NOTES ON THE ETHIOPIAN FRUIT-FLIES OF THE FAMILY TRYPANEIDAE, OTHER THAN DACUS (S.L.), WITH DESCRIPTIONS OF NEW GENERA AND SPECIES (DIPT.).—I.

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(Plate V.)

While the Oriental* and Neotropical† Trypaneids have been the subject in recent times of extensive studies, those of the Ethiopian Region are still almost in the same condition in which they were left by H. Loew in his valuable paper of 1861.‡ Only more recently Prof. Hendel has made an attempt to erect some Ethiopian genera in his general classification of the family§; but all these genera are only shortly characterised by means of dichotomic tables, and most of their type-species have been given names as new species, but without any description.

The object of this paper is to give a summary account of our present knowledge of the classification and distinctions of the Ethiopian species of Trypaneidae, with the purpose of facilitating further research in this very important family of flies.

The main material was submitted to the writer by the Imperial Bureau of Entomology, through the kindness of Dr. Guy A. K. Marshall, and is now to be found in the British Museum; while some of it has been accumulating from various sources and for many years in the private collection of the writer himself.

I have already given in 1908|| a catalogue of the Ethiopian Trypaneids described up to that time, with the enumeration of about 70 species (not counting *Dacus*); a considerable number of additional forms have however been subsequently described by Austen, Enderlein, Graham, Hendel, Lamb, Silvestri, Speiser and myself, thus bringing the total number of the known species to about 110 (always excluding *Dacus*). No doubt this number may be somewhat reduced by synonymy, but it is certainly much lower than that of the actually existing species; for in the Oriental and Australian Regions about 170 species (without *Dacus*) are known, and in the Neotropical, including Mexico and Central America (a region in which *Dacus* does not occur) about 250.

According to the classification proposed by me,¶ and accepted with slight modification by Prof. Hendel, the family may be divided into three subfamilies the Dacinae, the Ceratitinae and the Trypaneinae (Tephritinae), to which

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* M. Bezzi, Mem. Ind. Mus., iii, No. 3, May 1913, pp. 51–175, pl. viii–x.

† F. Hendel, Abh. Ber. K. Zool. Anthr. Mus. Dresden, xiv (1912), No. 3, June 1914, pp. 3–84, pl. i–iv.

‡ Berl. ent. Zeits., v, 1861, pp. 253–306, pl. ii.

§ Wien. ent. Zeit., xxxiii, April 1914, pp. 73–98.

|| Bull. Soc. ent. ital., xxxix (1907), 1908, pp. 3–199 (v. pp 138–142).

¶ Boll. Lab. Zool Portici, v, September 1910, pp. 1–32, 11 figs.

may be added as a fourth the somewhat aberrant SCHISTOPTERINAE. All these four subfamilies are well represented in the Ethiopian fauna, while the first and the last are very scarce or even absolutely wanting in America.

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Owing to the great importance of chaetotaxy for the distinction of these 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. sct.	= apical scutellar.	prst.	= praesutural.
b. sct.	= 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.	sct.	= scutellar.
oc.	= ocellar.	st.	= sternopleural.
ocp.	= occipital row.	s. or.	= superior orbital.
or.	= orbital.	vt.	= vertical.

* * * *

The Ethiopian genera of TRYPANEIDAE may be distinguished as follows :—

1(6). Thoracic chaetotaxy incomplete, hm., prst., dc. and st. being always wanting (and also the prsc. in African forms)... .. Subfam. DACINAE.

2(5). Femora not spinose beneath ; thoracic suture interrupted ; inferior angle of the anal cell drawn out into a very long, thin point.

3(4). Only two sa. present, the anterior one being entirely wanting *Dacus*, F. (*s. str.*).

4(3). Three sa., the anterior one being well developed.. .. *Tridacus*, Bezzi.

5(2). Femora spinose beneath ; thoracic suture complete ; point of anal cell proportionally short .. .. *Meracanthomyia*, Hend.

6(1). Thoracic chaetotaxy complete ; that is, the above-named bristles usually present, or at least not all wanting at the same time.

7(92). Wings with the costa not broadly interrupted at end of the auxiliary vein, and destitute of peculiarly coloured " bullae " on the disc.

8(67). Ocp. composed of thin and acute bristles, which usually are of a black colour ; 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 long, or the wings are not reticulate, or the body shows a striking coloration Subfam. CERATITINAE.

9(10). Femora spinose beneath ; arista shortly plumose ; third longitudinal vein with only a few bristles near its extreme base .. *Conradtina*, End., p. 222.

10(9). Femora not spinose beneath.

11(48). Third longitudinal vein bristly throughout its whole length, or at least from the base to the small cross-vein; ocp. mostly black; arista very often pilose or plumose; scp. well developed; lower angle of the anal cell mostly drawn out in a point which is longer than the second basal cell.

12(29). Dc. placed only a little behind the connecting line between the a. sa., and thus not very far from the suture.

13(16). Three strong i. or. present; hind cross-vein placed obliquely outwards, that is, with its upper end more distant from the base of wing than the inferior one; upper angle of discoidal cell therefore acute; occiput with lateral swellings below; eyes narrow.

14(15). Body prevalently black, with striking yellow or white markings; wings with the discoidal cell short and broad, adorned with blackish longitudinal bands and with a Λ-shaped band near the hind border

Carpophthoromyia, Aust., p. 224.

15(14). Body prevalently yellowish; wings with the discoidal cell more elongate and only with some yellowish, partly infuscated, transverse bands

Leucotaeniella, gen. nov., p. 227.

16(13). Only two i. or. present; hind cross-vein inwardly oblique, its lower end being more remote from the wing base than the upper one; the acute angle of the discoidal cell is therefore the lower one.

17(28). Middle scp. well developed; legs short and stout; wings of broader shape; head not "balanced" (see p. 241), with rather rounded eyes and less developed lower occipital swellings.

18(19). Third antennal joint distinctly pointed at the upper end; arista long plumose; lower occipital swellings rather developed

Chelyophora, Rond., p. 229.

19(18). Third antennal joint rounded at end.

20(27). Basal segment of the costa destitute of bristles before the costal bristle.

21(26). Head, in side view, less shortened, the eyes being therefore more rounded; thorax and scutellum prevalently yellowish or reddish, with black spots; wings with yellowish bands and blackish basal streaks, the band passing over the hind cross-vein not united with the basal one.

22(23). Arista with short pubescence, more distinct on the upper side; frons of the male with conspicuous spatulate appendages

Ceratitis, MacLeay (*s. str.*), p. 230.

23(22). Arista with longer pubescence on both sides or shortly plumose; frons of the male without such appendages.

24(25). Middle legs of male broadly feathered, at least on the tibiae

Pterandrus, gen. nov., p. 231.

25(24). Middle legs of male simple .. .. .. *Pardalaspis*, gen. nov., p. 233.

26(21). Head distinctly shortened in side view, the eyes being more narrow; thorax and scutellum shining black, sometimes with white markings; wings with blackish bands radiating from the base, which is destitute of streaks; arista long plumose .. .. *Trirhithrum*, gen. nov., p. 236.

27(20). Basal segment of the costa provided with two groups of strong spines before the costal bristle .. .. *Bistrispinaria*, Speis.

28(17). No distinct middle scp.; legs long and slender; wings long and narrow, with the small cross-vein much before the middle of the discoidal cell and adorned with yellowish longitudinal rays; head "balanced," with narrow eyes and strongly developed lower occipital swellings *Xanthorrhachista*, Hend., p. 241.

29(12). Dc. placed much behind the line of the a. sa., and therefore very far from the suture; eyes usually rounded; lower occipital swellings absent or less developed; hind cross-vein outwardly oblique.

30(33). Second longitudinal vein distinctly wavy; scutellum with three pairs of bristles, the intermediate pair being however often much smaller than the others; arista usually plumose or pilose.

31(32). St. wanting; head much broader than the thorax; middle scutellar bristles weaker; 3rd and 4th longitudinal veins with their last portions parallel .. .. *Themarictera*, Hend., p. 243.

32(31). St. present; head not or a little broader than the thorax; middle scutellar bristle as strong as the others; the above-named veins diverging distally; arista plumose or pubescent .. .. *Themara*, Walk., p. 244.

33(30). Second longitudinal vein straight.

34(37). Scutellum with three pairs of bristles; third longitudinal vein with numerous and very long bristles on its whole length.

35(36). Head normal, with rounded eyes; i. or. present; antennae separated by a keel from the base; lower angle of the anal cell drawn out in a long point .. .. *Baryglossa*, gen. nov., p. 244.

36(35). Head abnormal, with very narrow eyes; i. or. wanting; no keel between the antennae; anal cell not produced below .. *Cladoderris*, Bezzi., p. 246.

37(34). Scutellum with only two pairs of bristles.

38(39). Arista plumose; oc. rudimentary or wanting; wings mostly black *Ptiloniola*, Hend., p. 246.

39(38). Arista bare or shortly pubescent.

40(41). Face very concave, without a distinct middle keel, but with prominent sides; abdomen long and thin, rather conical *Coelopacidia*, End., p. 248.

41(40). Face of usual shape, with more or less distinct middle keel; abdomen ovate, not conical.

42(43). No prst. and no oc.; wings with the small cross-vein placed near the middle of the discoidal cell and with the last portion of the 4th longitudinal vein curved and diverging from the 3rd *Rhacochlaena*, Loew, p. 248.

43(42). Prst. always present; oc. usually well developed; last portion of 4th vein not or less curved and not or little diverging.

44(45). Small cross-vein near or before the middle of the discoidal cell; wings adorned with narrow, vertical, fuscous bands, which are often partly broken into spots .. .. *Phorellia*, R.D., p. 249.

45(44). Small cross-vein much beyond the middle of the discoidal cell; wings with a much more extended dark pattern.

46(47). Wings of usual shape and rather broad, with short stigma and distinct costal bristle, and with the fore half variegated; oc. well developed *Philophylla*, Rond., p. 249.

47(46). Wings rather narrow, with parallel sides, with elongate stigma and no costal bristle, and with the fore half usually entirely infuscated; oc. very thin or even wanting .. .. *Ocneros*, O. Costa, p. 250.

48(11). Third longitudinal vein quite bare or only with a few bristles near the base; ocp. mostly pale; arista usually bare or shortly pubescent; scp. sometimes less developed; anal cell usually with a short point.

49(50). Dc. much behind the line of the a. sa.; wings narrow and long, with parallel sides; anal cell with a long point .. *Ocnerioxa*, Speis.

50(49). Dc. on the line of the a. sa. or only a little behind; wings of usual shape.

51(52). Anal cell quite rounded outwardly, its lower angle being neither acute nor produced .. .. *Tephritis*, Latr.

52(51). Anal cell with the lower angle acute, and more or less produced in a short point.

53(54). Prst. wanting; oc. very little developed; arista shortly plumose; body pale-coloured .. .. *Staurella*, Bezzi.

54(53). Prst. always present; arista bare or shortly pubescent.

55(60). Body mostly pale-coloured, often with black spots on thorax and scutellum; scp. always pale; wings with yellowish bands or rays, or quite hyaline.

56(57). No oc.; small cross-vein at or before the middle of the discoidal cell *Carpomyia*, A. Costa,

57(56). Oc. well developed; small cross-vein beyond the middle of the discoidal cell.

58(59). Eyes narrow, much higher than broad; prsc. as widely separated as the dc.; wings with yellowish longitudinal rays .. *Craspedoxantha*, Bezzi.

59(58). Eyes rounded; prsc. nearer together than the dc.; wings with cross bands or wholly hyaline .. .. *Terellia*, R.D.

60(55). Body quite black, at the most only the abdomen reddish; wings dark brown or blackish, with hyaline spots and indentations.

61(64). Thorax shining black, the ground-colour of back not or little altered by the faint greyish pollen; scutellum convex, shorter than broad.

62(63). Three i. or.; ocp. blackish or pale; a. sct. wanting or rudimentary, much shorter than the very long b. sct. .. .. .. *Aciura*, R.D.

63(62). Only two i. or.; a. sct. about as strong as the b. sct.; ocp. quite black *Spheniscomyia*, Bezzi.

64(61). Thorax on the back densely clothed with greyish pollen, the ground-colour not or hardly visible; scutellum flat, as long as broad, usually with strong a. sct.

65(66). Wings of usual shape, with an *Aciura*-like pattern, without hyaline spots on the disc .. .. *Tephrella*, Bezzi.

66(65). Wings more or less widened, rounded at end and narrow at base with some hyaline spots in the middle .. .. *Platensina*, End.

67(8). Ocp. composed of strong and usually obtuse bristles, which arepale yellowish or whitish in colour, at least in part; scp. mostly not or less distinct; third longitudinal vein bare on the upper side, or exceptionally with a few bristles near the base; in doubtful cases, either the wings have a reticulate pattern, or the dc. are placed much before the a. sa., or the lower point of anal cell is very short, or the arista is bare, or the coloration of body is much more modest, and entirely without striking markings.

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68(69). Wings with *Aciura*-like pattern, that is, with two hyaline indentations at fore border and three or four at hind border; a. sct. present or absent .. .. *Tephrella*, Bezzi (*p. p.*).

69(68). Wings with a different pattern.

70(73). Wings much widened and rounded outwardly, about as long as broad, with the 2nd and 3rd longitudinal veins much diverging distally; arista shortly plumose or with rather long pubescence.

71(72). Face and frons without black spots; axillary cell very narrow, narrower than the marginal one; wings with a few hyaline discal spots

Platensina, End.

72(71). Fore part of the frons or face with velvety black spots; axillary cell well developed; wings with numerous and usually minute hyaline spots on the disc .. ..*Eutretosoma*, Hend.

73(70). Wings of usual shape, not or but little widened, at any rate much longer than broad; arista bare or microscopically pubescent.

74(75). Wings very narrow and long, with parallel sides and with the anal cell obtuse, its lower angle not being acute.. .. .. *Elaphromyia*, Big.

75(74). Wings not so shaped, and with the lower angle of anal cell mostly acute.

76(81). Wings with the black pattern more extended than the hyaline one; hyaline discal spots very few in number, thus the wings not appearing reticulate.

77(80). Wing pattern not distinctly radiating at apex and hind border.

78(79). Two i. or.; proboscis long and rather geniculate; b. sct. very long, the a. sct. wanting or rudimentary .. .. *Spathulina*, Rond.

79(78). Three i. or.; a. sct. well developed; proboscis short and simple

Pliomelaena, subgen. nov.

80(77). Wing pattern distinctly radiating; proboscis not geniculate; usually two i. or. and four equal sct. .. .. *Euaresta*, Loew.

81(76). Wings with the hyaline part more extended than the blackish one, or appearing reticulate owing to the numerous discal spots, or being dimidiate, or having a star-shaped apical pattern.

82(83). Head depressed, considerably longer than high, with very narrow jowls; if head not so depressed, the proboscis very long and geniculate, its terminal part being as long as or longer than the lower border of head

Ensina, R.D.

83(82). Head not depressed and proboscis usually short and simple ; if the proboscis is geniculate, its terminal part is shorter than the basal one.

84(89). Wings with a properly reticulate pattern, extended over all, or almost all, their surface.

85(88). Frons flat, and not at all or little produced above ; ovipositor flat.

86(87). Frons of usual breadth ; antennae rather approximate ; wings not at all widened, with the stigma unicolorous or with a single hyaline spot *Euribia*, Meig.

87(86). Frons very broad ; antennae broadly separated ; wings distinctly widened, usually with short, radiating, marginal streaks and with a bimaculate stigma .. .. *Campiglossa*, Rond.

88(85). Frons convex and prominent above; ovipositor conical *Camaromyia*, Hend.

89(84). Wing pattern not extended over the greater part of surface, but either the hind or the basal half is quite hyaline.

90(91). Wings dimidiate, that is, on the fore half with a dark reticulation, at least at the end, on the hind half either quite hyaline or with a very faint reticulation.. .. .. *Acanthiophilus*, Beck.

91(90). Wings with a star-shaped pattern on the terminal half *Trypanea*, Schrank.

92(7). Wings with the costa broadly interrupted at end of the auxiliary vein, and there with a projecting border ; they are provided with strikingly distinct " bullae " ; ocp. thick and yellowish ; arista bare or shortly pubescent ; dc. near the suture ; 3rd longitudinal vein bare, small cross-vein often obliterated ; anal cell obtuse or acute below, but not prolonged (subfam. SCHISTOPTERINAE).

93(94). Second longitudinal vein long, ending at costa nearer to the end of the third ; anal cell acute below; 3rd and 4th longitudinal veins not or but little diverging distally .. .. *Rhabdochaeta*, de Meij.

94(93). Second longitudinal vein short, ending at costa nearer to the first ; anal cell obtuse below; 3rd and 4th longitudinal veins exceedingly divergent outwardly.

95(96). Scutellum with 6 bristles ; 3rd longitudinal vein ending before the apex of wing.. .. .. *Rhochmopterum*, Speis.

96(95). Scutellum with 4 bristles ; 3rd longitudinal vein ending at apex *Schistopterum*, Beck.

I. Subfam. DACINAE.

The Ethiopian species of this subfamily have been dealt out by me in two previous papers, published in this Bulletin.*

Of the Oriental genus *Meracanthomyia* there is a species, *antennata*, Hendel (Wien. ent. Zeit., xxxi, 1912, p. 11), described from W. Africa, Ashanti.

* Bull. Ent. Res., vi., September 1915, pp. 85–101, 14 figs.; viii, August 1917, pp. 63–71, 6 figs.

II. Subfam. CERATITINAE.

Of this numerous subfamily only the genera with a bristly third longitudinal vein are treated in the present paper.

I. Conradtina, Enderlein, 1911.

This well characterised genus has a rather isolated position, and comprises some species of greater size which are not unlike the Oriental species of *Lagarosia*, in which however the femora are unarmed. The genus *Celidodacus*, Hendel, 1914, with its undescribed type-species, *C. apicalis*, Hendel, from South Nigeria (Wien. entom. Zeit., xxxiii, April 1914, p. 75), is not dealt with here, as I have been unable to recognise it, but the new species here described (*Conr. suspensa*) apparently has a very similar wing pattern.

To the characters of the genus *Conradtina* may be added that the second longitudinal vein is distinctly sinuous, and that the first is very short, ending much before the small cross-vein, which is placed beyond the middle of the discoidal cell. The genus, as far as at present known, is confined to West Africa. The species can be distinguished as follows :—

1(6). Apex of wing at end of 3rd and 4th longitudinal vein more or less broadly whitish hyaline, the apical fuscous band being therefore not contiguous with the wing border.

2(5). The two fuscous bands on the two cross-veins separated in the middle.

3(4). The two above-named bands separated at the hind border; apical hyaline band rather broad .. .. *acroleuca*, Wied.

4(3). These two bands coalescent at the hind border; apical hyaline band very narrow; a fuscous oblique streak across the middle of the last portion of 4th vein .. .. *acrodiauges*, Speis.

5(2). The two fuscous bands united to form a single broad patch, which is attached by a brown streak to the fore border .. .. .. *suspensa*, sp. nov.

6(1). Apical fuscous band contiguous to the costa, and thus entirely filling the wing tip; an oblique fuscous streak on the middle of the last portion of 4th vein .. .. *longicornis*, End.

1. **Conradtina longicornis,** Enderlein, Zool. Jahrb., xxxi, 1911, p. 443, fig. S.
Described from W. Africa, Fernando Po.

2. **Conradtina acrodiauges,** Speiser, Deut. ent. Zeits., 1913, p. 145.
Of this species, described from Camerun, Duala, I have before me the specimen collected at Lagos, S. Nigeria, by Prof. F. Silvestri and recorded by me in 1914.*

3. **Conradtina acroleuca,** Wiedemann, Auss. zweifl. Ins., ii, 1830, p. 520 (*Dacus*).
Prof. Hendel in 1912† has redescribed this species from W. Africa, Sierra Leone; Wiedemann's type was from an unknown locality.

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* Boll. d. Labor. di Zool. gen. e agr. Portici, viii, May 1914, p. 303.

† Wien. entom. Zeit., xxxi, February 1912, p. 13.

4. **Conradtina suspensa,** sp. nov. (fig. 1).

Very distinct from all the other known species on account of the broad fuscous patch on the middle of wings, comprising in a single spot both the cross-veins, as in *Lagarosia*.

♀. Length of body (with the ovipositor), 10 mm. ; of wing, 8 mm.

Head reddish yellow, with a broad black patch on each side of the occiput, which shows no distinct lateral swellings. Frons with a dark stripe on each side, which is shining and prominent on the basal half ; the face and the rather narrow jowls are without dark spots. Antennae wholly yellowish, the third joint rounded at tip and a little longer than the face ; arista rather long plumose, the feathering being broader than the breadth of the third antennal joint. Palpi and proboscis dirty yellowish. The cephalic bristles seem to be all of a black colour, but they are in part broken off. Thorax black on the back, with a faint pale pubescence ; humeri pale yellowish ; the sides of back near the suture and on the hind half are partly of a dark reddish colour ; pleurae black, shining, but the whole sternopleura is yellowish. Scutellum triangular, flat above, pale yellowish on the sides and

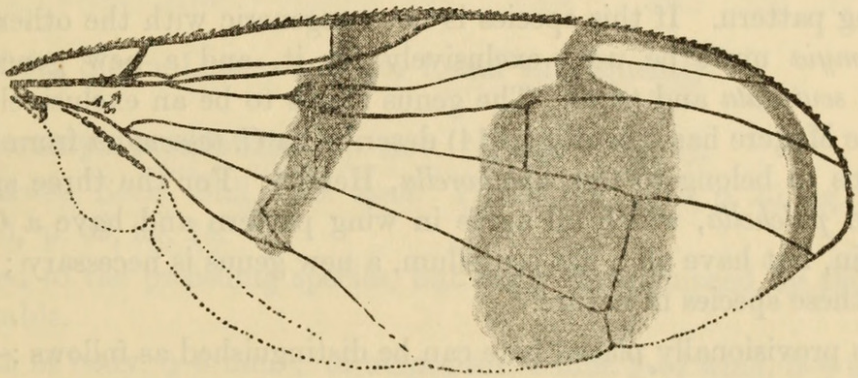

Fig. 1. Wing of *Conradtina suspensa*, sp. nov.

below, much darker reddish in the middle ; it bears four bristles. All the bristles are black ; sc. long and strong. Mesophragma entirely black, rather shining. Halteres pale yellow. Abdomen quite black, even on the venter; ovipositor black, flat, as long as the last two abdominal segments. Legs with all the coxae and the anterior and posterior femora pale yellow ; middle femora mostly dark brown ; all the tibiae dark brown or even blackish, with the tips narrowly reddish ; middle tarsi quite black, the others reddish at base. All the femora are armed on the apical half with two rows of short but strong, black spines, 3–4 in each row. Wings (fig. 1) with the normal venation ; the 3rd longitudinal vein is provided with 3–4 bristles only at its extreme base. They are whitish-hyaline, with three fuscous bands, disposed as follows : The first is narrow and extends perpendicularly from the stigma to the end of the anal cell. The second is very broad, shaped as a rounded spot extending from the 3rd vein to the hind border, enclosing the two cross-veins, and joined by a short peduncle to the apical band. This last, or the third, is narrow and regularly curved ; after the end of the 2nd vein it is removed from the costa, which is again reached at the end of the 4th, thus

forming a hyaline band, which is as broad as the fuscous band itself. This apical hyaline part is distinctly whitish. There is no trace of a dark streak across the middle of the last portion of the 4th vein.

Type ♀, a single, rather old specimen from the Congo, in the writer's collection.

II. Carpophthoromyia, Austen, 1910.

This genus was erected by Austen* on the type-species *vittata*, Fabricius and Loew, uniting with it also *grata*, Wiedemann and Loew, *scutellata* and *tritea*, Walker, and the two new species *formosula* and *pulchella*; it was distinguished from *Ceratitis* by its general facies, the flat and triangular scutellum and the tubular ovipositor. In 1913† I took it as the 5th section of *Ceratitis*, thus adding to it the species which are now placed in the new genus *Trirhithrum*. In 1914‡ Hendel (who at first§ had accepted it in the foregoing sense) restricted it to the two species *scutellata* and *tritea*, with the main characters of the colour of body, number of i. or., pattern of wings and shape of the cross-veins.

I have followed here these views of Hendel, but including in the genus also the type species *vittata*, which has the hind cross-vein not *Ceratitis*-like and has not even a typical wing pattern. If this species is not congeneric with the others, the name *Carpophthoromyia* must be used exclusively for it, and a new generic name is necessary for *scutellata* and *tritea*. The genus seems to be an exclusively Ethiopian one; Prof. de Meijere has recently (1914) described a *C. tomentosa* from Java, which however seems to belong to *Carpophthorella*, Hendel. For the three species *grata*, *formosula* and *pulchella*, which all agree in wing pattern and have a *Ceratitis*-like hind cross-vein, but have all a flat scutellum, a new genus is necessary; but I have not yet seen these species in nature.

The species provisionally placed here can be distinguished as follows:—

1(8). Second longitudinal vein rather straight; base of wing wholly infuscated, without streaks; scutellum flat above and white or pale yellow in colour; abdomen destitute of whitish transverse bands.

2(3). Wings without hyaline indentations at fore border and with the ∧-shaped band united with the fuscous of the base in the 3rd posterior cell; scutellum with brown tip .. .. *vittata*, Fabr.

3(2). Wings at fore border with a broad triangular hyaline indentation near the stigma; the inner branch of the ∧-shaped band is separated from the fuscous of the base.

4(5). Scutellum entirely yellow; abdomen ferruginous towards the base; femora tawny; costal cell partly hyaline .. .. *scutellata*, Walk.

5(4). Scutellum on its posterior margin with three black spots, which are not visible from above; abdomen entirely black; femora mostly black; costal cell wholly infuscated.

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* Bull. Ent. Res., i, April 1910, p. 71.

† Boll. Lab. Zool. gen. agr. Portici, vii, February 1913, p. 22.

‡ Wien. ent. Zeit., xxxiii, April 1914, pp. 80 and 97.

§ Wien. ent. Zeit., xxxi, February 1912, p. 15.

6(7). Frons with a transverse brown stripe; humeral calli dark brown; white mesopleural patch vertical; front femora entirely black .. *tritea*, Walk.

7(6). Frons with a longitudinal brown stripe; humeral calli white; mesopleural patch longitudinal; front femora whitish at apex *pseudotritea*, sp. nov.

8(1). Second longitudinal vein distinctly wavy; wings with basal streaks; scutellum rather convex and shining black; abdomen with two broad transverse bands of whitish pollen.. .. .. .. *superba*, sp. nov.

1. **Carpophthoromyia vittata,** Fabricius, Wiedemann; Loew, Berl. ent. Zeits., v, 1861, p. 262, pl. ii, fig. 3.

Originally described from Guinea, Loew has it from Senegal, and Austen records it from East Africa, Delagoa Bay, and from Natal, Malvern.

2. **Carpophthoromyia scutellata,** Walker, Ins. Saund., iv, 1853, p. 384, pl. viii, fig. 5.

Described with a query from Senegal, and recorded by Austen from Sierra Leone.

3. **Carpophthoromyia tritea** Walker, 1849; Austen, Bull. Ent. Res., i, 1910, pp. 72 & 76.

Described from Sierra Leone, and not found subsequently.

4. **Carpophthoromyia pseudotritea,** sp. nov. (Plate v, fig. 1).

Ceratitis tritea, Bezzi, Bull. Lab. Zool. Portici, vii, 1913, p. 25, fig. 2; Silvestri, l.c., viii, 1913, p. 69, fig. 14.

Closely allied to the preceding species, but easily distinguished by the characters given in the table.

♂♀. Length of body, 5–6 mm.; of ovipositor, 1 mm.; of wing, 5–6 mm.

In my previous papers I have referred the present species to *tritea*, Walker, with a doubt, owing to the character of the dark brown humeral calli as indicated by Mr. Austen. I have never seen the true *tritea*.

Now Dr. G. A. K. Marshall has compared the present specimens with the type in the British Museum, and has found that they belong to a distinct species. It differs in having the frons pale yellowish, with a brown longitudinal stripe, instead of being pale brownish on the upper half and whitish on the lower half, thus forming a transverse band. Besides, the humeral calli are white (not dark brown), and the white mesopleural patch is longitudinal (not vertical) and twice as long as deep. The front femora are whitish at the apex and the four posterior tibiae are entirely whitish (not brownish on the basal half). The hyaline indentation after the stigma on fore border of the wings is much shorter, ending a little beyond the 3rd longitudinal vein, instead of being continued backwards into the base of the 3rd posterior cell.

Type-♂ from Gold Coast, Aburi, 1912–13 (*W. H. Patterson*); type ♀ from Aburi, April–May 1911 (*L. Armstrong*); and some additional specimens from South Nigeria, Agege, 17th April 1914 (Dr. *W. A. Lamborn*). I have seen the specimens collected in South Nigeria, Olokemeji, by Prof. Silvestri, bred from fruits of *Pyrenacantha vogeliana*.

5. **Carpophthoromyia superba,** sp. nov. (Plate v, fig. 2).

A strikingly distinct species, which is provisionally placed in the present genus, notwithstanding the different shape of the scutellum and the basal streaks of the wings. It much resembles the Oriental genus *Anaplomus* in general appearance and wing pattern, but has a strong hm.

♀. Length of body, 5·5 mm. ; of ovipositor,* 2 mm. ; of wing, 6 mm.

Head pale yellowish, with a broad, reddish-brown stripe on middle of the frons ; occiput with a brown spot above on each side, and with well developed, white and whitish pilose, lower lateral swellings. Eyes narrow, higher than broad, acute below. Face rather narrow and long, entirely whitish ; a broad, reddish brown spot below the lower angle of eyes. Palpi whitish, broadly ovate, with short black bristles ; proboscis black. The antennae are wanting in the type ; there are only the basal joints, which are reddish. All the bristles of the head are black ; there are three strong i. or. ; the oc. are long but thin ; the ocp. strong and black. Thorax on the back entirely shining black, with sparse and short whitish pubescence ; the humeral calli and the notopleural depression are of a very dark reddish-brown colour ; on the pleura there is a broad, oblique, white stripe, which occupies almost the whole of the meso- and ptero-pleura ; sternopleura entirely reddish-brown ; there are two united white hypopleural spots. Scutellum entirely shining black ; it is convex and rounded ; only at the extreme base of the sides there is a very small, dark yellowish spot. Postscutellum and mesophragma shining black. Chaetotaxy complete ; all the bristles black ; dc. placed on the line of the a. sa. ; 2 strong mpl. ; 4 sct. Halteres with whitish stalk and blackish knob. Abdomen shining black, ovate ; with strong black bristles on the sides of last segment ; first segment dark ferruginous at base, with a broad and complete band of white dust at hind border ; the 2nd white band occupies more than the whole hinder half of the 3rd segment. The ovipositor is long, reddish, flat. Venter reddish brown, with pale dust. Legs and coxae pale reddish, the middle femora almost entirely black, the others broadly reddish at base ; tibiae and tarsi whitish, the middle tibiae more darkened at base ; front femora with 5–6 long, black bristles ; middle tibiae with a very long and strong, black spur ; hind tibiae with a short row. Wings broad and long. The extreme base is whitish hyaline ; after this there is a portion extending to the stigma and to the base of the 3rd posterior cell, occupied by parallel, alternate, blackish and hyaline longitudinal streaks. The stigma is occupied by a triangular, hyaline indentation, extended below to the 3rd vein. There is an arcuate, blackish band, which extends obliquely from the anal veins, passing over the small cross-vein, to the fore border, and along this to over the end of the 3rd vein, including some darker spots along the costa and leaving a very narrow clear stripe along it. The ∧-shaped band of the hind border is regular, but is broken in the middle, just above the 4th vein. Costal spine long and strong ; 2nd longitudinal vein distinctly wavy ; hind cross-vein oblique outwardly, 1st posterior cell very broad ; small cross-vein a little beyond the middle of the short and broad discoidal cell ; anal cross-vein very bent

* By ovipositor (and its length) is always meant what is in reality the 7th abdominal segment of the female. This is so called by authors and is always intended for *basal segment* ; the true ovipositor is the *apical segment*, which is mostly retracted, and thus only rarely recorded by authors in their descriptions.

in the middle ; inferior angle of anal cell not surpassing in length the second basal cell ; discoidal cell only about twice as long as the hind cross-vein.

Type ♀, a single specimen (British Museum) from Nyasaland, Limbe, Chiromo, Ruo R., 22 September 1916 (*R. C. Wood*).

Note.—The three species, provisionally placed here, which require the formation of a new genus, are :—

(*a*) *grata*, Wiedemann ; Loew, Berl. ent. Zeits., v, 1863, pl. ii, fig. 6 ; from Cape of Good Hope.

(*b*) *pulchella*, Austen, Bull. Ent. Res., i, 1910, p. 72, fig. 1 ; from Uganda, Entebbe, and recorded from Camerun by Dr. Speiser in 1915.

(*c*) *formosula*, Austen, Bull. Ent. Res., i, 1910, p. 74, fig. 2 ; from Uganda.

III. Leucotaeniella, gen. nov.

The present new genus seems to be allied to the Oriental *Taeniostola*, from which it differs in having 3 i. or., no black stripes on the thorax, abdomen with whitish instead of black bands, and different wing pattern. Head in front view as broad as high ; eyes much higher than broad, very narrow ; occipital lower swellings much developed ; jowls rather broad. Antennae inserted at the middle of the eyes, short, with the third joint rounded at tip and reaching only the middle of the face ; arista long plumose. Cephalic bristles long and strong, black ; 2 s. or. and 3 i. or., the latter very strong ; 2 vt., the inner more than twice as long as the outer ; ocp. well developed, black ; oc. strong and long ; genal bristle strong. Thoracic chaetotaxy complete ; scp. much developed, the inner ones closely approximate ; dc. placed only a little behind the line of the a. sa. ; 2 mpl. ; pt. long and strong. Scutellum rather convex above, but less than in *Ceratitis*, black-spotted, with 4 bristles. Abdomen ovate, bristly on the sides and at end ; male genitalia small ; ovipositor broad, flat, as long as the last three abdominal segments. Legs stout ; front femora with a complete row of bristles ; middle tibiae with a single spur ; row of bristles on hind tibiae short, developed only about the middle. Wings broad, shaped and patterned as in *Ceratitis*, but without basal streaks ; the bands are yellowish, partly infuscated at the borders. Costal bristle long and strong ; 1st longitudinal vein ending before the small cross-vein ; 2nd quite straight ; 3rd a little curved about the middle, and then parallel with the last portion of the 4th, with bristles on its whole length ; small cross-vein placed a little beyond the middle of the discoidal cell ; posterior cross-vein long, outwardly oblique ; discoidal cell long, about 2·5–3 times as long as the hind cross-vein ; anal cross-vein deeply sinuous, the anal cell with a rather broad point, which is not longer or even a little shorter than the second basal cell.

Type : the first of the two following new species, which may be distinguished as follows :—

1(2). Scutellum with a single black spot, the apical one (not counting the spots on the postalar calli, which are present in both species) ; wing bands broader, the basal one almost complete .. .. *trispila*, sp. nov.

2(1). Scutellum with three black spots ; wing bands narrower, the basal one less distinct .. .. *pentaspila*, sp. nov.

The possibility is not excluded that the above recorded *Trypeta grata* under *Carpophthoromyia*), notwithstanding the much darker coloration of the body, may belong to the present new genus, as suggested by the very similar shape of the head and of the wing pattern.

1. **Leucotaeniella trispila,** sp. nov. (Plate v, fig. 3).

A very distinct, pale-coloured species, with yellowish banded wings and with three very striking black spots on the postalar calli and scutellum.

♂♀. Length of body, 5·5–6 mm.; of ovipositor, 1 mm.; of wing, 5·5–6 mm.

Head entirely yellowish, without any dark spot, only the small ocellar dot being black; the lower occipital swellings, the face and the jowls whitish; all the bristles black; the hairs on occiput whitish. In the middle of the frontal stripe there is a less distinct, dark reddish, semicircular spot. Antennae entirely yellow, even the arista. Palpi whitish, with pale hairs and a few short black bristles at end; proboscis dirty yellowish. Thorax entirely reddish yellow; on the back there is pale pubescence and whitish dust, which forms three very indistinct darker longitudinal stripes; the humeral calli, a broad, oblique mesopleural stripe and two contiguous hypopleural spots are whitish or white; pleurae and mesophragma reddish, like the back; behind the suture, there is on the back a pale yellowish stripe on each side. On the postalar calli, just near the extreme base of scutellum, there is on each side a deep black, opaque, rounded spot. Scutellum shining pale yellowish; its single apical spot is subquadrate, less visible from above, filling out the space below and between the apical pair of bristles; it is shining black. All the bristles are black; pleurae with whitish hairs. Halteres whitish, with the base of stalk yellowish. Abdomen entirely reddish above, paler below, with pale hairs and black bristles; the transverse bands of whitish dust are on hind borders of first and almost on whole of 3rd segment; in the female there is a band also on the 4th segment. Male genitalia shining black, with yellow base; ovipositor entirely reddish, darker at the end. Legs and coxae entirely and uniformly pale yellowish; all the bristles black. Wings hyaline, with yellowish veins and the following yellowish pattern, margined with brown along the sides of the bands on the hind half: A basal band, going obliquely from the stigma to the end of the anal cell; the stigma is yellowish, with a dark brown, rounded spot near its base; the costal cell is hyaline in the middle, the second basal cell is yellow. An oblique band beginning after the stigma and separated from this, going over the small cross-vein to the middle of the last portion of anal vein. From this band runs a marginal stripe, which going along the fore border ends with a brown patch in the middle between the ends of the third and 4th longitudinal veins; along the costa this band encloses 3–4 small hyaline spots, partly bordered with fuscous. From the middle of this band runs an oblique streak, which, passing across the middle of the last portion of the 4th vein, reaches the hind border a little below the end of this last vein. Finally there is a broad edging to the hind cross-vein, which is widened and more infuscated near the hind border, and ends above in a point near the 3rd longitudinal vein.

Type ♂ and type ♀ (British Museum), a single pair of specimens from Nyasaland, Limbe, Chiromo, Ruo R., 22nd September 1916 (*R. C. Wood*).

2. **Leucotaeniella pentaspila,** sp. nov.

Closely allied to the preceding species, but at once distinguished on account of its three scutellar black spots and of the somewhat different wing pattern.

♀. Length of body, about 5 mm. ; of ovipositor, 1 mm. ; of wing, 5 mm.

Head wanting in case of type. Thorax as in the preceding, but there is no trace of the yellow lateral stripes, and behind the suture there is a faint, blackish pattern of a triangular shape; the whitish markings are as in the preceding species, and likewise the deep black spots on the postalar calli. Scutellum with the apical spot, and besides with a rounded spot on each side, just behind the root of the b. sct. ; these spots are partly visible from above. Mesophragma dark brown, blackish below, and with a black patch beneath the double hypopleural spot. Halteres whitish. Abdomen as in the preceding species, with three broad, whitish, transverse bands ; ovipositor similarly reddish. Legs entirely pale yellowish. Wings with the basal band less distinct, almost divided into spots, the basal cells being almost entirely hyaline, with only a few dark streaks at the end ; costal cell hyaline, with only a dark spot on each end ; stigma hyaline, with a rounded, blackish, basal spot. The oblique 2nd band is as in the preceding species, but narrower and uniformly darkened. The fore border is rather broad, but shows no distinct clear spots along the costa and is uniformly darkened ; the oblique streak running from it is narrower and at the base rather separated from it. The incomplete band on the hind cross-vein is narrow, and above does not extend into the first posterior cell, or only slightly so. The neuration is identical with that of the preceding species.

Type ♀ (British Museum), a single specimen without a head, from Anglo-Egyptian Sudan (*H. H. King*).

IV. Chelyophora, Rondani, 1875.

As stated by Prof. Hendel, after examination of the type, this genus is coincident with my own genus *Stictaspis*, 1913 ; it is however to be remarked that Rondani in his diagnosis says of the third antennal joint : " *nec distincte concavo superne, nec apice mucronulato.*"

1. **Chelyophora magniceps,** sp. nov.

Rather like *striata*, but distinguished by its shorter third antennal joint, only two i. or., different pattern of back and scutellum, and the fuscous band over the hind cross-vein being united with the basal one, instead of being united with the costal border.

♀. Length of body, 6 mm. ; of ovipositor, 2·5 mm. ; of wing, 6 mm.

Head less compressed, as broad as high, the frons therefore much broader than in *striata*. Occiput entirely yellowish, shining above, whitish and opaque on the rather developed lower swellings ; frons golden yellow, with faint sericeous reflexions ; ocellar spot reddish ; lunula and face whitish ; jowls very broad, with an indistinct dark reddish spot below the eye. The eyes are shorter, and proportionally less narrowed than in *striata*. Antennae entirely reddish, short, not reaching the middle of the face ; 3rd joint only twice as long as the 2nd, rather broad, with a sharp point on its upper terminal corner ; arista very long plumose. Palpi pale yellowish, with short black bristles ; proboscis reddish. All the cephalic

bristles are black; oc. long and strong; only two i. or., with a very thin and rudimentary one in front of the 2nd pair; pvt. long; genal bristle very strong. Back of thorax reddish, with yellowish pubescence; the black lateral spots are about as in *striata* and likewise shining above and velvety opaque below, but the middle longitudinal stripe is faintly indicated by a very narrow, dark brown line, and there is no black patch behind the suture; the pleurae are uniformly pale yellowish, immaculate; there is a double, whitish hypopleural spot; the mesophragma is shining reddish, and the postscutellum is black. The scutellum bears three very broad, shining black spots, the middle one extending above only to the middle of the disc, the lateral ones reaching the base; besides there is on each side a deep black, velvety opaque, rounded spot on the postalar calli, invading also the extreme sides of lateral margin of scutellum. Chaetotaxy complete, with strong and black bristles, the dc. are placed a little before the line of the a. sa.; scp. well developed; 2 mpl.; pt. very strong; 4 sct. Halteres pale yellowish, with a darker knob. Abdomen elongate, reddish, with pale yellowish base; hind border of 1st and almost the whole of 3rd segment with broad, complete, transverse bands of whitish dust. Ovipositor long, reddish brown, with short black hairs. Sides and end of abdomen with long black bristles; venter yellowish, with whitish dust. Coxae and legs entirely pale yellowish, the tarsi being a little darkened at the end; bristles black; hind tibiae without distinct row. Wings with strong costal bristle and normal neuration; the hind cross-vein however, which is rather perpendicular in *striata*, is here oblique as in *Ceratitis*; small cross-vein a little beyond the middle of the discoidal cell. Base of wing to the end of the second basal cell with alternate blackish and hyaline streaks, one dark streak in each cell, beginning with the costal and ending with the anal cell; a short perpendicular yellowish band extending from base of stigma to the 5th vein; stigma hyaline, with narrow yellow base. The other bands are yellowish, infuscated towards the hind border and disposed in the usual radiating form of *Ceratitis*; the oblique band over the hind cross-vein is united with the basal band in front of the small cross-vein; the marginal band has three fuscous spots along the costa, where it is narrowly colourless; the subapical oblique streak is complete and well united to the costal band. Along the 5th longitudinal vein the basal complete band is narrowly united with that of the extreme base.

Type ♀ (British Museum), a single specimen from Anglo-Egyptian Sudan (*H. H. King*).

V. Ceratitis, MacLeay, 1829, *s. str.*

As here restricted, the present genus is confined to the type species *capitata*, Wied., from which *C. catoiri*, Guérin-Méneville (Rev. Zool., vi, 1843, p. 197), is possibly distinct.* This latter species is recorded from the Island of Mauritius, and Froggatt in 1911 noted it from the Seychelles; *capitata* is known from the greater part of Africa.

*[*C. catoiri* is certainly distinct from *C. capitata*, being an obviously larger insect, almost equalling *C. rosa*, Karsch, in size. The oblique band over the hind cross-vein unites with the broad median band along the 4th longitudinal vein, and the apical section of this vein is crossed by an oblique fuscous spot. The stalk of the cephalic appendage in the male is much longer, the spatula being white in colour, and subtriangular, with the apex broadly truncate or slightly rounded; whereas in *C. capitata* the spatula is black and irregularly diamond-shaped.—Ed.]

VI. Pterandrus, gen. nov.

The present new genus is erected here for the 3rd section of *Ceratitis* in my paper of 1909.* It shows the complex of characters of the preceding genus, both structurally and ornamentally, but is very distinct in the male sex, which lacks the frontal appendages and has the middle legs feathered. The head is more compressed, and has the middle band of the frons less hairy; the arista has longer pubescence, even on the underside; the scutellum is similarly provided with stout, short hairs on the disc.

I have not succeeded in finding a distinction from the females of the following genus.

Type: *Ceratitis rosa*, Karsch, 1887.

The species of this exclusively Ethiopian genus may be distinguished as follows:—

1(6). Wings destitute of an oblique dark band across the last section of the 4th longitudinal vein.

2(5). Middle femora feathered beneath.

3(4). Middle tibiae broadly feathered; basal segment of the ovipositor short, measuring only 1 mm. in length .. .. *anonae*, Grah.

4(3). Middle tibiae more shortly feathered; ovipositor twice as long *colae*, Silv.

5(2). Femora not at all feathered; ovipositor short .. .. *rosa*, Karsch.

6(1). Wings with a distinct oblique dark streak across the middle of last section of 4th vein.

7(8). Femora quite yellowish; thorax yellowish on the back and with less distinct pleural whitish band.. .. .. *rubivorus*, Coquill.

8(7). The four posterior femora broadly black; thorax black on the back and with a distinct, white mesopleural stripe .. .. .. *volucris*, sp. nov.

1. **Pterandrus anonae,** Graham, 1908 (*pennipes*, Bezzi, 1908); Silvestri, Boll. Labor. Zool. Portici, viii, 1913, p. 61, fig. x.

Described from Ashanti and Congo, and recorded subsequently from South Nigeria.

2. **Pterandrus colae,** Silvestri, Boll. Lab. Zool. Portici, viii, 1913, p. 63, fig. xi.

Described from Gold Coast, Aburi, and from Camerun, Victoria.

There are in the collection some specimens of both sexes from Gold Coast, Aburi, 1912–13 (*W. H. Patterson*) (Plate v, fig. 4).

3. **Pterandrus rosa,** Karsch, Entom. Nachr., xiii, 1887, p. 22; Froggatt, Report 1909, p. 111.

Described from Delagoa Bay, and recorded from Natal.

I have received from Prof. Silvestri a pair of this species, caught at Durban, Natal, on 15th February 1917.

* Boll. Lab. Zool. gen. agr. Portici, iii, April 1909, p. 273–313, 4 figs. (see p. 277).

4. **Pterandrus rubivorus,** Coquillett, 1901 (*cosyra*, Fuller, 1900);* Silvestri, Boll. Lab. Zool. Portici, viii, 1913, p. 66, fig. xii.

Described from the Cape Colony; there is in the collection a ♀ specimen from Transvaal, Pretoria, 16th March 1914, in which the oblique streak on last portion of 4th vein is very faintly developed and hardly visible.

5. **Pterandrus volucris,** sp. nov.

Nearly allied to the preceding species, but at once distinguished by the broadly blackened legs.

♂. Length of body, 5 mm.; of wing, 5 mm. Occiput shining and yellowish above, with a blackish spot on each side, whitish opaque and with whitish hairs below. Frons dull yellowish, with a small and indistinct, dark spot on middle and with very sparse, short hairs; ocellar dot black; face pale yellowish; jowls narrow, immaculate. Antennae entirely pale yellowish; arista shortly plumose. Palpi and proboscis dirty yellowish. Cephalic bristles black; only two i. or. Thorax on back black, with greyish dust and short, yellowish pubescence; the sides and the hind half are shining; just before the scutellum there is a pale yellowish spot on each side. Pleurae dark brown, but the humeri and a broad mesopleural stripe are whitish. Pleurae with white hairs. All the bristles are black; dc. placed on the line of the a. sa.; a single mpl. Scutellum yellowish, with three very broad, rectangular, shining black spots and two very small basal ones; it bears 4 bristles, and short, pale yellowish hairs on the disc. Postscutellum shining black; mesophragma black, but with dense grey dust; a broad, double, whitish hypopleural spot. Halteres pale yellowish. Abdomen dark brown, with whitish pubescence and black bristles at the end; 1st and 3rd segment with a broad transverse band of whitish dust at hind border; genitalia shining yellow; venter brown, grey dusted. All the coxae pale yellow. Front legs wanting in type; middle and hind femora black, with yellow base; middle tibiae almost entirely black, hind tibiae pale yellowish with darkened base; all the tarsi are pale yellowish. Feathers of middle legs long but narrow, of an intense black colour; they are present on the last half of the underside of the femora, on the whole outer side and on the apical two-thirds of the inner side of the tibiae. The base of middle tibiae is clothed with argenteous tomentum. Wings hyaline, with scanty dark dots at base. First band narrow, extending from stigma across the small cross-vein to the end of the anal vein; the marginal band is separated from it, and shows the usual 5 dark dots. The oblique streak over the hind cross-vein is only a little produced above into the first posterior cell; the oblique streak across the middle of last portion of fourth vein is faint, but distinct. Venation normal; the small cross-vein is before the middle of the discoidal cell, which is narrow and long; stigma brown, with hyaline end; costal bristle short.

Type ♂ (British Museum), a single specimen from British E. Africa, Embu, 18th December 1913 (*G. St. J. Orde-Browne*).

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*[Mr. C. P. Lounsbury informs us that, so far as he is aware, the true *Ceratitis rubivora*, Coq., has been bred only from blackberries in the Cape District (where it is quite common and attacks no other cultivated fruit) and is not conspecific with the Natal fruit-fly (*C. cosyra*, Fuller, nec Walk.), as erroneously stated by Froggatt. The specimens of the Natal fly sent us by Mr. Lounsbury are certainly referable to *C. rosa*, Karsch.—Ed.]

It is very doubtful whether *Ceratitis penicillatus*, Bigot (Ann. Soc. Ent. France (7) i, 1891, p. 381; Froggatt, Report 1909, p. 108), from W. Africa, Assinia, belongs to the present genus.

VII. PARDALASPIS, gen. nov.

This new genus corresponds to the 4th section of *Ceratitis* on p. 277 of my above-quoted paper of 1909. It contains rather numerous species, which in the male sex are very easily recognizable by the simple frons and the simple middle legs. The wing pattern is mostly of a pale yellowish colour, but it is sometimes infuscated, and it varies from that of the type of *Ceratitis*, s. str., to that of *Pterandrus* (viz. with a separated costal band), and even to that of *Trirhithrum* (viz. with the middle band united to the marginal one).

Type: *Trypeta punctata*, Wiedemann, 1824.

The Ethiopian species may be distinguished as follows:—

1(16). Wings with the band over the hind cross-vein quite isolated.

2(13). The black spots of the scutellum are very broad, quadrate or rectangular, closely approximated, and covering almost the whole surface.

3(12). Last portion of the fourth longitudinal vein destitute of an oblique dark streak across its middle.

4(5). Wings broad, with strikingly developed basal streaks and dots and with the bands much infuscated; head of male with a peculiar and striking coloration .. .. *punctata*, Wied.

5(4). Wings with less developed basal pattern and with pale yellowish bands, which at most are infuscated only towards the hind border; head of male not peculiarly coloured.

6(7). Thorax destitute of black spots; species of greater size (8 mm.) *brêmei*, Guér.

7(6). Thorax with distinct black spots, at least on the sides beyond the suture; size smaller (not over 7 mm.).

8(9). Humeri with a distinct black spot; sides of thorax with black spots before the suture; scutellum with basal black spots .. .. *giffardi*, Bezzi. = cosy

9(8). Humeri and sides of thorax before the suture destitute of black spots; scutellum with no distinct basal spots.

10(11). Arista pubescent; back of thorax whitish, with some small, deep black dots; wings with the marginal band united at stigma with the basal one *silvestrii*, Bezzi.

11(10). Arista shortly plumose; thorax yellowish grey on the back, with broad, less distinct dark spots; marginal band isolated .. *morstatti*, Bezzi.

12(3). Last portion of 4th vein crossed over the middle by a well developed, oblique, dark streak; wings short and broad .. .. *antistictica*, Bezzi.

13(2). The black spots of the scutellum much smaller and broadly separated, the outer ones being more rounded; the scutellum therefore mostly yellow.

14(15). Scutellum with three black spots; wings with the marginal and the basal bands wholly separated from the stigma .. .. *flexuosa*, Walk.

15(14). Scutellum with five spots; the above-named two bands united together and with the stigma .. .. *quinaria*, sp. nov.

16(1). The band over the hind cross-vein is united with the basal one near the small cross-vein.

17(18). Wing bands more yellowish; a dark streak on last portion of the fourth longitudinal vein .. .. *stictica*, Bezzi.

18(17). Wing bands more infuscated; no streak on the fourth vein *inscripta*, Grah.

1. **Pardalaspis punctata,** Wiedemann, 1824; Silvestri, Boll. Labor. Zool. Portici, viii, 1913, p. 58, fig. ix.

A widely spread African species, which is known to attack cacao pods.

2. **Pardalaspis bremei,** Guérin Méneville, Rev. Zool., vi, 1843, p. 199.

Described from Senegal in the female sex and not found subsequently. It is possible that the present species is identical with one or other of the following; but it is larger and in the description there is no mention of black spots on the thorax.

3. **Pardalaspis giffardi,** Bezzi,* Boll. Labor. Zool. Portici, vii, 1912, p. 8, fig. 1 and p. 21; Silvestri, l.c., viii, 1913, p. 54, fig. vi.

Reared by Prof. Silvestri from various fruits in Senegal, French Guinea, Dahomey and South Nigeria.

There is in the collection a female specimen from S. Nigeria, May 1914 (*Dr. W. A. Lamborn*).

4. **Pardalaspis silvestrii,** Bezzi, Boll. Labor. Zool. Portici, vii, 1912, p. 10, fig. 2; Silvestri, l.c., viii, 1913, p. 56, fig. vii.

Known only from Senegal and French Sudan.

5. **Pardalaspis morstatti,** Bezzi, Boll. Labor. Zool. Portici, vii, 1912, p. 12, fig. 3.

Described from Camerun, Victoria, from where I have received it together with *Pterandrus colae*, Silv., which it much resembles both in general appearance and wing pattern; the middle legs of the male are however entirely simple, and on the front femora the characteristic ciliation of that species is lacking.

6. **Pardalaspis antistictica,** Bezzi, Boll. Labor. Zool. Portici, vii, 1913, p. 20, fig. 1; Silvestri, l.c., viii, 1913, p. 57, fig. viii.

Reared by Prof. Silvestri in South Nigeria from the fruits of a wild plant. It was at first described by me as a variety of *stictica*, Bezzi, but it seems to belong to a distinct species, as shown by the short and broad wings, which have a short discoidal cell, with the small cross-vein situated near its middle.

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*[There can now be no doubt that this species is a synonym of *Ceratitis cosyra*, Walk. (see p. 236, and Plate v, fig. 5), a specimen named by Prof. Bezzi having been compared with Walker's type. We have received the species in some numbers from the following localities:—Gold Coast: Aburi, Feb. and April 1911, bred from fruit of *Landolphia* (*L. Armstrong*); Nyasaland: Chiromo, Dec. 1916, bred from "mtondo" fruit (*R. C. Wood*); S. Rhodesia: Salisbury, Nov. 1914, bred from guavas, and Umtali, Aug. and Sept. 1915 (*R. W. Jack*).—Ed.]

7. **Pardalaspis flexuosa,** Walker, Ins. Saund., iv, 1853, p. 382, v. viii, fig. 2.

Described from the Cape and not found subsequently; the above-quoted figure by Westwood shows a very distinct species, with characteristic scutellum and wing pattern.

8. **Pardalaspis quinaria,** sp. nov. (Plate v, fig. 6).

Closely allied to the preceding species, but at once distinguished by the five scutellar black spots and by the more complete wing pattern.

♂♀. Length of body, 4·5-5 mm.; of ovipositor, scarcely 1 mm.; of wing, 4·5-5 mm.

Head entirely dull yellowish, grey dusted on the occiput, whitish on the face; frons in the middle with a broad, dark reddish spot, which is ill-defined. Antennae entirely yellow, with a shortly pubescent arista; jowls unspotted. Palpi whitish, without black bristles; proboscis yellowish. Cephalic bristles black or dark brown; oc. thin and long; 2 i. or.; genal bristle thin and yellow. Thorax entirely reddish yellow, paler on the sides, with whitish or pale yellowish pubescence; humeri and sides entirely destitute of black spots; on disc there are two pairs of black dots, like those of *silvestrii*, one at the suture, the other at the dc.; there are also two small black dots on each side, behind the root of the wings. Scutellum pale yellowish, shining, with five equally small, black spots, one at apex and a pair on each side, placed symmetrically. Mesophragma yellow, whitish dusted; hypopleural spot double, whitish. All the bristles black; dc. a little behind the line of the a. sa.; 1 mpl. Halteres whitish. Abdomen pale yellowish, with the 3rd segment distinctly darkened and with greyish bands on hind borders of 1st and 3rd segments; apical bristles reddish or blackish (in the female); ovipositor flat, entirely reddish. Coxae and legs entirely pale yellowish; their bristles and hairs are yellowish, only those of the front femora being black. Wings hyaline, with ill-developed dark basal spots; stigma yellowish, and from it a yellowish band goes over the small cross-vein to the hind border, becoming darker in the third posterior cell and disappearing before reaching the wing margin; the marginal yellowish band united to the stigma, with the usual five blackish dots and infuscated at end; the oblique band over the hind cross-vein is wholly infuscated and is produced only a little beyond the 4th vein above. Last portion of 4th vein without a dark streak. Costal bristle well developed; venation normal; small cross-vein placed on the first third of the rather long discoidal cell.

Type ♂ and type ♀ (British Museum), a single pair from Salisbury, 9th December 1915, bred from apricot (*R. W. Jack*).

9. **Pardalaspis stictica,** Bezzi, Boll. Lab. Zool. Portici, iii, 1909, p. 278, and vii, 1912, p. 6.

Described from the Congo and found in W. Africa, Ashanti, by Dr. Graham.

10. **Pardalaspis inscripta,** Graham, Bull. Ent. Res., i, 1910, p. 164.

Described from South Ashanti, Obuasi, and not found subsequently. Its position in the present genus is doubtful, chiefly because the wing pattern seems to be like that characteristic of the following genus *Trirhithrum.**

*[This species is a *Tririthrum* and identical with *T. nigerrimum* var. *coffeae*, Bezzi (see Plate v, fig. 9).—Ed.]

Note.—The two following species seem to belong to the present genus :—

(a) *Tephritis senegalensis*, Macquart, Suites à Buffon, ii, 1835, p. 468. Described from Senegal, seems to agree with *P. silvestrii*.

(b) *Ceratitis cosyra*, Walker, List Dipt. Brit. Mus., iv, 1849, p. 1042. Described from the Congo. Loew and van Roeder have believed it to be a synonym of *Cer. capitata* ♀; Fuller in 1900* has described under this name the *Pterandrus rubivorus*, Coquillett, or the very destructive "Natal fruit-fly."

VIII. Trirhithrum, gen. nov.

The present genus is considerably different in general colour of body and in pattern of wings from the three preceding genera, and shows more resemblance to the species of *Carpophthoromyia*, with which I united it, as 5th section of *Ceratitis*, in 1913.†

Prof. Silvestri‡ has studied the larva of *T. nigerrimum*, and has found that it shows some very important differences from the larvae of the species now placed in the three preceding genera, chiefly in the antennae and in the anterior spiracles. Thus the erection of a distinct genus for it and its allies seems to be justified.

Type : *Ceratitis nigra*, Graham, 1910.

The rather numerous species of this characteristic Ethiopian genus may be distinguished as follows :—

1(6). Last portion of fourth longitudinal vein crossed by an oblique dark band, the so-called middle band ; scutellum whitish or pale yellowish, with or without black spots.

2(3). Wings with basal streaks and dots and with complete middle band ; thorax densely grey tomentose on disc, with shining black sides and with light yellowish humeri and pleural stripe .. .. *lycii*, Coq.

3(2). Wing base not so patterned ; thorax quite shining black, even on disc, humeri and pleurae ; scutellum whitish, with broad and confluent black spots behind.

4(5). Middle band of wings complete ; legs entirely light yellowish *nitidum*, v. Röd.

5(4). Middle band interrupted in the first posterior cell ; femora black *albonigrum*, End.

6(1). Middle band reduced to a short tooth, which does not reach the fourth longitudinal vein ; scutellum entirely black, or only with two very small yellow dots below at end.

7(12). The short pubescence on back of thorax entirely black ; scutellum without yellow dots below on middle of hind border.

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* First Report of the Natal Government Entomologist, 1899–1900, p. 70, and Fourth Report, 1903–1904, p. 19, pl. iii, fig. 1 and 1a (*Cer. corysa*). [As mentioned above, this species is *P. rosa*, Karsch, and not *P. rubivorus*, Coq.—Ed.]

† Boll. Labor. Zool. Portici, vii, 1913, p. 22.

‡ Boll. Labor. Zool. Portici, viii, November 1913, p. 3–164, fig. i–lxix. Of this very important work there is an English edition published as Bull. No. 3 of the Division of Entomology of Board of Agric. Hawaii, Honolulu, February 1914.

8(11). Third abdominal segment with a complete whitish cross band at hind border; size greater (5–7 mm.).

9(10). Face creamy white on its lower two-thirds; wings with a triangular hyaline indentation at fore border before the stigma and with the cubital band narrower than the length of the hind cross-vein .. *nigrum*, Grah.

10(9). Face entirely shining black, with only a reddish mouth-border; wings entirely infuscated before the stigma and with the cubital band as broad as the hind cross-vein .. .. *gagatinum*, sp. nov.

11(8). Third abdominal segment with only two greyish, triangular spots towards its middle; frons and occiput of a bright reddish colour; size smaller (not over 4 mm.) .. .. *occipitale*, sp. nov.

12(7). The short pubescence on back of thorax entirely whitish; scutellum with two small yellow dots at hind border.

13(14). Base of wings hyaline, with a narrow dark band extending from the humeral cross-vein to the anal cell; halteres pale; pleurae grey dusted; scutellum with two bristles only .. .. *bimaculatum*, v. Röd.

14(13). Base of wings entirely fuscous, with or without hyaline spots, but with no distinct isolated band; halteres black; scutellum with four bristles.

15(16). Wings with no hyaline indentation at fore border before the stigma, or if with an indistinct one, the costal vein at any rate entirely black; face more or less broadly darkened .. .. .. *nigerrimum*, Bezzi.

16(15). A well developed hyaline indentation at fore border before the stigma, and the costal vein there broadly pale yellowish; face entirely cream white, or only narrowly infuscated above, near the root of antennae.

17(18). Wings with the stigma infuscated and with the hyaline space between the marginal and cubital bands ending before the small cross-vein; tibiae mainly yellowish .. .. *leucopsis*, var. nov.

18(17). Wings with much paler stigma and with the above-named hyaline space extended to the small cross-vein, at least above; tibiae mainly black *coffeae*, var. nov.

1. **Trirhithrum lycii,** Coquillett, Proc. U.S. Nation. Mus., xxiv, 1901, p. 30.

Originally described from specimens bred from *Lycium* sp. in the Cape Colony and not found subsequently. This species agrees in general wing pattern with the present genus, but is in some respects very different from the other species, and its position here is therefore very doubtful.

It is evidently congeneric with *Ceratitis loranthi*, Froggatt (Proc. Linn. Soc. N.S.W., xxxv, 1910, p. 863), bred at Perth, W. Australia, from fruits of *Loranthus pendulus* growing on *Eucalyptus* sp., and of which I have original specimens before me. The two species have a very similar thorax and wing pattern; but while in *lycii* the middle band of the wings is complete and reaches the hind margin, in *loranthi* it is reduced to a long tooth, which reaches but does not pass the 4th longitudinal vein. The head is not narrowed in profile and the eyes are rounded; the arista is nearly bare (Coquillett does not mention it in *lycii*); the dc. are placed

on the line of the a. sa. ; the small cross-vein is beyond not before the middle of the discoidal cell. The upper terminal angle of the third antennal joint is acute but not produced.

2. **Trirhithrum nitidum,** v. Röder, Berl. Ent. Zeits., xxix, 1885, p. 134.

Described from Delagoa Bay, and very distinct from the other species on account of the complete middle band of the wings. Not found subsequently.

3. **Trirhithrum albonigrum,** Enderlein, Zool. Zahrb., xxxi, 1911, p. 410, fig. A.

Described from Camerun, Barombi, and nearly allied to the preceding species, from which it is distinguished by the interrupted middle band of the wings.

4. **Trirhithrum nigrum,** Graham, Bull. Ent. Res., i, 1910, p. 162, pl. xii, fig. 1 (*obscurum*, Enderlein, 1911).

The present species seems to be widely spread in West Africa, being recorded from South Nigeria, Camerun and the Belgian Congo. I have never seen it, but only the following form, which seems to be distinct, at least as a variety.

5. **Trirhithrum gagatinum,** sp. nov.

Nearly allied to the preceding species, and perhaps only a variety of it, differing in its black face and the entirely infuscated costal cell of the wing.

♀. Length of body, 5·5 mm. ; of ovipositor, 1·5 mm. ; of wing, 5 mm.

Occiput entirely shining black, only dark reddish below at sides ; frons dark yellow, purplish above the antennae, with a black ocellar spot ; face shining black, with the upper mouth-border narrowly reddish ; jowls dark reddish, with a brown spot below the eye. Antennae blackish brown, with a broadly plumose arista. Palpi grey, very broad, with short, black, bristly hairs ; proboscis reddish brown. All the bristles are black, like those of the thorax and scutellum ; 2 i. or. ; oc. very strong ; dc. a little behind the line of a. sa. ; 1 mpl. ; pt. strong. Thorax entirely shining black, even on the pleurae, with the humeri very narrowly and in distinctly reddish ; pubescence of back short and entirely black ; hairs of pleurae longer, but likewise black. Scutellum entirely shining black, only at the sides in distinctly reddish, without yellow apical dots below ; it bears four bristles, and black, rather stout hairs. Mesophragma shining dark brown, like the hypopleura. Halteres black, with brownish stalk. Abdomen entirely shining black, dark brownish at base, with black hairs and numerous black bristles on sides at end ; the transverse band of whitish dust on third segment is narrow and abbreviated at the sides ; the pubescence above it is whitish. Ovipositor triangular, shining black and black pilose ; apical segment reddish. Venter shining black, with brown base. Legs with coxae and femora black, tibiae and tarsi pale yellowish, but the four posterior tibiae are broadly blackened at base ; bristles, spurs and hairs black ; hind tibiae with 4–5 short black bristles at the middle of the posterior edge. Wings as in *nigrum*, but with the base entirely infuscated along the costal cells and with the costal vein entirely black ; the cubital band seems to be broader, covering the whole of the

hind cross-vein. The discoidal cell is almost rectangular in shape, its basal vein being about as long as the apical one ; the small cross-vein is placed a little before its middle.

Type ♀ (British Museum), a single specimen from Gold Coast, Aburi, 1912–13 (*W. H. Patterson*).

6. **Trirhithrum occipitale,** sp. nov. (Plate v, fig. 7).

A very distinct species, being somewhat allied to the two preceding ones on account of the black pubescence of the thorax, but distinguished from all the known species by the bright reddish occiput.

♀ Length of body, 4 mm. ; of ovipositor, 1 mm. ; of wing, 4 mm.

Occiput reddish, bright ferruginous on the lower swellings, with a dark brown spot on each side of middle ; frons bright reddish yellow, without any dark pattern, except the black ocellar spot ; face entirely cream-white, only narrowly infuscated above near the roots of antennae ; the exceedingly narrow cheeks and the rather narrow jowls are of the colour of the occipital swellings, with a purplish spot below the eye. Antennae entirely dark reddish, with broadly plumose arista. Proboscis black ; palpi greyish, with black bristles. All the cephalic bristles are black, but less stout than in the preceding species, chiefly the oc. Thorax entirely shining yellowish even on the humeri and pleurae ; the pubescence on back and the hairs on pleurae black, like the bristles ; chaetotaxy as in the preceding, but all the bristles weaker. Scutellum and mesophragma, like the thorax and even the hypopleura, quite black ; 4 sct. Halteres black, with paler stalk, which at base is more yellowish. Abdomen shining black, with black hairs and bristles ; first segment with a narrow whitish hind border, which is interrupted in the middle ; 2nd and 3rd segment with a double greyish spot in the middle, more developed and distinctly triangular on the third. Ovipositor as in the preceding. Legs black, the tibiae and all the tarsi at end pale yellowish ; hind tibiae with a complete row of short bristles. Wing pattern blackish ; a great triangular hyaline indentation with the base on the costal cell and the apex in the first basal cell ; a broad border of the axillary lobe and the alula are greyish hyaline ; there is also a hyaline spot near the base of the anal cell. Costal vein yellowish along the hyaline indentation ; stigma blackish. Marginal band with four broad hyaline streaks along the costa ; middle band reduced to a well developed tooth ; cubital band as broad as the length of the small cross-vein and entirely covering the hind cross-vein ; the hyaline space between the marginal and the cubital bands with acute end and not reaching the small cross-vein ; basal band ending rather narrowly at end of the anal vein. Discoidal cell narrower at base than at end, the small cross-vein placed much before its middle ; lower point of the anal cell longer than the second basal cell.

Type ♀ (British Museum), a single specimen from Nyasaland, Limbe, 4,000 ft., 22nd September 1916 (*R. C. Wood*).

7. **Trirhithrum bimaculatum,** v. Röder, Berl. ent. Zeits., xxix, 1885, p. 135.

Originally described from Delagoa Bay and not found subsequently. It is said to have only 2 sct., a thing which seems probably due to the fact that a pair of bristles was accidentally broken off.

The present species is evidently allied to the following ones, chiefly to the var. *leucopsis*; but it seems to be distinguished by the broadly hyaline base of the wings and by the pale-coloured halteres.

8. **Trirhithrum nigerrimum,** Bezzi, Boll. Lab. Zool. Portici, vii, 1913, pp. 25 & 36, fig. 3; Silvestri, l.c., viii, 1913, p. 67, fig. xiii.

Bred from various fruits, but especially from coffee berries, by Prof. Silvestri in S. Nigeria, Lagos and Olokemeji; Gold Coast, Aburi; and Camerun, Victoria. Described originally by me as a variety of *nigrum*, and subsequently recognised as a different species by Prof. Silvestri. None of the specimens that I have seen were in good condition, and thus it is not possible at present to have a sure knowledge of this species, which seems to be variable; this variability may perhaps be connected with the fact that the specimens were bred from different plants; some related forms may be present. The colour of the face seems to vary from entirely white to entirely brown; the wings sometimes have a small hyaline indentation at the base (see my figure, in which the basal band is represented too broad at its lower end), which is usually not present.

9. **Trirhithrum nigerrimum,** var. **leucopsis,** var. nov.

Distinguished by the cream-white face and the hyaline indentation of the costal cell.

♂♀. Length of body, 3·5–4 mm.; of wing, 3·5–4 mm.

Occiput entirely black, only below at sides narrowly pale yellowish; frons in both sexes yellowish grey, with two more or less distinct dark transverse bands towards the middle and with a black ocellar spot; face quite white, like the narrow jowls, which bear a dark spot below the eyes; the face is more or less distinctly infuscated above, near the root of antennae. Antennae entirely yellowish, with a broadly plumose arista; proboscis black; palpi greyish brown. Cephalic bristles black. Thorax entirely black, even on the humeri, pleurae, hypopleurae and mesophragma; the short pubescence of the back is whitish, while the longer hairs of the pleurae are black; chaetotaxy normal, with black bristles. Scutellum like the thorax, but with two very small yellowish dots on middle of hind border, below the sct. Abdomen shining black, its grey markings as in *occipitale*, but those of the third segment not triangular in shape; ovipositor shining black, 0·7 mm. long. Legs black; tibiae and tarsi pale yellowish, but the tibiae more or less broadly blackened at base; hind tibiae with a complete row of bristles. Wing pattern and shape of discoidal cell as in *occipitale*.

Type ♂ (British Museum), a single specimen from Nyasaland, Limbe, 4,000 ft., 22nd September 1916 (*R. C. Wood*).

This specimen was caught together with the ♀ type of *occipitale*, but I think it is unlikely that it is the other sex of that species, owing to the different coloration of the head and chiefly of the pubescence of the back of the thorax, which in the known species is always similarly coloured in the two sexes. Besides, I have received from Dr. Mochi a couple of specimens from Erythraea, Ghinda, December 1916, in which the female has the head coloured as in the male, and has whitish pubescence on the back.

10. **Trirhithrum nigerrimum,** var. **coffeae,** var. nov.*

Very near the preceding form, but even smaller and distinguished by the characters given in the table.

♂♀. Length of body, 2·8–3 mm. ; of wing, 3 mm.

Head, thorax and abdomen as in the preceding variety ; but the vertex and the abbreviated lateral stripes of the frons, which are opaque in that form, are in the present distinctly shining. The tibiae are black, with the tip only narrowly pale yellowish. There are some important differences in the wing pattern : (1) The stigma is less infuscated, and before it there is a small black dot on the upper end of the 2nd costal cell ; (2) the marginal band is much narrower and very sinuous, because the four hyaline spots of fore border are broader and the two tooth-like projections are more pronounced ; (3) the hyaline space between the marginal and the cubital band is not acute at the base, but ends exactly on the small cross-vein, being there truncated obtusely ; therefore the cubital band is differently shaped at the base ; (4) there is a broad hyaline spot at the base of the 3rd posterior cell, in front of the anal cross-vein.

Type ♂ and type ♀ (British Museum), a single pair of specimens from Gold Coast, Aburi, December 1910 (*L. Armstrong*), bred from coffee berries.

It is curious that Prof. Silvestri at the same locality (Aburi) in January 1913 bred from coffee fruits the form above recorded as *nigerrimum*, which differs from the present one in the colour of the face and wing pattern. These variations may be only individual, or they may depend on the breeding conditions, or even only on the state of preservation of the specimens.

Ceratitis albomaculata, v. Röder (Berl. Ent. Zeits., xxix, 1885, p. 136), from Delagoa Bay, is doubtfully referable to the present genus, but has a similar wing pattern, with basal streaks and no middle band or tooth ; it is said however to have the anal cross-vein not deeply sinuous, and is therefore perhaps to be excluded from the allies of *Ceratitis*.

IX. Xanthorrhachista, Hendel, 1914.

I will give here an account of the characters of this very peculiar genus, which was recently erected in a few words only by Prof. Hendel.†

Body *Acidia*-like, but more elongate, shining testaceous, with small black dots on the thorax and scutellum. Head in front view distinctly higher than broad, but in profile subquadrate, being much swollen below on account of the very developed lower occipital swellings ; cheeks narrow ; jowls broad. The position of the head is very peculiar, the neck being inserted very low, so that the head is raised considerably above the front border of the thorax (" *Kopf balancierend* " of Prof. Hendel). Eyes twice as high as broad, but not much narrowed. Antennae inserted a little above the middle of the eyes, with the third joint rounded at tip and extended a little beyond the middle of the face ; arista shortly plumose, the breadth of the feathering being less than the breadth of the 3rd antennal joint. Face with a distinct middle keel in the upper half, flattened below and slightly prominent at the mouth-border. Palpi broad and spathulate, with short bristles ; proboscis short and thick.

*[As mentioned above (p. 235) this form is identical with *T. inscriptum*, Graham (1910).—Ed.]

† Wien. Ent. Zeit., xxxiii, April 1914, p. 81.

Cephalic chaetotaxy complete; oc. rather short; 2 i. or.; ocp. thin, short, acute, yellow. Thorax rather elongate, with the transverse suture broadly interrupted in the middle; chaetotaxy complete, but the middle scp. are wanting, while the exterior ones are strong; dc. placed a little behind the line of a. sa.; only 1 mpl.; pt. stronger than the st. Scutellum broad, triangular with rounded sides, convex above, with four bristles. Abdomen with bristles on sides and at end; male genitalia strongly developed; ovipositor as long as the abdomen, conico-tubular, pubescent above. Legs very long and slender, simple; front femora with a few (3–5) but strong bristles below on apical half; middle tibiae with a single spur; the hind tibiae with a row of sparse but strong bristles. Wings long and proportionally narrow, adorned with longitudinal yellowish bands and an oblique apical streak. Costal bristle short, but distinct; 2nd longitudinal vein straight; 3rd longitudinal vein bristly throughout its whole length, bent below in its last portion and there parallel with the last portion of 4th; small cross-vein placed very near the base of the long and narrow discoidal cell, which is more than twice as long as the 2nd posterior cell; hind cross-vein oblique outwardly, about as in *Ceratitis*; anal cross-vein bent in the middle; lower angle of anal cell with an acute point, which is a little longer than the 2nd basal cell; last portion of 4th vein gently curved above near the base.

1. **Xanthorrhachista cephalia,** Hendel, Wien. ent. Zeit., xxxiii, 1914, p. 81.

A beautiful fly of large size, readily distinguished by the black spots on the thorax and the yellowish longitudinal stripes on the wings.

♂♀. Length of body, 8–9 mm.; of ovipositor, 3 mm.; of wing, 9–10 mm.

Head entirely testaceous, shining only on the occiput; frons more pale yellowish in front and face more whitish; there are no dark spots whatever, even on the ocellar area; occipital swellings whitish below, chiefly in the male, and clothed with pale yellowish hairs. Antennae entirely pale yellowish or whitish; the bristles of the second joint and the arista are yellowish. Palpi pale yellowish or whitish, with yellow hairs and bristles; proboscis dirty testaceous. Cephalic bristles mainly reddish yellow, only the 2 s. or., and sometimes the oc. or one of the i. or. being darkened or even black. Thorax shining testaceous, with the humeri and a mesopleural stripe more or less yellowish or whitish; on the back there is a thin whitish dust and a short pale pubescence; on the pleurae there are longer but sparse whitish hairs. The black dots are small and rounded, disposed as follows: a pair just behind the suture, in front of the dc., being the most conspicuous and shining; two pairs on the sides, velvety opaque, the one just below and behind the a. sa., the other smaller on the postalar callus, near the base of sides of scutellum; more difficult to see is a third small, elongate dot, very near the root of wings. Mesophragma and hypopleural callosities shining yellowish, the latter not forming a distinct spot. Scutellum like the thorax; its three small black dots shining, the apical one placed between the a. sct., the lateral ones below and behind the b. sct.; on the disc there are sparse and short, yellowish hairs. All the thoracic, scutellar and pleural bristles are reddish yellow in colour. Halteres pale yellowish. Abdomen coloured and shining like the thorax, wholly immaculate; its pubescence reddish yellow, like the bristles, which are sometimes infuscated on the last segments. Male genitalia

reddish yellow, with pale pubescence; ovipositor reddish, shining, with yellowish pubescence. Leg entirely pale yellowish, immaculate, with yellowish pubescence and bristles; the bristles of the front femora very strong in the female. Wings shining, with yellow veins; the base broadly yellow to the small cross-vein; from it there runs a marginal stripe, which does not extend below beyond the 3rd longitudinal vein, being only slightly produced beyond that vein at its apex; this stripe is yellowish in colour, but has some dark spots along the costa (two in the costal and two in the marginal cell) and is besides infuscated at the apex. The second longitudinal stripe, or yellowish ray, runs along the upper vein of the discoidal cell, ending at its apex and there being bent below to form a dark band over the hind cross-vein. A small, oblique, fuscous band crosses the middle of the last portion of the 4th vein, extending from the hind border of the wing to the 3rd vein, which meets the costal stripe. The hind border of the wing is broadly but faintly yellowish-fuscous on the 3rd posterior and axillary cells. The stigma is yellow like the costal stripe, but is broadly and faintly infuscated towards the middle.

I assume the above-described species to be identical with that named, but not described, by Prof. Hendel from E. Africa. There are in the collection some specimens from British East Africa, Masai Reserve, viz. a ♂ from Ngare Narok, 31st December 1913, about 6,000 ft. (*Capt. A. O. Luckman*), and a couple, 2nd April 1913 (*T. J. Anderson*). I have in my collection a male taken at Kikuyu by *Doherty*, and given me many years ago by the late Dr. Magretti, the well-known dipterologist.

Trypeta jucunda, Loew (Berl. Ent. Zeits., v, 1863, p. 258, pl. ii, fig. 1), from Caffraria, is perhaps allied to this species, but apparently not congeneric with it, on account of its bare arista, short ovipositor and very differently placed small cross-vein; it is besides much darker in body coloration, and the wing pattern is of a very different type.

X. Themarictera, Hendel, 1914.

This genus also was recently erected by Prof. Hendel* on the undescribed type-species *Th. rufipennis* from S. Nigeria. I will give here the essential characters of the genus from a species which I assume to be the *Trypeta flaveolata* of Fabricius and Wiedemann, with which probably the species of Prof. Hendel is identical.

Head very broad, twice as broad as high, and considerably broader than the thorax. Eyes rather rounded, being only a little higher than broad. Frons very broad, not prominent at base, but rather prominent at its apex. Antennae inserted towards the middle of eyes, only a little shorter than the face; 3rd joint rounded at end; arista broadly plumose. Face concave, with a flat, triangular middle keel, rather prominent at mouth-border; antennal grooves narrow and deep. Cheeks moderately broad, jowls very broad; mouth-opening broad. Palpi less dilated at end, bristly; proboscis short. Cephalic chaetotaxy complete, with 2 i. or., the 2nd pair of which is placed much nearer the middle line than the first; but all the other bristles are broken off in the specimen examined. Thorax elongate, with complete chaetotaxy, but the st. wanting (according to Hendel); 1 mpl.; dc. placed much behind, about in the line of the first p. sa. Scutellum proportionally small, flat above, triangular, with two pairs of strong bristles and between these a 3rd pair

* Wien. Entom. Zeit., xxxiii, April 1914, p. 77.

of much weaker ones, which are sometimes hardly distinct. Abdomen elongate, with distinct but not strong bristles on sides and at end; ovipositor conical, long, but a little shorter than the abdomen. Legs rather stout; front femora with 3–4 strong bristles below. Wings long and proportionally narrow, much variegated, having the fore half yellow and the hind half with a broad blackish band and some hyaline indentations along the hind border. Costa densely but shortly ciliated, without a distinct bristle; stigma long; 2nd longitudinal vein wavy; 3rd bristly throughout its whole length, with the last portion a little bent before the middle and parallel with the 4th, the first posterior cell being proportionally narrow and long; discoidal cell much longer than the very short and almost triangular 2nd posterior cell, the small cross-vein placed much beyond the middle and very near the posterior cross-vein, which is rather perpendicular and longer than its distance from the small one; anal cell broad and long, with the lower angle acute and produced but not longer than the second basal cell. In consequence of the breadth of the marginal and submarginal cells, the discoidal and posterior cells are narrower than usual, and the discoidal cell is thus placed much nearer to the hind border of the wing than in the related forms.

1. **Themarictera flaveolata,** Fabricius, 1805; Wiedemann, Auss. Zweifl., ii, 1830, p. 481.

A large and handsome species, obviously recognisable from the short descriptions of Fabricius and Wiedemann.

Head and its appendages wholly reddish yellow; their bristles are entirely black, like those of the thorax and scutellum. Thorax, scutellum and mesophragma entirely reddish yellow and shining, the pleurae being a little paler; the two rounded black spots are placed just above the humeri, one on each side. Abdomen shining and coloured like the thorax, darkened along the middle line, with yellowish pubescence and black bristles; ovipositor black and with black pubescence. Legs entirely yellowish, with pale pubescence and black bristles. Wing pattern well described by Wiedemann.

Originally described from Guinea, there is a ♀ specimen (British Museum) from Dahomey, Cotonou, 70 miles W. of Lagos, 29th May 1914 (*W. A. Lamborn*).

2. **Themarictera laticeps,** Loew, Berl. entom. Zeitschr., v, 1861, p. 260, pl. ii, fig. 2.

Originally described from Caffraria, and apparently distinct from the preceding species on account of some minor details of the wing pattern.

Of the allied genus *Themara* there is a known Ethiopian species, *T. fallacivena*, Enderlein (Zool. Zahrb., xxxi, 1911, p. 422), described from Fernando Po, and recorded by Dr. Speiser in 1915 from Camerun, Soppo and Victoria.

XI. Baryglossa, gen. nov.

I have to erect here this new genus for a peculiar form, which shows a wing pattern recalling that of some Oriental species of *Rioxa* and *Ptilona* and closely approaching the reticulate type.

Body short and proportionally broad, rather stout. Head low and broad, in front view broader than high. Eyes greatly developed, occupying almost the whole of the

head in profile view and obviously rounded. Occiput flat; frons flat, with parallel sides, prominent only above the antennae, with the middle band thinly pilose. Cheeks linear; jowls very narrow. Antennae inserted towards the middle of eyes, as long as the face; 3rd joint not much longer than broad, rounded at end; arista long and thin, bare. Face shorter than the length of the frons, with a broad but flattened keel extending to the base of the antennae, which are thus rather broadly separated. Mouth-opening less broad; palpi dilated at end, projecting, thickly pilose but not bristly; proboscis exceedingly incrassated (whence the generic name), cylindrical, with broad and fleshy terminal flaps, as long as the length of lower border of head. Cephalic bristles well developed; ocp. long, thin, acute, black; pvt. diverging; oc. long but thin; 2 s. or. and 2 i. or.; mouth-borders bristly on sides. Thorax short and broad, rather flat on the back; chaetotaxy complete, but the bristles rather thin; middle scp. short but distinct; dc. placed much behind, very near the prsc., about on the line of the first p. sa.; 2 mpl.; st. weaker than the pt. Scutellum broad, convex above, rounded on the sides, thinly pilose on the disc, with three pairs of bristles of nearly equal size. Abdomen broadly ovate, with separated segments, thinly pilose, without distinct bristles. Legs short and stout; front femora with long and thin bristles; middle tibiae with a single spur; hind tibiae with no distinct row. Wings proportionally short, rounded outwardly, with no distinct costal bristle. Auxiliary vein distinct and callose at end; costal cell rather broad; 1st longitudinal vein ciliated; stigma a little longer than broad; 2nd longitudinal vein straight, 3rd with very long bristles throughout its whole length, ending near the apex of wing, parallel with the last section of the 4th; discoidal cell twice as long as the second posterior cell, much broader at end than at base, the small cross-vein placed at its middle; hind cross-vein perpendicular, gently arched outwardly; lower angle of the anal cell produced into a very long and narrow point, very like that of *Dacus*. The wings are wholly infuscated, with hyaline indentations and spots.

Type: the following new species:—

1. **Baryglossa histrio,** sp. nov.

A strange insect, very distinct from any other Ethiopian Trypaneid owing to its very thickened proboscis, as well as its peculiar body- and wing-pattern.

♂. Length of body, 5 mm.; of wing, 5 mm.

Head entirely yellowish grey, without any dark pattern, except a small, black ocellar dot. Antennae entirely yellowish, the 3rd joint a little darker; arista fuscous, with yellowish base. Palpi and proboscis wholly yellowish. All the cephalic bristles black, like those of thorax and scutellum. Thorax entirely yellowish grey, opaque, paler on the pleurae, darker on the back, yellow before the scutellum; there are on the back two indistinct longitudinal darker stripes, one on each side of the middle line. The hairs of thorax are dark yellowish, those on the back rather long. Mesophragma brownish, shining below. Scutellum yellow, opaque, with a black terminal spot, which is rounded in shape and fills up the space between the a. sct. Halteres pale yellowish. Abdomen yellow, opaque, with a very striking black pattern, which extends to the sides and apex and is formed by a very small spot at hind border of 1st, by a broader one occupying all the sides of the 2nd, by a still broader on 3rd segment, which may be said to be entirely black with a rounded yellow

spot united with the yellow part of the preceding segment; 4th segment entirely black, being only narrowly yellow at the extreme base; all this black pattern is opaque inwardly and shining laterally and behind, the 4th segment being wholly shining. Venter uniformly whitish yellow. Genitalia black. The whole abdominal pubescence is black. Legs and coxae entirely pale yellowish, unspotted, with pale yellowish pubescence, blackish bristles and black spurs and claws. The wings are dark brown, with the following whitish hyaline indentations and spots: (1) Along the border, an indistinct indentation in the first costal cell; two broader ones of about equal size in the 2nd costal cell; three in the marginal cell, the apical one smaller and more apart; two in the submarginal cell. the first broader and triangular, both extending to the 3rd longitudinal vein; one in the hind half of the first posterior cell; three in the second posterior cell, the middle one being longer and stripe-like; three in the third posterior cell, extending to the fifth vein and partly fused together. The axillary lobe is nearly entirely yellow. (2) The discal spots are: one in the middle of the submarginal cell, just behind the apex of the triangular indentation of the marginal cell; one in the first basal cell before the small cross-vein, and beyond this two others at equal distance in the first posterior cell, disposed in the same line with the preceding and followed by two more, one above the other, the second being of greater size; two in the discoidal cell, that in the middle being broader and extending to the 5th vein. The anal cell is broadly hyaline towards its middle. The stigma is wholly black. The costal vein is yellowish on the hyaline indentations, and black on the dark parts; the other veins are dark brown.

Type ♂ (British Museum), and an additional specimen of same sex, from Congo belge, Mayumbe (*R. Mayné*).

XII. Cladoderris, Bezzi, 1914.

Of this aberrant genus recently described by me,* I have seen only the typical specimens collected at Aburi, Gold Coast, by Prof. Silvestri.

The want of the i. or. as well as the form of the head are perhaps indications that the form belongs to the Ortalidae, like the strange *Agrochira* (*Mesanopin*) *tephritina*, Enderlein, 1912, some specimens of which are present in the collection, from Durban, 16th May 1915 (*L. Bevis*). I have seen an allied form from the Philippine Islands, collected by Prof. C. F. Baker.

XIII. Ptiloniola, Hendel, 1914.

A genus recently erected by Prof. Hendel† and owing to its wing pattern obviously related to the group of the numerous Oriental forms near *Ptilona*, *Rioxa*, *Rioxoptilona*, etc.

Owing to the fact that in my species there are rudimentary but distinct oc., and the posterior femora have not distinct bristles below, I will give here an account of the generic characters, based on the single species known to me, viz. the following one described as new:—

Head in front view a little broader than high, not compressed; occiput flat, only slightly concave above, with the lower lateral swellings not much developed, but

* Boll. Lab. Zool. Portici, viii, May 1914, p. 303, fig. iii.

† Wien. Ent. Zeit., xxxiii, 1914, p. 79.

distinct; eyes rounded, about as broad as high; frons very narrow, distinctly narrower than the eye, with parallel sides, not prominent in profile, even at base of antennae; lunula broad; face narrow above and widened below, with a flat, triangular middle keel and rather prominent at mouth-border; cheeks linear; jowls narrow. Antennae inserted towards the middle of the eyes, shorter than the face; 3rd joint rounded at end; arista plumose, but not broadly. Palpi not or but little dilated at end, bristly; proboscis short. Ocp. strong, numerous, acute, black; oc. very short and thin, but distinct; 2 i. or.; genal bristle strong. Thorax elongate, with parallel sides, flat above; chaetotaxy complete, with strong bristles; dc. placed much behind, near the line of the first p. sa.; middle scp. as thin as the outer ones; one strong mpl. and below this a smaller one; st. much stronger than the pt. Scutellum flat above, triangular, with lateral keels, bare on the disc, with four strong bristles. Abdomen ovate, not longer than the thorax, with strong bristles on sides and at end. Ovipositor flat, triangular, not longer than the half of the abdomen. Legs not elongated; front femora with 4–5 strong bristles below; middle tibiae with one spur; hind femora without bristles below; hind tibiae with a distinct posterior row. Wings proportionally narrow and long, entirely infuscated, with hyaline indentations and spots. No distinct costal bristle; stigma elongated, more than three times as long as broad; 1st longitudinal vein with stout bristles and ending above the small cross-vein; 2nd vein straight; 3rd bristly throughout its whole length, exactly parallel with the last section of the 4th; the segment of the costa between the ends of 1st and 2nd longitudinal veins only a little longer than that between the 2nd and 3rd; small cross-vein beyond the middle of the discoidal cell, which is much broader at end than at base; hind cross-vein perpendicular, a little arched outwardly, about as long as its distance from the small one; lower angle of the anal cell rather short and broad, triangular, shorter than the 2nd basal cell.

1. **Ptiloniola neavei,** sp. nov.

A very distinct species on account of its entirely infuscated wings, which have only a few narrow hyaline spaces.

♂♀. Length of body, 6–7 mm.; of ovipositor, 1 mm.; of wing, 7–8 mm.

Head entirely reddish yellow, paler below and on the occipital swellings; occiput with a blackish horizontal stripe extending from the neck to the lower edge of the eyes and forming a continuation of the dark notopleural stripe; frons unspotted, with only a narrow, black ocellar dot; jowls unspotted; antennae, palpi and proboscis pale reddish yellow. Cephalic bristles black, except the genal bristle, which is yellow; frontal band with sparse, scattered, short hairs; occiput below with long, whitish pile. Thorax reddish testaceous on the back, pale yellowish on the pleurae, these two parts being separated by the blackish, narrow, horizontal notopleural stripe, extending from the humeri to the root of the wings; the back rather shining, with short pale yellowish pubescence; pleurae shining, with longer whitish pile. All the bristles black, but the second mpl., the pt. and the strong st. yellow. Scutellum like the thorax and with the sct. black. Mesophragma shining testaceous, infuscated on the sides, where the hypopleural callosities are pale yellowish like the pleurae. Halteres with yellowish stalk and blackish knob. Abdomen rather shining, testaceous towards the middle, black on the sides and on the whole of last

segment ; pubescence and bristles black ; venter yellowish ; ovipositor black. Legs and coxae entirely pale yellowish, with whitish pubescence and yellow bristles ; only the apical spur of the middle tibiae and the tip of the claws are black. Wings wholly infuscated, more intensively on the elongated stigma and near the end of fore border ; there is a small rectangular hyaline spot on the costa, just behind the upper end of the stigma, as long as one third or one half of the marginal cell ; another small hyaline rounded indentation at the middle of the 2nd posterior cell on the wing border ; the 3rd posterior cell at hind border and almost the whole of the axillary cell are greyish hyaline. In the middle of the wing there is always present a small, rounded, hyaline dot at the middle of the base of the 1st posterior cell, a little before the hind cross-vein ; besides there are more or less distinct traces of two other dots, one in the discoidal cell below the small cross-vein, and one in the 1st basal cell ; these three dots are placed symmetrically around the small cross-vein, thus forming nearly an equilateral triangle. The veins are blackish, with yellowish base.

Type ♂ and type ♀ (British Museum) and some additional specimens from Nyasaland, Mt. Mlanje, 22–26th November 1912, collected by *S. A. Neave*, in whose honour the species is named.

This species is certainly distinct from the undescribed type-species of the genus, *P. preussi*, Hendel, 1914, from Camerun.

2. **Ptiloniola tripunctulata,** Karsch, Ent. Nachr., xiii, 1887, p. 5, fig. 4.

Described from Pungo Andongo, W. Africa, as a *Hemilea*. The figure of the wing pattern shows a great resemblance to that of the above-described *neavei*, but the three hyaline discal spots are more developed, and that of the discoidal cell, instead of being placed near the small cross-vein, is very near the hind one, and therefore they are not disposed symmetrically as in *neavei*. The thorax is described as having two (not one) blackish stripes on each side.

Perhaps it will be found that the present species is the same as *preussi*, if the hind femora prove to be provided with bristles.

Note.—I do not know what is the genus *Coelopacidia*, with the type-species *C. madagascariensis*, Enderlein (Zool. Zahrb., xxxi, 1911, p. 442), from Madagascar, and I am unable to establish its systematic position. The author places it near *Acidia*, but in Prof. Hendel's table it comes near *Platyparea*.

XIV. Rhacochlaena, Loew, 1862.

This genus, which was founded on a very rare European species, is clearly differentiated from all the others here recorded on account of the complete want of the prst. ; a character which it shares only with the genus *Staurella* and which seems to be only rarely present in Ethiopian Trypaneids. As I have before me the single Ethiopian species of the present genus, which was described by Loew in a few words only, I will give here a complete description of it :—

1. **Rhacochlaena fasciolata,** Loew, Wien. Ent. Monats., vii, 1863, p. 16 (fig. 2).

The two broad shining black spots of occiput extend obliquely from the insertion of the neck to the upper edge of the eyes ; they are narrowly margined with yellow. The frons is dull, shining only near the vertex, with a black ocellar spot and a dark

ill-defined spot towards the middle; cheeks linear; jowls narrow, unspotted. Antennae wholly pale yellowish; arista pubescent, with distinct but short hairs. Proboscis and palpi pale yellowish, the latter with black bristles. All the cephalic bristles are black; 3 i. or.; no oc.; ocp. thin, acute, black. Thorax on back rather dull, with indistinct pale pubescence; all the bristles black; dc. placed much behind, almost in a line with the first p. sa.; 2 mpl.; pt. as strong as the st.; middle scp. rudimentary. Hypopleural spot whitish. Scutellum triangular, with distinct lateral keels, bare on the disc, with four black bristles. Halteres pale yellowish. Abdomen with black pubescence and stout black bristles at the end; it is almost entirely shining blackish brown, with a yellow middle spot on the second segment, extending in front over the hind border of the first segment. Male genitalia shining black,

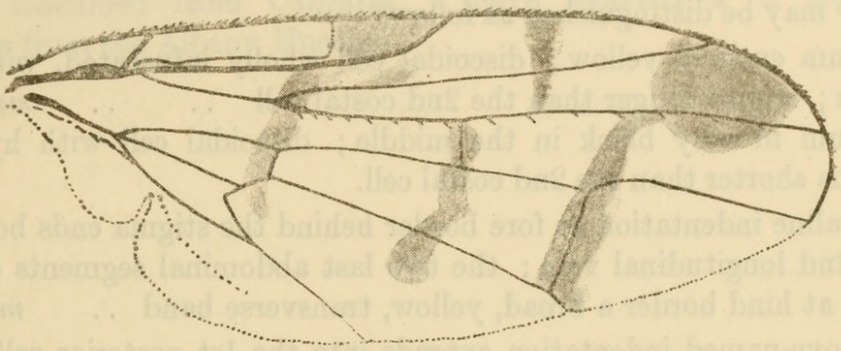


Fig. 2. Wing of *Rhacochlaena fasciolata*, Loew.

with yellow base; venter with the sternites pale yellowish, with a black basal spot. Legs entirely pale yellowish; hind tibiae with a row of long bristles. For the wing pattern see the figure. The 3rd longitudinal vein is bristly throughout its whole length; costal bristle small, but distinct; small cross-vein placed after the middle of the discoidal cell.

Originally described from Orange Free State, Bloemfontein (*Tollin*), I have received from Prof. Hendel a male specimen likewise from the Orange Free State, Bothaville, 15th December 1898 (*Dr. H. Brauns*).

2. **Rhacochlaena hammersteini,** Enderlein, Zool. Zahrb., xxxi, 1911, p. 440, fig. R. Described from Madagascar, as a *Euphranta*, and apparently belonging to the present genus, like *Trypeta lemniscata* from Formosa.

Note.—The widely spread genus *Phorellia*, Robineau-Desvoidy, 1830 (= *Spilographa*, Loew), is certainly present in the Ethiopian Region, but I have not seen specimens belonging to it. It seems that the two following species may be placed in it: (a) *Forellia brunithorax*, Robineau-Desvoidy, Myod., p. 762, from Mauritius; and (b) *Acidia tristriata*, Karsch, Ent. Nachr., xiii, 1887, p. 7, fig. 6, from W. Africa, Pungo Andongo.

XV. Philophylla, Rondani, 1870.

Of the Ethiopian species described as "*Acidia*," I think that the following may be provisionally placed in the present, eminently characteristic genus:—

(a) *Acidia obnubila*, Karsch (Ent. Nachr., xiii, p. 6, fig. 5), from W. Africa, Pungo Andongo;

(b) *Acidia coloniarum*, Speiser (Deut. Ent. Zeits., 1915, p. 102), from Camerun, Victoria, and also from East Africa, Ligitale.

(c) *Acidia scychellensis*, Lamb (Trans. Linn. Soc. London, Zool., xvi, 1914, p. 316, fig. 10 and pl. 19, fig. 6), from the Seychelles.

(d) *Acidia* (?) *ocellata*, Lamb (l.c., p. 317, fig. 11 and pl. 19, fig. 7, 8), from the Seychelles.

Trypeta guttatolimbata, Enderlein (Zool. Zahrb., xxxi, 1911, p. 429, fig. K), probably belongs here, but has a very peculiar wing pattern, and requires the formation of a new genus ; it is described from Madagascar.

XVI. Ocneros, O. G. Costa, 1844.

The following three species, all described by Loew, seem to be referable to this genus. They may be distinguished as follows :—

1(2). Scutellum entirely yellow ; discoidal cell wholly infuscated, without hyaline spots ; stigma longer than the 2nd costal cell .. .. *sinuatus*, Loew.

2(1). Scutellum broadly black in the middle ; discoidal cell with hyaline spots ; stigma shorter than the 2nd costal cell.

3(4). The hyaline indentation at fore border behind the stigma ends before reaching the 2nd longitudinal vein ; the two last abdominal segments of the female have at hind border a broad, yellow, transverse band .. *mundus*, Loew.

4(3). The above-named indentation extends into the 1st posterior cell and ends at the 4th longitudinal vein, near the upper end of the posterior cross-vein ; the last two abdominal segments of the female are entirely black *excellens*, Loew.

1. **Ocneros sinuatus,** Loew, Berl. Ent. Zeits., v, 1861, p. 263, pl. ii, fig. 4.

Easily distinguished by the black wing pattern being more extended than in the other species ; the band over the hind cross-vein however does not reach the hind border of the wing.

Described from Caffraria, and not found subsequently.

2. **Ocneros mundus,** Loew, Wien. Ent. Monats., vii, 1863, p. 16.

In this species the black wing pattern (fig. 3) is less extended than in *sinuatus*, but more than in *excellens*. It agrees in all respects with the following species, but is distinguished by the characters given in the table. The basal half of the first

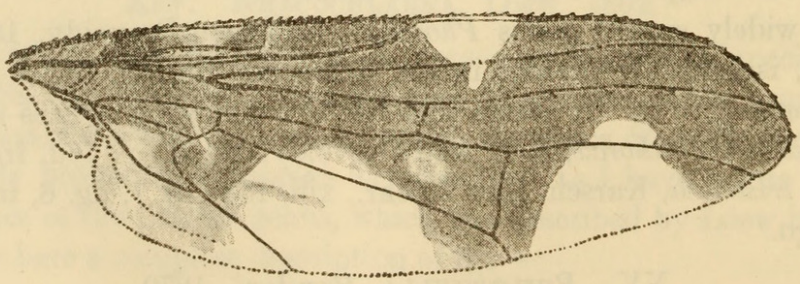


Fig. 3. Wing of *Ocneros mundus*, Loew.

posterior cell is in the present species wholly black, while in *sinuatus* it has a small, rounded, hyaline dot and in *excellens* it is reached by the lower corner of the hyaline indentation beyond the stigma.

Described from the Orange Free State, Bloemfontein (*Tollin*), I have a ♀ specimen from Natal, Estcourt, September–October 1896 (*G. A. K. Marshall*), received from the British Museum many years ago as *excellens*.

3. **Ocneros excellens,** Loew, Berl. Ent. Zeits., v, 1861, p. 265, pl. ii, fig. 5.

Very distinct from the other species owing to the more reduced wing pattern.

In this and in the preceding species all the bristles of the head and body are black ; there are 2 i. or. ; no oc. ; ocp. acute and black ; middle scp. well developed ; dc. placed about on the line of the first p. sa. ; 2 equally strong mpl. ; st. strong ; pt. weak or even indistinct. The scutellum rather convex and rounded, bare on the disc, with 4 sct.

Originally described from Caffraria, I have received a ♀ specimen from Grahamstown from the Albany Museum.

EXPLANATION OF PLATE V.

Fig. 1. *Carpophthoromyia pseudotritea*, Bezzi, sp. n.

2. „ *superba*, Bezzi, sp. n.

3. *Leucotaeniella trispila*, Bezzi, sp. n.

4. *Pterandrus kolae*, Silv.

5. *Pardalaspis cosyra*, Walk. (*giffardi*, Bezzi).

6. „ *quinaria*, Bezzi, sp. n.

7. *Tririthrum occipitale*, Bezzi, sp. n.

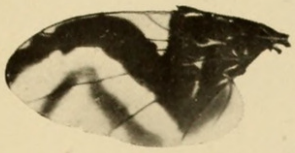
8. *Xanthorrhachista cephalia*, Hend.

9. *Tririthrum inscriptum*, Graham (*nigerrimum* var. *coffeae*, Bezzi).

10. *Themarictera flaveolata*, F.

11. *Ptiloniola neavei*, Bezzi, sp. n.

12. *Baryglossa histrio*, Bezzi, sp. n.



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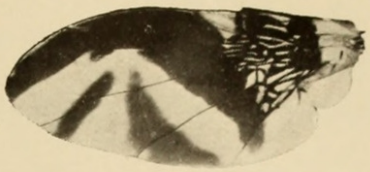

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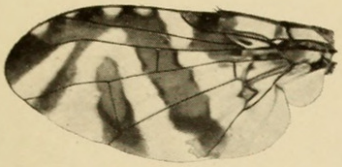

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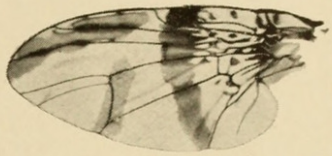

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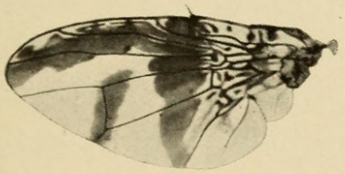

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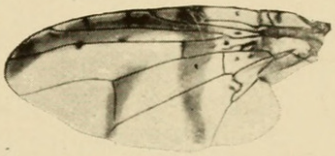

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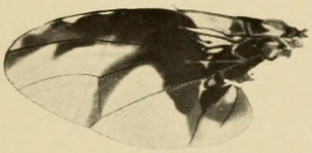

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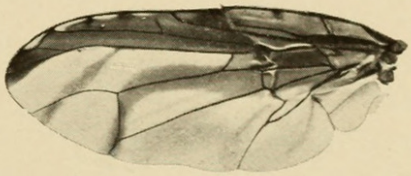

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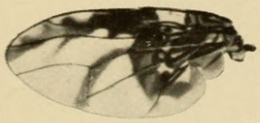

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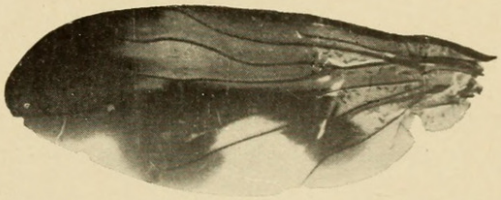

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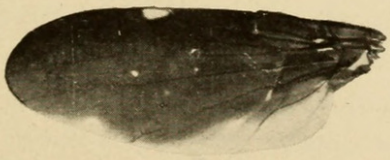

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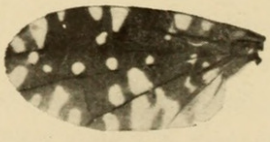

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Wings of African Trypaneidæ.