross-vein, symmetrically placed with that in the base of first posterior cell. The black rays at hind border are broader. The black middle stripe of wing is much broader, extending below into the discoidal cell beyond the middle of the cell, and in the basal part reaching even the fifth vein. The "bulla" is as in the preceding (fig. 120).

Trypanea euarestina, sp. nov.

(Pl. XV, fig. 121.)

Very like the preceding *bulligera*, but at once distinguishable in the male sex by the complete want of the "bulla."

Type ♂, a badly preserved specimen from Hottentots Holland Mts., 4000 ft., Caledon Division, 1916 (K. H. Barnard). I have seen also a male from Willowmore in the Museum of Budapest, collected by Dr. H. Brauns.

♂. Length of body and wing about 4 mm. and more. Occiput

black in the middle, pale yellowish at sides and below. Frons a little longer than broad, opaque reddish on anterior half, greyish on posterior half, with whitish sides and dark ocellar spot; lunula yellowish. Face and peristomialia yellowish, the latter unspotted; mouth border a little prominent. Antennae entirely reddish; third joint obtuse at end; arista bare. Palpi and proboscis reddish, the latter short and thick. Ocp. white; inner vt., oc., and or. black; two i. or. Thorax and scutellum and their chaetotaxy as in *bulligera*; halteres pale yellowish. Abdomen shining black on terminal half, dusted like back of mesonotum on basal half. Legs entirely reddish. Wings (fig. 121) as in *bulligera*, but quite destitute of the prominent "bulla" of the first posterior cell, and thus the last portion of third vein is quite straight. Even the pattern is very similar, but the stigma is infuscated along the costal border; the dark stripe in the discoidal cell is narrow; the end of the marginal cell is more intensively black than the surrounding parts.

Trypanea dentiens, sp. nov.

(Pl. XV, fig. 122.)

Distinct from the three preceding species by the black wing-pattern being more shortened basally, and by the four set.

Some male specimens from Pretoria, November to January (H. K. Munro).

♂. Length of body and wing, 3.5 mm. Occiput black, grey dusted, with pale yellowish border, and more broadly whitish below. Frons a little longer than broad, opaque, with reddish yellow anterior half, with greyish basal half, and with whitish sides; lunula pale yellowish; face and peristomialia yellowish, the latter narrow and unspotted. Antennae entirely yellowish, shorter than the face; third joint with prominent upper corner, but rounded at end; arista bare. Mouth border a little prominent; palpi broad, yellowish; proboscis short and thick, yellowish. Ocp. white; inner vt., oc., and or. black; two i. or. Thorax black, but densely clothed with bluish grey opaque dust, and darker grey on the pleurae; humeri reddish; bristles black; pubescence whitish; dc. much before the line of a. sa.; one mpl. Scutellum like back, with four black bristles, the apical ones only one-half as long as the others. Mesophragma like back; halteres pale yellowish. Abdomen like back of mesonotum, with whitish pubescence; male genitalia reddish below. Legs entirely reddish; front femora with a row of yellowish bristles

below. Wings (fig. 122) with elongate stigma and with small costal bristle; last portions of third and fourth veins quite straight and parallel; distance between the cross-veins less than the length of the hind cross-vein; lower angle of anal cell acute and a little produced. The black pattern stops at stigma, with which it is broadly united, and is characterised by the presence of an acute black tooth in the first basal cell, running along the third vein. The stigma is black, with narrowly yellowish base. Just beyond the stigma there are in the marginal cell two hyaline elongate streaks, the anterior of which is larger; submarginal cell with a small hyaline spot just below the end of second vein and with another broader one at end. All the five fuscous rays are narrow and complete, two forming the long terminal fork, two parallel and perpendicular across the middle of the second posterior cell, and one along the hind cross-vein; moreover, there are two abbreviated rays in the terminal part of the discoidal cell, the basal one more long and oblique, not reaching the fifth vein, on which there is, however, an isolated dark spot. The basal part of the wing is whitish hyaline and quite unspotted; the hyaline spot in the first posterior cell is small.

Trypanea confluens, Wiedemann, 1830.

(Pl. XV, fig. 123.)

Of smaller size than the four preceding species, and at once distinguished by the long, bicubitate proboscis and by the dark middle stripe on back of mesonotum.

One male from Cape Province (without precise locality); very numerous specimens of both sexes from Pretoria and Prospect, November to January (H. K. Munro).

To Loew's redescription may be added: Frons a little longer than broad; only two i. or., dark yellowish, like all the frontal bristles; occiput blackish grey above the neck. Back of mesonotum bluish, pleurae dark grey; the dark middle stripe is always present, and is very characteristic; bristles dark yellowish; dc. much before the line of a. sa.; only one pair of set. Wings (fig. 123) with the stigma twice as long as high; second longitudinal vein ending midway between ends of first and of third; third and fourth diverging towards the end; distance between the cross-vein about equal to the length of small cross-vein; sixth vein shortened; lower angle of anal cell acute but not produced.

Trypanea auguralis, Bezzi, 1908.

(Pl. XV, fig. 124.)

Distinguished from the preceding by the presence of a small pair of a. set.

Originally described from East Africa, there are a few specimens from Bloemfontein and East London (H. K. Munro).

Trypanea lutescens, sp. nov.

(Pl. XV, fig. 125.)

Among the species with hyaline pterostigma and with four set., the present one is distinguished by the yellowish patch around the small cross-vein.

One male specimen from Pretoria, December 1916 (H. K. Munro).

♂. Length of body and wings, 4.5 mm. Occiput pale yellowish, with a black, grey-dusted spot in the middle above the neck. Frons very broad, not longer than broad, reddish opaque, with greyish sides and ocellar area; lunula broad, reddish. Face and peristomialia whitish, unspotted. Antennae entirely yellowish, short, extending only a little beyond the middle of face; third joint with the upper corner acute but not produced; arista bare. Mouth border very little produced; mouth opening broad and rounded; palpi and proboscis yellowish, the latter short and thick. Ocp. white, the other bristles yellowish; two i. or. Thorax black, densely grey dusted, opaque; humeri and notopleural line yellowish; pubescence pale yellowish; bristles yellowish; dc. much before the line of a. sa.; one mpl. Scutellum like back, with four yellowish bristles; mesophragma grey. Halteres pale yellowish. Abdomen like back of mesonotum, with narrow reddish hind border of the segments. Legs entirely reddish; front femora with a complete row of yellowish bristles below. Wings (fig. 125) with distinct costal bristle and with elongate stigma; last portions of third and fourth veins straight and a little diverging outwardly; distance between the cross-veins less than the length of hind cross-vein; lower angle of anal cell acute but not produced. The stigma is pale yellowish, and not united with the terminal pattern, which is brown, with a yellowish patch around the small cross-vein. A hyaline triangular indentation before the end of marginal cell; submarginal cell with two hyaline rounded spots, one in the middle just above the small cross-vein, the other, smaller, just below the end of second vein, and, moreover,

with a terminal triangular indentation; a small hyaline spot at base of first posterior cell. The two apical rays of the fork have a rounded hyaline spot in their base; second posterior cell with three indentations and one rounded spot on upper internal corner, the two usual dark rays being thus sinuous; end of discoidal cell on its upper terminal part with two rounded hyaline spots, which are incomplete below, forming thus two abbreviated rays. More than the basal half of wing is hyaline; but in the third posterior cell there are two faintly infuscated, small spots, one in the middle, the other at wing-border before the end.

Trypanea woodi, Bezzi, 1924, var. *arrhiza*, var. nov.

The type species is from Nyasaland, distinguished by the four setae, by the hyaline isolated pterostigma, and by the yellowish patch around the small cross-vein. The variety is distinct in lacking the fuscous ray in the end of the discoidal cell (while *woodi* has one and *lutescens* two of these rays).

Some specimens of both sexes from Toise River, East London, December 1923 (H. K. Munro).

Trypanea subcompleta furcatella, var. nov.

(Pl. XV, fig. 126.)

Almost the same as the species *subcompleta*, Bezzi, 1921, from British East Africa, but much smaller and with more faint basal reticulation of wings.

East London, July–August (H. K. Munro).

♂♀. Length of body, 2 mm.; of wing, 2.2 mm. Perfectly answering to the description, but one-half smaller; the reticulation of the basal half of wing (fig. 126) is less indicated; a. set. much smaller than the b. set.; abdomen entirely black, grey dusted, with no distinct yellowish hind border of the segments.

Trypanea pulchella, sp. nov.

(Pl. XV, fig. 127.)

Closely allied with the preceding form, but distinct by the broadly reddish base of abdomen and by the complete want of the upper ray of the apical fork of wings.

Some specimens of both sexes from Bloemfontein and from Pretoria, November–January (H. K. Munro).

♂♀. Length of body, 2.2–2.4 mm.; of wing, 2.3–2.5 mm.; of

ovipositor, 0.6 mm. Occiput pale yellowish, with a black middle spot above the neck. Frons narrow, but only one and one-half times longer than broad, opaque, reddish yellow, greyish on the basal half, with paler sides; lunula yellowish. Face and peristomialia whitish, the latter narrow, unspotted. Antennae a little shorter than the face, entirely reddish; third joint with the upper corner acute but not produced; arista bare, thickened basally. Mouth border very little prominent; proboscis short and thick, reddish like the palpi. Ocp. whitish, the other bristles yellowish; two i. or., but sometimes a third, smaller, is present anteriorly. Thorax densely clothed with opaque, pale yellowish grey dust, with reddish humeri; bristles yellowish, those of back inserted on small black dots; scutellum broadly yellowish at hind border, with four yellowish bristles, the long b. set. on black dots, the a. set. much shorter and decussate. Mesophragma grey; halteres whitish. Abdomen in both sexes with the basal half reddish, the apical half grey; pubescence pale yellowish; ovipositor shining black, about as long as the three last segments. Legs entirely reddish; front femora with a row of pale yellowish bristles below. Wings (fig. 127) with small costal bristle and elongate stigma; second, third, and fourth veins straight and gradually diverging outwardly; distance between the cross-veins less than the length of hind cross-vein; lower angle of anal cell acute and distinctly produced; sixth vein reaching hind border. Stigma pale yellowish. Wing-pattern as in *furcatella*, and likewise with a very faint basal reticulation; characteristic for the species is the incomplete apical fork, the upper ray of which is quite wanting.

Trypanea mutila, sp. nov.

(Pl. XV, fig. 128.)

Among the species with hyaline elongate pterostigma and with four set., the present one is distinct by the incomplete rays of the star-shaped spot and by the quite hyaline basal part of wing.

One specimen from East London, August 1922 (H. K. Munro).

♀. Length of body, 3 mm.; of wing, 3.2 mm.; of ovipositor, 0.5 mm. Occiput pale yellowish, with a blackish-grey spot above the neck. Frons one and one-half times as long as broad, opaque yellowish, with pale greyish orbits; lunula whitish. Antennae shorter than the face, reddish yellow; third joint rounded at end; arista bare. Face and peristomialia whitish, unspotted; mouth border very little prominent; proboscis and palpi pale yellowish, the former short.

Ocp. whitish, the other bristles dark yellowish; three i. or. Thorax opaque, with yellowish grey dust on the back and with dark grey dust on the pleurae; bristles dark yellowish, those of back on small black dots; dc. much before the line of a. sa. Scutellum with yellowish hind border and with four yellowish bristles, the b. set. longer and inserted on black dots. Mesophragma grey; halteres pale yellowish. Abdomen like back of mesonotum; ovipositor shining black, shorter than the two last segments. Legs entirely yellowish; front femora with a row of whitish bristles below. Wings (fig. 128) with small costal bristle and with elongate stigma; second, third, and fourth veins straight and gradually diverging outwardly; distance between the cross-veins less than the length of hind cross-vein; lower angle of anal cell a little produced; sixth vein complete. Veins yellowish at base, blackish on the rest. Wings quite hyaline, with a small and incomplete, blackish, star-shaped, terminal spot; stigma pale yellowish. Upper ray of the terminal fork indicated only by a small spot at end of third vein, lower ray complete; of the two usual rays of the second posterior cell, the first is narrowed in the middle and the second is interrupted in the middle; the ray along the hind cross-vein is faintly developed; base of first posterior cell broadly hyaline, with a small rounded hyaline spot just above the hind cross-vein; hyaline spots and indentations of fore border as usual, but the hyaline spot just below the end of second vein is very small. Small cross-vein completely free, not margined with fuscous.

Trypanea superdecora, sp. nov.

(Pl. XV, fig. 129.)

A species with only two set., distinct from *decora* in having the lower ray of the terminal fork complete, and, moreover, with a black spot at end of third vein.

Both sexes from Barberton, May 1913 (H. K. Munro).

♂♀. Length of body and wing, 2.5–2.6 mm.; of ovipositor, 0.6 mm. Occiput pale yellowish, with a blackish grey bilobate spot above the neck. Frons reddish or yellowish, opaque, with whitish sides and ocellar spot; lunula whitish. Face and peristomialia yellowish, the latter very narrow and unspotted. Antennae a little shorter than the face, entirely reddish; third joint with the upper corner acute and rather prominent; arista bare. Mouth border hardly prominent; proboscis short and thick, reddish like the palpi. Ocp. white, the other bristles yellowish; three i. or. Thorax black,

clothed on the back with dense bluish dust, and with darker grey dust on the pleurae; pubescence whitish; bristles dark yellowish, those of back inserted on small black dots; dc. much before the line of the a. sa. Scutellum like back, with only the b. set. Mesophragma grey; halteres pale yellowish. Abdomen like back of mesonotum, with the base distinctly reddish in the male; pubescence pale yellowish; ovipositor shining black, only a little longer than the two last segments. Legs entirely orange; front femora with a row of yellowish bristles below. Wings (fig. 129) with elongate stigma and small costal bristle; second, third, and fourth veins straight and gradually diverging outwardly; distance between the cross-veins less than the length of hind cross-vein; sixth vein complete; lower angle of anal cell acute and distinctly a little produced. Stigma very faintly yellowish; basal part of wing quite hyaline; veins yellowish, darkened at end. Apical star-shaped pattern as in *decora*, with the following differences: there is a broad, isolated black spot at end of third vein; the lower ray of the terminal fork is complete; the hyaline indentation between the above-named ray and the first ray of the second posterior cell is extended into the first posterior cell (while in *decora* it stops at fourth vein); all these rays are broader; the small cross-vein is margined with fuscous.

Trypanea bisreducta, sp. nov.

(Pl. XV, fig. 130.)

Distinct from all the other species in having the apical dark pattern of wing reduced to a small rounded spot, destitute of radiating streaks.

Type ♀, a single specimen from Modderpoort, 30th October 1919 (J. C. Faure).

♀. Length of body and wing, 3.5 mm.; of ovipositor, 1 mm. Occiput pale yellowish, with a blackish-grey spot above the neck. Frons as broad as long, opaque yellowish, with whitish orbits and with grey ocellar spot; lunula pale yellowish. Antennae wanting. Face and peristomialia yellowish; proboscis short. Ocp. white, the other bristles yellowish; two i. or. Thorax and scutellum bluish grey, with dark yellowish bristles; scutellum with only the b. set. Halteres pale yellowish. Abdomen like back of mesonotum; ovipositor shining black, as long as the three last segments. Legs entirely reddish. Wings (fig. 130) with elongate stigma and with small costal bristle; nervation as in the preceding. They are quite hyaline, with pale yellowish stigma; the apical spot is blackish, and is without

any ray, even without the anterior one, extending inferiorly only a little over the fourth vein with a rudimentary tooth; neither of the cross-veins are margined with fuscous, or only the upper end of the hind cross-vein is a little infuscated. There is a small, rounded hyaline spot below the end of second vein and two small hyaline spots above the fourth vein.

Trypanea diversa, Wiedemann, 1830.

(Pl. XV, fig. 131.)

Among the species of the present group it is very distinct on account of its greater size, of its long ovipositor, and of its peculiar pattern in the terminal part of the discoidal cell.

Two male specimens from Oudebosch, Caledon Division, December 1920 (K. H. Barnard).

To Loew's redescription may be added: Ocp. whitish, the other bristles black; three or four i. or.; ocellar spot blackish; lunula reddish; frons one and one-half times as long as broad; proboscis short and thick, but distinctly cubitate. Dc. before the line of a. sa.; a. set. wanting. Front femora with a row of blackish bristles below. Wings (fig. 131) with normal nervation; stigma twice as long as high.

Trypanea decora, Loew, 1861.

(Pl. XV, fig. 132.)

Probably only a variety of *amoena*, from which it is distinguished by the complete want of the fuscous band issuing from the pterostigma.

One male from Zululand, M'fongosi, February 1914 (W. E. Jones); numerous specimens from Bloemfontein, East London, Arnoldton, Kingwilliamstown, in part bred from *Senecio ruderalis* (H. K. Munro).

To Loew's original description may be added: The male is like the female. Occiput with the usual bilobate black spot above the neck. Frons only a little longer than broad; ocp. white, the other bristles dark yellowish; three to five i. or. Thoracic and scutellar bristles dark yellowish; front femora with yellowish bristles below. Stigma (fig. 132) twice as long as high; third and fourth veins parallel; distance between the cross-veins less than the length of the hind cross-vein; lower angle of anal cell acute but little produced; sixth vein complete. The dark spot on the middle of fifth vein is sometimes wanting. The second dark ray in the second posterior cell is sometimes interrupted in the middle.

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EXPLANATION OF PLATES.

All wings enlarged, partly schematic.

PLATE XII.

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| 1. <i>Tridacus lounsburyi</i> , Coq. ♂. | 19. <i>Carpophthoromyia dimidiata</i> , n. sp. ♀. |
| 2. <i>Tridacus pectoralis</i> , Walk. ♂. | 20. <i>Pterandrus rubivorus</i> , Coq. ♂. |
| 3. <i>Tridacus chrysomphalus</i> , n. sp. ♂. | 21. <i>Pterandrus cornutus</i> , n. sp. ♂. |
| 4. <i>Tridacus eclipsis</i> , Bez. ♂. | 22. <i>Pterandrus podocarpus</i> , n. sp. ♀. |
| 5. <i>Tridacus sphaerostigma</i> , n. sp. ♂. | 23. <i>Pardalaspis melanaspis</i> , Bez. ♂. |
| 6. <i>Dacus fuscatus</i> , Wied. ♂. | 24. <i>Pardalaspis pedestris</i> , n. sp. ♂. |
| 7. <i>Dacus marshalli</i> , Bez. ♂. | 25. <i>Pardalaspis aliena</i> , Bez. ♂. |
| 8. <i>Dacus vertebratus</i> , Bez. ♂. | 26. <i>Pardalaspis asparagi</i> , n. sp. ♀. |
| 9. <i>Dacus brevistylus</i> , Bez. ♂. | 27. <i>Pardalaspis cosyra</i> , Walk. ♂. |
| 10. <i>Dacus apoxanthus</i> , n. sp. ♂. | 28. <i>Perilampus diademata</i> , n. sp. ♂. |
| 11. <i>Dacus rubicundus</i> , n. sp. ♂. | 29. <i>Trirhithrum albomaculatum</i> , v. Röd. ♀. |
| 12. <i>Dacus ficicola</i> , Bez. ♂. | 30. <i>Trirhithrum occipitale</i> , Bez. ♂. |
| 13. <i>Dacus bigemmatum</i> , n. sp. ♂. | 31. <i>Trirhithrum nitidum</i> , v. Röd. ♂. |
| 14. <i>Dacus binotatus</i> , Loew. ♀. | 32. <i>Trirhithrum lycii</i> , Coq. ♂. |
| 15. <i>Afrodacus biguttulus</i> , Bez. ♂. | 33. <i>Themaricteria laticeps</i> , Loew. ♂. |
| 16. <i>Munromyia nudiseta</i> , Bez. ♂. | |
| 17. <i>Coelopacidia strigata</i> , Bez. ♂. | |
| 18. <i>Leucotaeniella grata</i> , Wied. ♀. | |

PLATE XIII.

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|---|--|
| 34. <i>Rhacochlaena fasciolata</i> , Loew. ♂. | 50. <i>Craspedoxantha marginalis</i> , Wied. ♂. |
| 35. <i>Rhacochlaena pulchella</i> , Bez. ♂. | 51. <i>Craspedoxantha polypila</i> , n. sp. ♀. |
| 36. <i>Rhacochlaena major</i> , Bez. ♂. | 52. <i>Terellia taeniptera</i> , n. sp. ♂. |
| 37. <i>Phorellia peringueyi</i> , n. sp. ♀. | 53. <i>Terellia planiscutellata australis</i> , n. var. ♂. |
| 38. <i>Taomyia marshalli</i> , Bez. ♂. | 54. <i>Rivelliomima punctiventris</i> , n. sp. ♂. |
| 39. <i>Afrocneros mundus</i> , Loew. ♂. | 55. <i>Rhynchoedaspis munroana</i> , n. sp. ♂. |
| 40. <i>Afrocneros mundissimus</i> , n. sp. ♂. | 56. <i>Munroella myiopotina</i> , n. sp. ♂. |
| 41. <i>Afrocneros excellens</i> , Loew. ♂. | 57. <i>Aciura tetrachaeta</i> , Bez. ♂. |
| 42. <i>Ocnerioxa interrupta</i> , n. sp. ♀. | 58. <i>Aciura nigriseta</i> , n. sp. ♂. |
| 43. <i>Ocnerioxa sinuata</i> , Loew. ♂. | 59. <i>Aciura oborinia</i> , Walk. ♂. |
| 44. <i>Xanthanomoea munroi</i> , n. sp. ♀. | 60. <i>Aciura angusta</i> , Loew. ♂. |
| 45. <i>Coelotrypes vittatus</i> , n. sp. ♀. | |
| 46. <i>Hermannloewia jucunda</i> , Loew. ♀. | |
| 47. <i>Zacerata asparagi</i> , n. sp. ♂. | |
| 48. <i>Zacerata taomyioides</i> , n. sp. ♂. | |
| 49. <i>Allotrypes gracilis</i> , Loew. ♀. | |

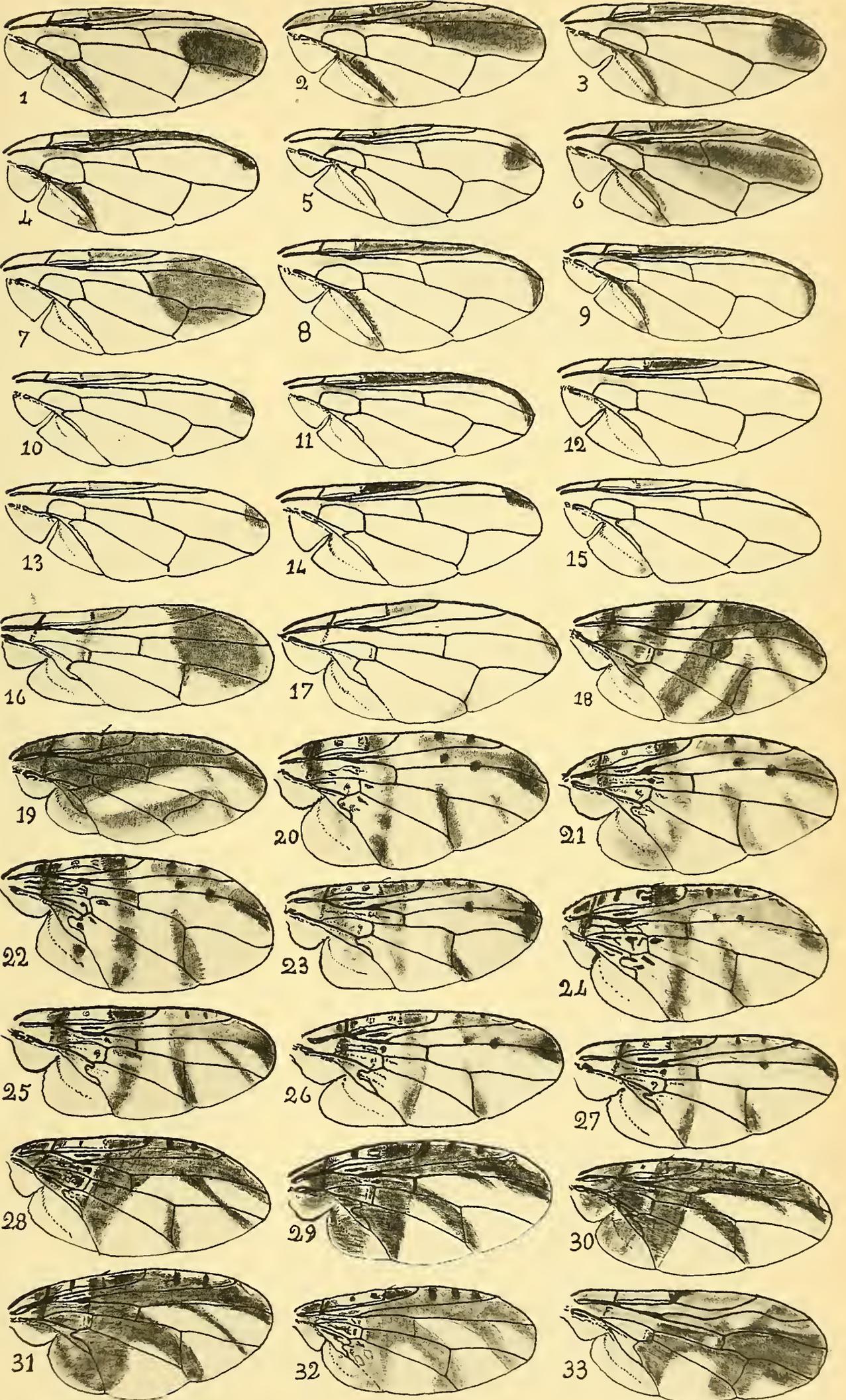
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| <p>61. <i>Spheniscomyia sexmaculata</i>, Macq.
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PLATE XIV.

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|---|--|
| <p>67. <i>Spheniscomyia quaternaria</i>, n. sp.
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♀.</p> <p>94. <i>Sphenella marginata</i>, Fall. ♂.</p> <p>95. <i>Sphenella melanostigma</i>, Bez. ♀.</p> <p>96. <i>Ensina barnardi</i>, n. sp. ♀.</p> <p>97. <i>Ensina sororcula</i>, Wied. ♂.</p> <p>98. <i>Ensina gladiatrix</i>, Bez. ♂.</p> <p>99. <i>Ensina liliputiana</i>, n. sp. ♂.</p> <p>100. <i>Ensina anceps fasciolata</i>, n. var. ♀.</p> <p>101. <i>Ensina myiopotoides</i>, Bez. ♂.</p> <p>102. <i>Ensina ignobilis plebeja</i>, n. var. ♀.</p> |
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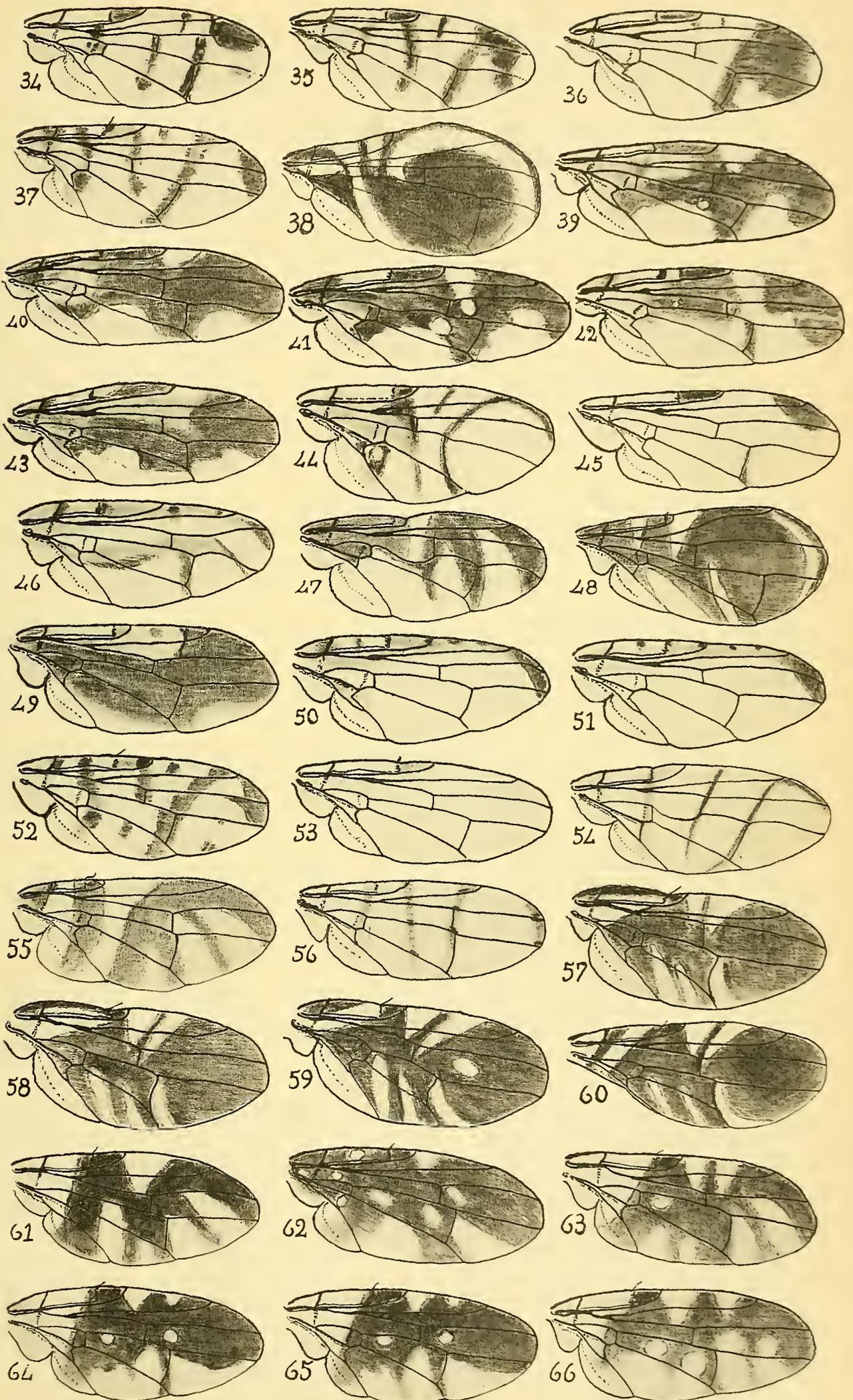
PLATE XV.

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| <p>103. <i>Ensina dubia</i>, Walk. ♂.</p> <p>104. <i>Ensina magnipalpis</i>, Bez. ♀.</p> <p>105. <i>Ensina hieroglyphica</i>, n. sp. ♀.</p> <p>106. <i>Ensina cribripennis</i>, Bez. ♀.</p> <p>107. <i>Euribia tuckeri</i>, n. sp. ♂.</p> <p>108. <i>Euribia praetexta</i>, Loew. ♀.</p> <p>109. <i>Euribia peringueyi</i>, n. sp. ♂.</p> <p>110. <i>Euribia lightfooti</i>, n. sp. ♀.</p> <p>111. <i>Euribia caffra</i>, Loew. ♂.</p> <p>112. <i>Acanthiophilus ochraceus</i>, Loew.
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var. ♂.</p> <p>119. <i>Trypanea bulligera</i>, n. sp. ♂.</p> | <p>120. <i>Trypanea bulligera bullosa</i>, n. var.
♂.</p> <p>121. <i>Trypanca euarestina</i>, n. sp. ♂.</p> <p>122. <i>Trypanca dentiens</i>, n. sp. ♂.</p> <p>123. <i>Trypanca confluens</i>, Wied. ♂.</p> <p>124. <i>Trypanca auguralis</i>, Bez. ♀.</p> <p>125. <i>Trypanca lutescens</i>, n. sp. ♂.</p> <p>126. <i>Trypanea subcompleta furcatella</i>, n.
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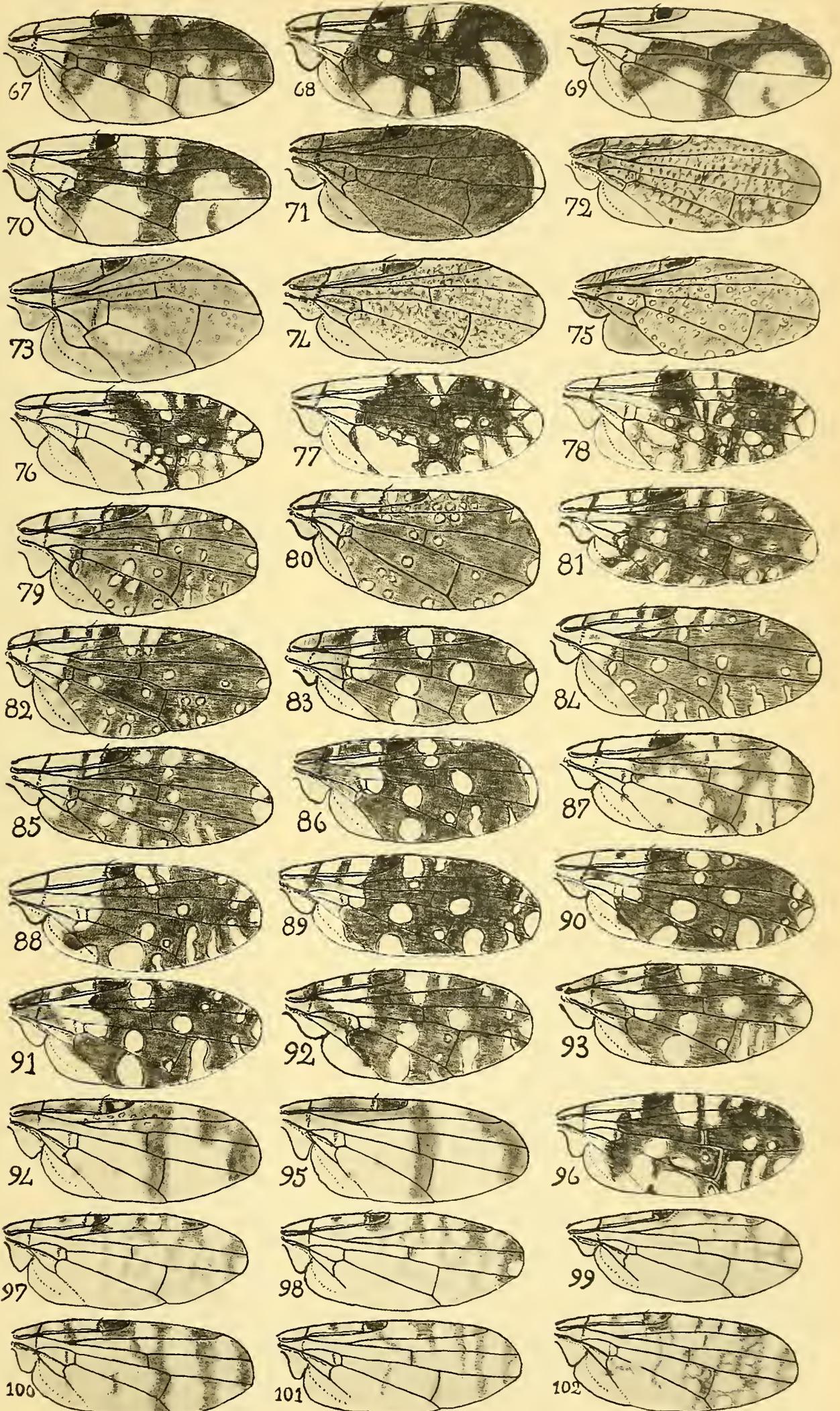
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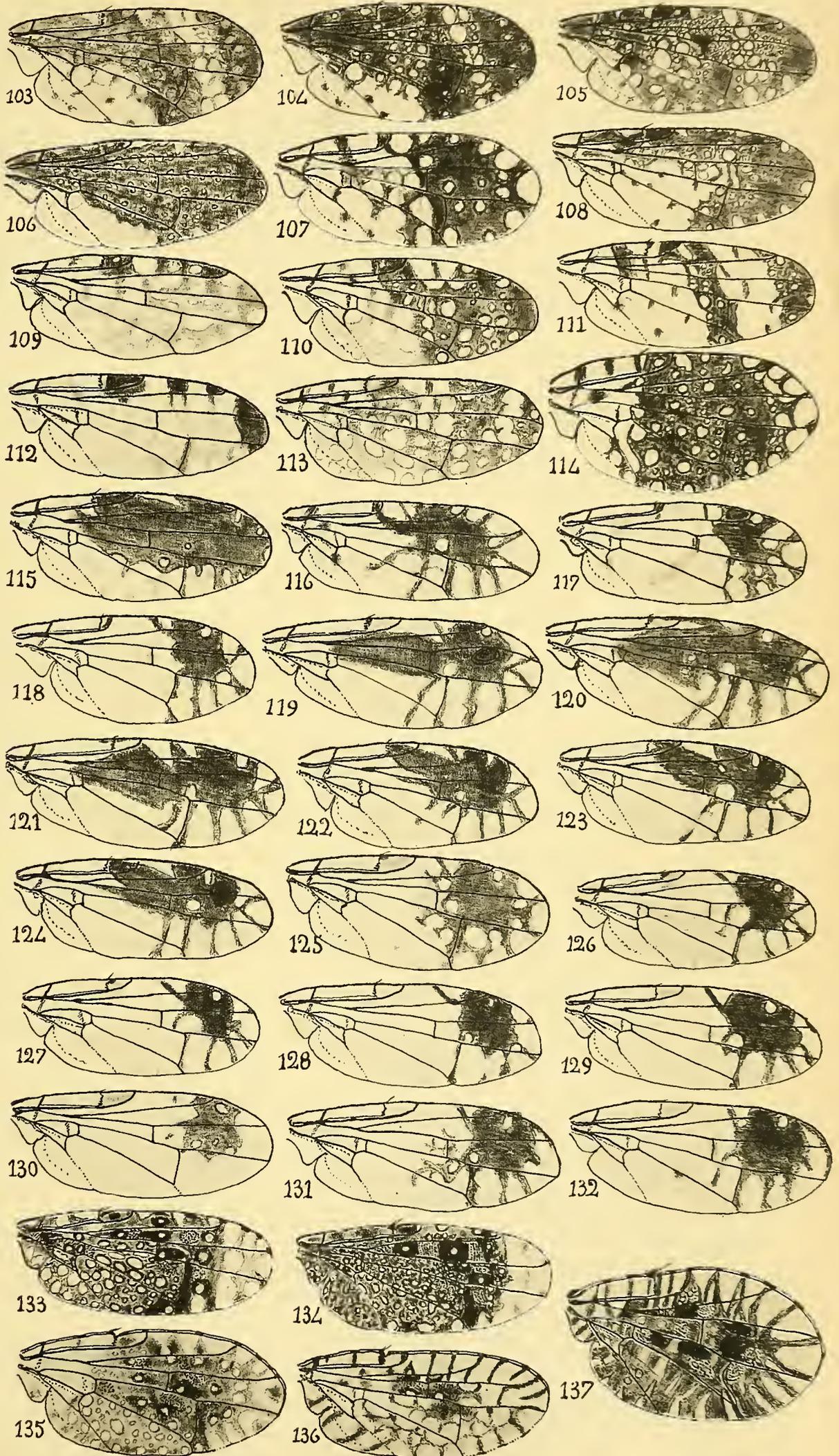
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