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**NEW GENERA AND SPECIES OF AFRICAN TEPHRITINAE (DIPTERA:
TEPHRITIDAE), WITH COMMENTS ON SOME CURRENTLY UNPLACED OR
MISPLACED TAXA AND ON CLASSIFICATION**

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SUMMARY

Six new genera and four new species of African Tephritinae are described, viz: *Manicomysia* gen. nov., *Chippingomyia manica* gen. et sp. nov., *Parafreutreta vumbae* sp. nov., *Triandomeleena brevicostalis* gen. et sp. nov., *Brachydesis* gen. nov., *Brachytrupanea* gen. nov., *Paradesis* gen. nov., *Dectodesis katamborae* sp. nov. The subfamily is considered to comprise the tribes Oedaspidini, Tephrellini, Platensini, Dithrycini, Schistopterini and Tephritini, which are redefined. Four genera of uncertain taxonomic affinities are discussed and 32 currently unplaced or misplaced species are newly combined in 9 genera. Five further undescribed species are noted but not named. A list is included of the 69 species of Tephritinae known from Zimbabwe.

INTRODUCTION

There has been little agreement in the literature over the subfamily and tribal limits of the various flower-infesting groups of Tephritidae. The Compositae-feeding Myopitinae (= Urophorinae) and Labiatae/Verbenaceae/Acanthaceae-feeding Aciurinae are generally accepted as distinct but the relationships of the remaining groups are not well understood. However, with the exception of the Terelliinae, all these groups have in common a vestigial mesopleural suture and coarse, pale pubescence and "dust" on the thorax, a reduced or virtually absent anal cell extension on the wing, non-convergent upper superior orbital bristles and a tendency for several of the bristles on the head (occipital, postvertical, postocellar and often upper superior orbital bristles) to become thickened and white. These characteristics are also shared by the *Platensina* group of genera, usually referred to the Aciurinae because of their Acanthaceae host plants. All other groups of Tephritidae have a distinct mesopleural suture (assumed for Terelliinae; only *Craspedoxantha* Bezzi examined) and fine thoracic pubescence; also the anal cell extension is often well developed and the head bristles are normally thin and dark.

The vestigial mesopleural suture suggests that the Tephritinae, as recognised here, is a monophyletic group and the other characters mentioned support this. The lack of distinct scapular bristles is shared with the Terelliinae and Aciurinae, some species of the latter also having whitened head bristles. The mesopleural suture in the Aciurinae is distinct but weak and it appears to be the sister-group of the Tephritinae. The Terelliinae appears to be a distinct subfamily closer to the Myopitinae than to the Tephritinae and will be discussed below.

The tribal limits of the Tephritinae require further study but the following groups are acceptable on current knowledge: Oedaspidini, Tephrellini (= Spathulinini), Platensini, Dithrycini, Schistopterini and Tephritini. The Schistopterini is generally regarded as a subfamily but its affinities clearly lie here. It grades into Tephritini via such genera as *Heringomyia* Hardy and *Clematochaeta* Hering.

SYSTEMATICS

Subfamily TERELLIINAE Hendel

The presence of a distinct mesopleural suture, at least in *Craspedoxantha*, fine thoracic pubescence, convergent upper superior orbital bristles, a well developed anal cell extension on the wing in several species and thin, yellowish occipital bristles serve to exclude this group from the Tephritinae. Freidberg

(1984, 1985) suggested that the Terelliinae formed a subfamily close to the Myopitinae, although whether it is the sister-group of the Myopitinae or Aciurinae + Tephritinae is difficult to determine. The lack of scapular bristles and distinct mesopleural pale stripe, however, suggests the latter alternative. The mesopleural suture character has only been checked in *Craspedoxantha*; if it is absent in other genera then this is presumably a result of convergence. The subfamily was defined by Freidberg (1985). Its placement on the evolutionary line below Aciurinae and Tephritinae is supported by male genitalia characters (Korneev, 1985). Only *Craspedoxantha* occurs in the Afrotropical Region (Freidberg, 1979); it was revised recently by Freidberg (1985). Larvae in this subfamily breed in flowers, stems or roots of Compositae.

Subfamily TEPHRITINAE Macquart

The six tribes are characterized below. Their limits are not well defined and require detailed investigation; those for Oedaspidini and Dithrycini largely follow Foote (1980). Although included in the Aciurinae by Cogan and Munro (1980), the Tephrellini (= Spathulinini) and Platensini were placed in the Tephritinae by Hardy (1973, 1974) and Foote (1980), whilst (as noted by Cogan and Munro, 1980) the Oedaspidini appear to be related to the Tephrellini. The Schistopterini appear to be related to the Dithrycini and Tephritini. As recognised by Cogan and Munro (1980), the subfamilies Aciurinae, Tephritinae and Schistopterinae cannot be differentiated.

Tribe Oedaspidini. Head with third antennal segment apically rounded; arista bare; no preocellar bristles. Scutellum swollen or bilobed, with 4 scutellar bristles. Wing pattern banded. This tribe occurs in the Americas, Africa and Madagascar and the Palaearctic Region. Larvae form galls on various Compositae. Afrotropical genera are *Oedaspis* Loew, *Embaspis* Munro, *Tylaspis* Munro and *Oedoncus* Speiser.

Tribe Tephrellini. Head with third antennal segment usually apically rounded; arista bare or pubescent; no preocellar bristles; upper superior orbital bristles often pale. Scutellum not swollen or bilobed, with 2 or 4 scutellar bristles. Wing pattern generally black with hyaline indentations or spots, or mostly dark with yellow areas and spots; vein $R_4 + 5$ often setose. Abdomen shiny; with fine dark pubescence. This tribe occurs world-wide. It appears to be related to the Oedaspidini and Platensini, differing from the latter primarily in the Compositae hosts. Species placed in Platensini and "Aciurini" by Foote (1980) appear to belong here. Afrotropical genera include *Spathulina* Rondani, *Gymnosagena* Munro, *Marriottella* Munro, *Peratomixis* Munro, *Acronneus* Munro, *Afreutreta* Bezzi, *Cosmetothrix* Munro, *Parafreutreta* Munro, *Euthauma* Munro, *Elgonina* Munro, *Pterope* Munro and 2 new genera described below. Further study may necessitate the removal of many of these genera to the Oedaspidini, as placed in some cases by Cogan and Munro (1980), but to do so at present would destroy the concepts of that tribe. *Marriottella* and *Pterope* were referred respectively to the Myopitinae and Euphrantinae by Cogan and Munro (1980) but these lack scapular bristles and other characters characteristic of these groups and are best referred to the Tephrellini, at least provisionally.

Tribe Platensini. Head with third antennal segment apically rounded; arista pubescent; epistome often projecting; no preocellar bristles; upper superior orbital bristles often pale. Humeral calli normally yellowish; scutellum not swollen or bilobed, with 4 scutellar bristles. Wing pattern generally black with hyaline indentations and spots, often with a hyaline apex but without an apical fork; vein $R_4 + 5$ generally setose. Abdomen shiny, with fine dark pubescence. Genera in this tribe were revised by Munro (1947). It occurs in the Oriental and Afrotropical Regions, including Madagascar. It appears to be related to the Tephrellini, differing primarily in the Acanthaceae host plants. Compositae-feeding species sometimes placed here (e.g. by Foote, 1980) probably belong to the Tephrellini. Because of the Acanthaceae host plants, genera included here are often associated with the Aciurinae (e.g. by Cogan and Munro, 1980), some members of which also utilize Acanthaceae. However, this foodplant character appears to be convergent; it appears also in the unrelated genus *Perirhithrum* Bezzi. Further indications of the relationship between this tribe and other Tephritinae can be seen in the inclusion within the *Platensina* group of genera of *Stephanotrypeta* Hendel and *Mastigolina* Munro by Munro (1947) and Cogan and Munro (1980). Both these genera appear to belong to the Tephritini; the former is discussed below whilst the latter appears to be synonymous with *Ptosanthus* Munro (A. Freidberg, pers. comm.). Even *Tephrella* Bezzi was included in the Aciurinae by Munro (1947) but this is now known to have a

Compositae host (Radhakrishnan, 1984). Afrotropical genera include *Platensina* Enderlein, *Pliomelaena* Bezzi, *Bezzina* Munro, *Hyalotooides* Munro, *Pseudometopum* Munro, *Elaphromyia* Bigot, *Pseudafreutreta* Hering, *Ghentia* Munro, *Platomma* Bezzi, *Leucothrix* Munro, *Euryphalara* Munro, *Xenodorella* Munro and a new genus described below.

Tribe Dithrycini. Head with antennal bases often distinctly separated; third antennal segment often concave on dorsal margin and apically pointed; arista pubescent or bare; epistome projecting; no preocellar bristles; lower inferior and upper superior orbital bristles often whitened and lower superiors often before line of upper inferiors; ocellar bristles often white; occipital bristles thick and white, mixed with small, thin black setae; usually with a dark spot between eye and base of antennae and often with another between eye and epistome. Scutellum often swollen, with 2 or 4 scutellar bristles. Wing broad; often more than one costal bristle at base of stigma; no costal nick; pattern dark, reticulate with paler spots or apical rays, sometimes with dark bullae; vein R₄₊₅ usually setose. Abdomen shiny, with dark pubescence. This tribe occurs in the Americas and the Palaearctic, with one African genus newly referred here. Host plants are generally Compositae, the larvae forming stem or root galls or infesting the flowers; however *Perirhithrum* has been bred from the flowers of Acanthaceae.

Tribe Schistopterini. Head with third antennal segment often apically pointed; arista pubescent or bare; preocellar bristles usually present, if absent then 2 distinct bristles at base of stigma and costal nick well developed, and stigma usually vestigial (not in *Pararhabdochaeta* Hardy, an Oriental genus); lower inferior and upper superior orbital bristles often whitened and lower superiors often on line of upper inferiors; occipitals thick and white; often a dark spot between eye and base of antennae. Scutellum with 4 scutellar bristles, the apicals often short. Wing often with a costal nick at base of stigma; stigma sometimes vestigial; pattern dark, reticular, often with apical rays and usually with dark bullae; vein R₄₊₅ setose or nearly bare. Abdomen shiny, with dark pubescence. This tribe shows similarities to the Dithrycini and Tephritini. It occurs in the Oriental and Afrotropical Regions, including Madagascar. Hosts are the flowers of Compositae. Afrotropical genera are *Cordylopteryx* Hering, *Eutretosoma* Hendel, *Heringomyia* Hardy, *Rhabdochaeta* de Meijere, *Rhochmopterum* Speiser, *Brachiopterna* Bezzi, *Bactropota* Bezzi and *Schistopterum* Becker.

Tribe Tephritini. Head with third antennal segment usually apically rounded, sometimes pointed; arista usually bare; no preocellar bristles; lower inferior and upper superior orbital bristles often whitened; occipital bristles thick and white, rarely dark. Scutellum with 2 or 4 scutellar bristles, the apicals often short. Wing without a costal nick and stigma sometimes short but never vestigial; pattern reticulate or reduced, rarely banded, sometimes with dark bullae, often with apical rays or a star-shaped subapical pattern; vein R₄₊₅ usually bare. Abdomen generally matt, with dense dust and coarse, pale pubescence. This is another world-wide tribe, best developed in temperate regions. Hosts are generally flowers of Compositae, with some species forming galls. A number of Afrotropical genera are included, including *Clematochaeta* Hering and 3 new genera described below. For others see Cogan and Munro (1980), although *Paroxyyna* Hendel is used here instead of *Stylia* Robineau-Desvoidy, and *Eumictoxenus* Munro appears to belong to the Ceratitinae.

Tribe TEPHRELLINI

Genus *MANICOMYIA* nov.

Type-species *Afreutreta chirindana* Munro.

This genus belongs in the *Afreutreta* group as recognised by Munro (1939) but differs from related genera by the following combination of characters. It appears closest to *Parafreutreta* Munro but the wing pattern is of a different type, the banding being longitudinal rather than transverse.

Head oval; 3 or 4 inferior and 2 superior orbital bristles; ocellar bristles well developed; occipital bristles thick and whitish, interspersed with black setae; antennae shorter than face; arista pubescent; no dark spot at base of antennae. Thorax red-brown with dense dust and pale pubescence; no scapular bristles; dorsocentral bristles close to suture; notopleural bristles whitish; 4 long scutellar bristles. Wing with vein R₄₊₅ sparsely setulose; anal cell with a short, broad extension; pattern brown and yellow, with numerous discal pale spots and hyaline indentations and with the brown areas more or less longitudinal. Abdomen oval, with pale pubescence and dark spots.

Only the type-species, *M. chirindana* (Munro), comb. nov., is included here. The generic name is considered feminine and derives from the province of Manicaland. *M. chirindana* occurs in eastern Zimbabwe and on Mt Gorongosa in Mocambique. Its life history is unknown. The wing of the type-species was illustrated by Munro (1935).

Genus *CHIPINGOMYIA* nov.

Type-species *Chipingomyia manica* sp. nov.

This genus also appears to belong to the *Afreutreta* group as recognised by Munro (1939). It appears closest to *Acronneus* Munro but has a distinct wing pattern and a rounded third antennal segment.

Head broad; 3 inferior and 2 superior orbital bristles, the upper superior whitish; ocellar bristles well developed; occipital bristles thick and whitish; antennae shorter than face; arista bare; no dark spot at base of antennae. Thorax black with dense dust and pale pubescence; no scapular bristles; dorsocentral bristles close to suture; lower mesopleural and pteropleural bristles whitish; 4 scutellar bristles, the apicals short and crossed. Wing with vein R₄₊₅ bare; pattern fulvous and brown with hyaline spots and indentations; anal cell very slightly produced. Abdomen oval, shining fulvous with fine dark pubescence.

Only the type-species is included here. The generic name is considered feminine and derives from the town of Chipinge in eastern Zimbabwe.

Chipingomyia manica sp. nov.

Type material

ZIMBABWE. Holotype male, Chipinge, 29-31 v 1980, D.L. Hancock, on *Vernonia glabra* (in Natural History Museum, Bulawayo).

Etymology

Named after the province of Manicaland.

Diagnosis

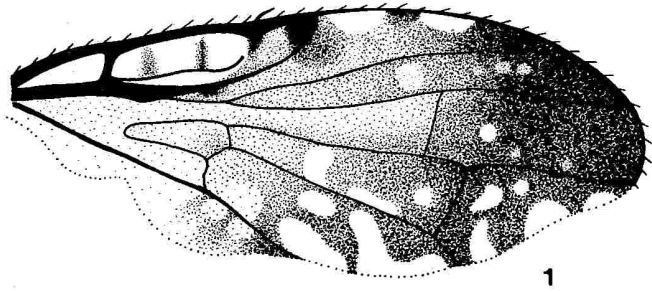
Recognizable by the generic characters given above and by the distinctive wing pattern.

Description

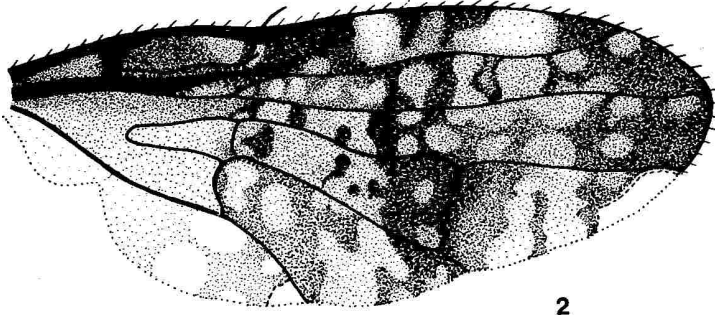
Male. Length of body, 3,0 mm; of wing, 3,0 mm.

Head. Length: height: width: 1: 1,28: 1,68; yellow, becoming grey towards vertex. Frons broad, 0,4 times width of head; bristles red-brown except upper superior orbital whitish, 3 inferior and 2 superior orbitals; covered with fine pale pubescence. Lunule small, semicircular. Ocellar triangle black, ocellar bristles well developed and red-brown, postocellars whitish. Vertex with inner vertical bristles well developed and red-brown, outer verticals shorter and whitish, postverticals whitish. Genal bristle red-brown, genae whitish. Face unmarked, whitish. Proboscis not geniculate. Antennae shorter than face, pale fulvous; third segment orange-fulvous and apically rounded; second segment with fine dark setae; arista bare. Occiput flat, fulvous except blackish-brown medially, with a row of coarse, whitish occipital bristles.

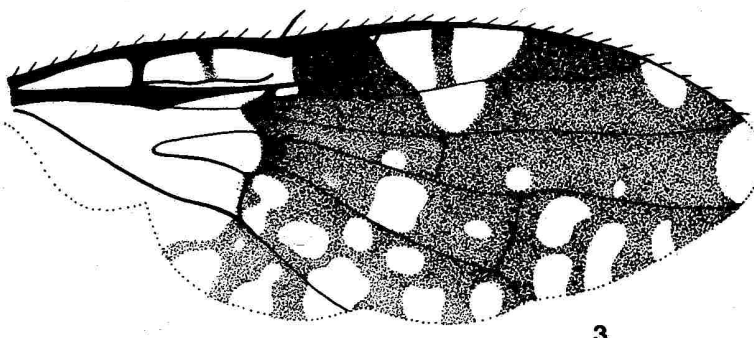
Thorax. Mesonotum and pleura black with dense dust and coarse pale pubescence, except propleura, humeral and notopleural calli fulvous. Mesopleural suture not evident. Postnotum black. Scutellum black with a yellow border. Bristles well developed and red-brown except lower mesopleural and pteropleural white; no scapulars, 1 humeral, 1 presutural, 2 notopleural, 1 anterior and 2 posterior supra-alars, 2 dorsocentrals, 2 prescutellars, 2 mesopleurals, 1 pteropleural, 1 sternopleural, 4 scutellars; dorsocentrals placed before line of anterior supra-alars, close to suture; apical scutellars short and crossed, about one-third length of basals. Legs fulvous; fore femora with a row of bristles below; mid-tibiae with red-brown apical spine. Halteres fulvous. Wing (Fig. 1) narrow, with a distinct costal bristle at base of stigma; vein R₄₊₅ bare; r-m cross-vein well beyond middle of discal cell, a little less than its own



1



2



3

Figs 1-3. Wings. 1. *Chipingomyia manica* sp. nov. 2. *Parafreutreta vumbae* sp. nov. 3. *Triandomelaena brevicostalis* sp. nov.

length from i-m cross-vein; i-m perpendicular; anal cell apically acute, very slightly produced; pattern bicolorous, basally yellow with hyaline costal cells and 2 hyaline costal spots in marginal cell, becoming brown apically and posteriorly, with hyaline spots and indentations.

Abdomen. Oval; shining fulvous with fine dark pubescence. Male genitalia fulvous.

Female. Unknown.

Biology

The type was collected on *Vernonia glabra* (Compositae) in open woodland.

Genus PARAFREUTRETA Munro

The only record of this genus in Zimbabwe appears to represent an undescribed species.

***Parafreutreta vumbae* sp. nov.**

Type material

ZIMBABWE. Holotype male, Vumba, 23 x 1937, Major (J.E.) Drysdale (in Natural History Museum, Bulawayo).

Etymology

Named after the type-locality.

Diagnosis

Similar to *P. hirta* Munro and *P. leonina* Munro, differing from the former in having dark setae on the second antennal segment and r-m cross-vein a little nearer to i-m cross-vein than its own length, and from the latter in the better developed dark wing bands, especially apically.

Description

Male. Length of body, 4,5 mm; of wing, 5,0 mm.

Head. Length: height: width :: 1: 1,4: 1,5; fulvous. Frons broad, 0,5 times width of head; bristles red-brown except upper superior orbital whitish, 2 inferior and 2 superior orbitals; covered with coarse whitish pubescence. Lunule small, semicircular. Ocellar triangle brown, ocellar bristles well developed and red-brown; postocellars whitish. Vertex with inner vertical bristles well developed and red-brown, outer verticals shorter and whitish, postverticals whitish. Genal bristle red-brown. Face unmarked. Antennae short, about half length of face, fulvous; third segment apically rounded; second segment with fine dark setae; arista bare. Occiput slightly swollen ventrally, fulvous, with a row of coarse, whitish occipital bristles.

Thorax. Mesonotum brown with dense dust and coarse pale pubescence. Humeral and notopleural calli fulvous. Mesopleural suture not evident. Postnotum fulvous. Scutellum yellow. Bristles well developed and red-brown: as for *C. manica* except only 1 mesopleural, dorsocentrals only a little before line of anterior supra-alars and apical scutellars as long as basals. Legs fulvous; fore femora with a row of bristles below; mid tibiae with a red-brown apical spine. Halteres fulvous. Wing (Fig. 2) with costal bristle at base of stigma short, not prominent; vein R₄₊₅ setulose to just beyond r-m cross-vein; r-m beyond middle of discal cell, a little less than its own length from i-m cross-vein; i-m perpendicular; anal cell produced into a short, broad point; pattern with a yellow ground colour, becoming paler below vein M₁₊₂; with 2 costal spots in marginal cell and outer part of second posterior cell becoming hyaline; overlaid with a brown reticulation forming a costal band from base to stigma, except for a yellow spot in each costal cell, a broad apical area enclosing a few small yellow spots, and a medial band, narrow across r-m, broad across i-m, with several yellow spots; banding more distinct in macroscopic view; stigma dark brown.

Abdomen. Oval; fulvous, becoming darker along basal margins of each segment; covered with fulvous pubescence, palest at sides. Male genitalia dark fulvous.

Female. Unknown.

Biology

Unknown.

Tribe PLATENSININI

Genus *TRIANDOMELAENA* nov.

Type-species *Triandomelaena brevicostalis* sp. nov.

This genus is similar to *Pliomelaena* Bezzi, especially in wing pattern, but the epistome lacks spine-like setae. It also differs from this and related genera by the short costal vein, extending only as far as the apex of vein R₄₊₅. In this character it resembles *Stephanotrypeta* Hendel but differs in wing pattern type. For further characters see description of the type-species.

Only the type-species is included here. The generic name is considered feminine and derives from the type-locality, Trianda Farm.

Triandomelaena brevicostalis sp. nov.

Type material

ZIMBABWE. Holotype male, Trianda Farm, Mazowe district, 20-26 vi 1980, D.L. Hancock and D. Miller, in yellow "aphid" trap; paratype male, Harare (=Salisbury), viii 1938, A. Cuthbertson; paratype female, Sapi/Zambezi confl., Sapi C.H.A., 16 viii 1981, D.L. Hancock, in yellow "aphid" trap (all in Natural History Museum, Bulawayo).

Etymology

The specific name is derived from the abbreviated costal vein.

Diagnosis

Easily recognised by the wing pattern and costal vein.

Description

Male. Length of body, 3,0 mm; of wing, 3,0 mm.

Head. Length: height: width :: 1: 1,4: 2,0; yellow. Frons broad, 0,45 times width of head; bristles fulvous, 3 inferior and 2 superior orbitals. Lunule small, semicircular. Ocellar triangle grey, ocellar bristles well developed, fulvous; postocellars whitish. Vertex with inner vertical bristles well developed and fulvous, outer verticals and postverticals whitish. Genal bristle and a row of fine setae around epistome fulvous to pale red-brown. Face unmarked. Antennae much shorter than face, yellow; third segment about equal in length to combined first and second segments, apically rounded; arista with short pubescence. Occiput a little swollen ventrally, fulvous, with a row of thick, whitish occipital bristles.

Thorax. Mesonotum greyish with dense dust and black spots around bases of bristles. Pleura grey except propleura fulvous. Postnotum greyish. Scutellum flat, yellow, becoming greyish on disc, with black spots around bases of bristles. Thorax covered with fine to coarse whitish pubescence. Mesopleural suture not evident, a trace at upper edge. Bristles well developed and fulvous: as for *C. manica* except apical scutellars long. Legs fulvous; fore femora with a row of long bristles below; mid tibiae with a long fulvous apical spine. Halteres fulvous. Wing (Fig. 3) with costal vein terminating at end of vein R₄₊₅ and a distinct costal bristle at base of stigma; vein R₄₊₅ bare; r-m cross-vein a little beyond middle of discal cell; i-m cross-vein perpendicular; anal cell not drawn out distally; pattern dark brown except costal cells and base, including anal cell, hyaline, and with hyaline spots as follows: 2 in marginal cell; 3 in submarginal cell, 1 below base of stigma, 1 below marginal spots, 1 below apex of vein R₂₊₃; 1 in lower part of first basal cell, below tip of stigma; 3 in first posterior cell, 2 small in lower half of cell, the third large and apical; 2 in discal cell, 1 large in centre, confluent with vein M₃₊₄ below, and 1 small spot near outer end; 4 in second posterior cell, 3 along outer edge and 1 above the basal spot; 7 in third posterior cell, 1 basal, 2 along outer edge of wing, 2 along anal vein and 2 in upper central part of cell; alula with dark and pale patches.

Abdomen. Oval; largely shining with fine setae and dust. Tergites I to III fulvous with brown medial areas; tergites IV and V blackish-brown except postero-lateral margins of tergite IV and posterior margin of tergite V fulvous. Male genitalia blackish-brown; aedeagus fulvous.

Female. Similar to male but wing with spot in centre of discal cell rounded, not confluent with vein M₃₊₄ below. Oviscape long, shining black, length 1,25 mm. flat, widened at base, narrowing evenly to apex. Aculeus not exposed. Tergite VI about equal in length to tergite V.

Biology

Unknown.

Genus PSEUDAFREUTRETA Hering

Sometimes regarded as being close to the *Afreutreta* group of genera, this genus was suggested by Munro (1957) to be closer to *Elaphromyia* Bigot and the Platensini generally. Cogan and Munro (1980) referred it to their "unplaced genera of Aciurinae". This genus appears to be closely allied to *Platensina* Enderlein and *Elaphromyia* and is therefore placed here in the Platensini. Three described species are known from Africa, whilst an undescribed species occurs in Madagascar.

Tribe DITHRYCINI

Genus PERIRHITHRUM Bezzi

This genus is usually placed in the tribe Schistopterini, but the resemblances between it and members of that tribe are superficial. It lacks the precellar bristles and costal nick usually seen in the Schistopterini and is larger than all other species known in that group, whilst characters of the head and antennae and the broad wings are typical of the Dithrycini. The known host plant, *Barleria obtusa*, belongs to the Acanthaceae, but a female collected near Penhalonga in Zimbabwe was swept from *Vernonia stipulaceae*, suggesting that *P. marshalli* Bezzi, the sole species, might also have a Compositae host.

Tribe SCHISTOPTERINI

Genus RHOCHMOPTERUM Speiser

Three undescribed species belonging to this genus are known from Zimbabwe. They are not described here since Freidberg (pers. comm.) is currently revising this tribe. However, illustrations are provided of the wings (Figs 4 - 6).

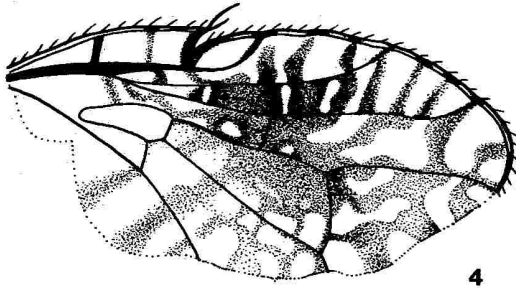
Tribe TEPHRITINI

Genus CLEMATOCOAETA Hering

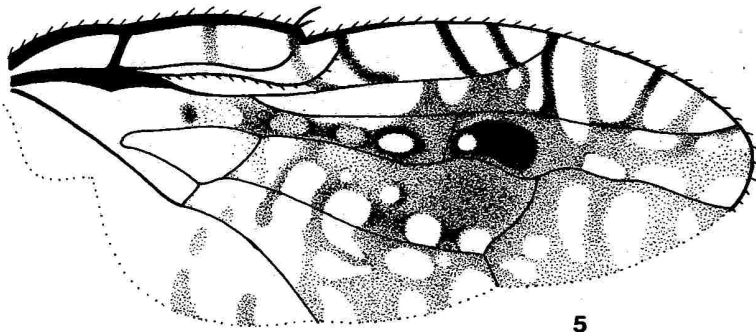
This genus is normally included in the Schistopterini but both precellar bristles and costal nick are lacking and this genus appears to be better placed in the Tephritini. Its inclusion in the Schistopterini renders that tribe indefinable. The black wing bullae often used to define the Schistopterini is an unreliable character since it also occurs in the Dithrycini and Tephritini. Five species are currently placed here whilst an undescribed species (Fig. 7) is known from Ikelenge in NW Zambia. Known from a single female, it is not described here.

Genus STEPHANOTRYPETA Hendel

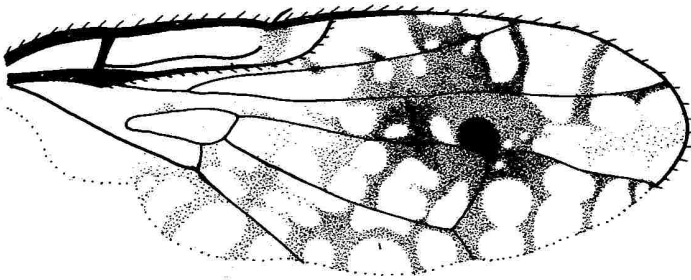
The species referred to this genus by Freidberg (1979) were variously placed in the Aciurinae, Tephritinae and Terelliinae by Cogan and Munro (1980). Freidberg (1979) placed the genus in the



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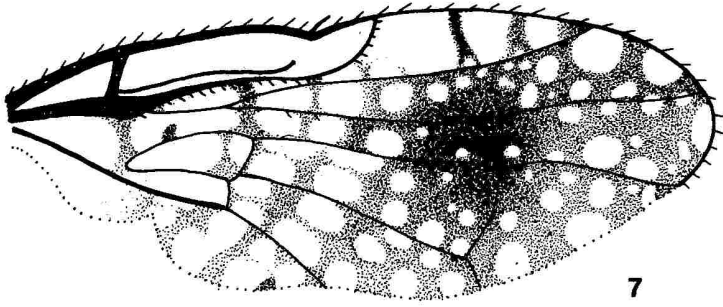


5

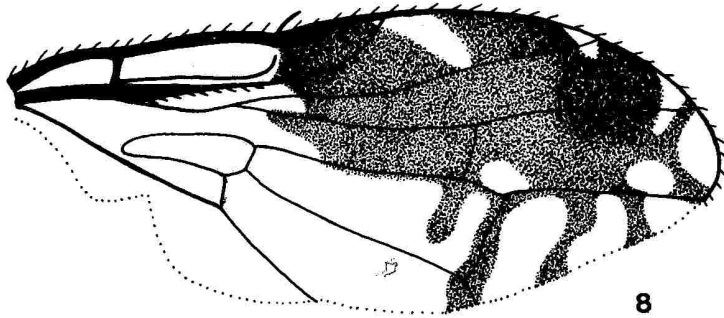


6

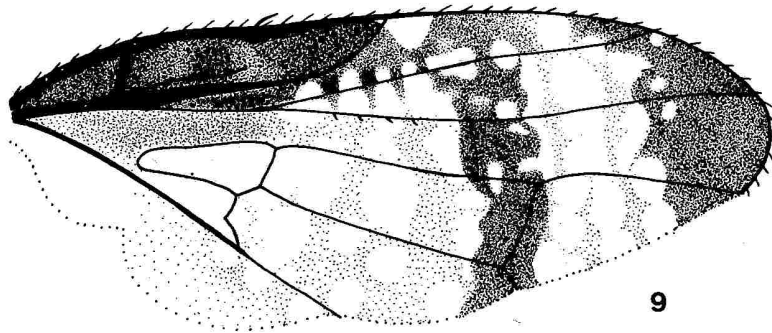
Figs 4-6. Wings. 4. *Rhochmopterum* sp. A. 5. *Rhochmopterum* sp. B. 6 *Rhochmopterum* sp. C.



7



8



9

Figs 7-9. Wings. 7. *Clematochaeta* sp. 8. *Dectodesis katamborae* sp. nov. 9. *Paratephritis* sp. A.

Acirurinae but the absence of a distinct mesopleural suture suggests that this is incorrect and that it properly belongs in the Tephritinae. In Zimbabwe, several specimens of *S. taeniaptera* (Bezzi) have been swept from Compositae and the hosts likely occur amongst this group of plants, rather than *Lantana* (Verbenaceae) as suggested by Freidberg (1979). Records at this latter plant possibly represent an adult feeding record (e.g. at honeydew) rather than a larval host.

Genus *BRACHYDESIS* nov.

Type-species *Trypanea rivularis* Bezzi.

This and the following new genus are proposed to accommodate three species regarded as "unplaced species of Tephritini" by Cogan and Munro (1980). All have a very short stigma, non-reticulate wing pattern and 2 scutellar bristles. The two genera differ in wing pattern type and in the relative length of the proboscis, being geniculate (labella extending beyond the mouth border) or short. *Brachydesis* appears to be related to *Migmella* Munro, differing mainly in the short stigma. It may be differentiated by the following combination of characters.

Head with 2 inferior and 2 superior orbital bristles; proboscis geniculate. Wing with stigma very short, pattern not reticulate, with a dark area mostly above vein M_{1+2} and with rays to hind margin. Mesopleural suture not evident; body with dense dust; 2 scutellar bristles.

Only the type-species, *B. rivularis* (Bezzi), comb. nov. is included here. The generic name is derived from the short stigma and is considered feminine.

Genus *BRACHYTRUPANEA* nov.

Type-species *Trypanea brachystigma* Bezzi. -

This genus appears to be related to *Trupanea* Schrank and *Pheroethrinax* Munro, differing from the former in having only 2 inferior orbital bristles, from the latter in having only 2 scutellar bristles, and from both in the short stigma. It may be differentiated by the following characters.

Head with 2 inferior and 2 superior orbital bristles; proboscis short, not geniculate. Wing with stigma very short, pattern not reticulate, with a dark area across subapical part and a yellow patch near middle of wing. Mesopleural suture not evident; body with dense dust; 2 scutellar bristles.

Two species are referred here, *B. brachystigma* (Bezzi), comb. nov. and *B. semiatrata* (Hering), comb. nov. The generic name is derived from the short stigma and is considered feminine.

Genus *PARADESIS* nov.

Type-species *Urellia auguralis* Bezzi.

Amongst the Tephritini are a group of genera with an elongate dark subapical patch and radiating apical bars, reaching back to the stigma, which is not very short. Four genera may be recognised, differentiated primarily by the length of the proboscis and the number of scutellar bristles. Male genitalia characters may also be of use in delimiting these genera but full generic revisions are required before this can be stated with confidence.

Paradesis may be distinguished from related genera by the following combination of characters.

Head with occipital bristles thick and white; proboscis geniculate. Thorax and abdomen with dense dust and pale pubescence. Scutellum with 4 scutellar bristles, the apicals less than half length of basals. Wing with stigma not very short and with an elongate dark subapical patch and radiating apical bars, the patch reaching back to stigma.

The genus is regarded as feminine. Three species, all placed as "unplaced species of Tephritini" by Cogan and Munro (1980), are included: *P. auguralis* (Bezzi), comb. nov.; *P. hexapoda* (Bezzi), comb. nov.; *P. bomolina* (Speiser), comb. nov. In addition, *P. inundans* (Munro), comb. nov. and *P. augur* (Frauenfeld) (= *kingi* Bezzi, = *rostrata* Hendel), comb. nov. are transferred here from *Dectodesis* Munro. For synonymy of the latter species see Freidberg (1980).

Genus *CAPITITES* Foote and Freidberg

This genus was erected by Foote and Freidberg (1980) for the "Mediterranean" species *C. ramulosa*

(Loew). It differs from *Paradesis* and related genera in having the proboscis short and spatulate and the apical scutellar bristles longer than half length of basals.

Foote and Freidberg (1980) also included *C. dentiens* (Bezzi) in this genus and suggested that other Afrotropical species might belong here. This appears to be the case and the following species, included by Cogan and Munro (1980) in the "unplaced species of Tephritini" are included here: *C. albicans* (Munro), comb. nov.; *C. aurea* (Bezzi), comb. nov.; *C. dicomala* (Munro), comb. nov.; *C. goliath* (Bezzi) (= *haemorrhoea* Bezzi), comb. nov.; *C. kloofensis* (Munro), comb. nov.

Genus *DECTODESIS* Munro

This genus differs from the two preceding genera in having only two scutellar bristles and a geniculate proboscis. Apart from *D. confluens* (Wiedemann) and *D. monticola* Munro, placed here by Munro (1957) and Cogan and Munro (1980), and the new species described below, the following species included in the "unplaced species of Tephritini" by Cogan and Munro (1980) appear to belong here: *D. bulligera* (Bezzi), comb. nov.; *D. bullosa* (Bezzi), comb. nov.; *D. euarestina* (Bezzi), comb. nov.; *D. luctans* (Munro), comb. nov.; *D. spatiosa* (Munro), comb. nov. The latter species occurs in Madagascar.

Dectodesis katomborae sp. nov.

Type material

ZIMBABWE. Holotype male and paratype female, Katombora Is., Zambezi R. (West of Victoria Falls), 9 xii 1982, D.L. Hancock, on *Erlangeria misera*; paratype male, Kariba, 11-12 xii 1985, R.J. Phelps, at UV light trap (all in Natural History Museum, Bulawayo).

Etymology

Named after the type-locality.

Diagnosis

The wing pattern serves to separate this species from all others in the genus.

Description

Male. Length of body, 2,5 mm; of wing, 2,5 mm.

Head. Length: height: width :: 1: 1,1: 1,6; yellow, angular. Frons broad, 0,48 times width of head; bristles red-brown except upper superior orbital whitish, 2 inferior and 2 superior orbitals. Lunule small, semicircular. Ocellar triangle black, ocellar bristles well developed, red-brown; postocellars whitish. Vertex with inner vertical bristles well developed and red-brown, outer verticals and postverticals whitish. Genal bristle red-brown. Face unmarked. Antennae shorter than face, fulvous, third segment orange-fulvous and apically rounded; arista bare. Occiput swollen ventrally, fulvous, becoming blackish medially, with a row of coarse, whitish occipital bristles.

Thorax. Mesonotum and pleura black with dense dust and coarse whitish pubescence, except propleura, humeral and notopleural calli fulvous and mesonotum with a median brown stripe. Mesopleural suture not evident. Postnotum black. Scutellum black, becoming fulvous on lateral margins. Bristles well developed and red-brown, as for *C. manica* except only 1 mesopleural and apical scutellars absent. Legs fulvous; fore femora with a row of bristles below; mid tibiae with an apical fulvous spine. Halteres fulvous. Wing (Fig. 8) with a distinct costal bristle at base of stigma; vein R₄₊₅ bare; r-m cross-vein well beyond middle of discal cell, about its own length from i-m cross-vein; i-m perpendicular; anal cell apically acute but not produced; pattern brown, with a blacker spot subapically from costa to middle of first posterior cell; apical rays present; four posterior rays present, with only one in discal cell; pattern reaching and enclosing stigma with 2 hyaline indentations below stigma along veins R₄₊₅ and M₁₊₂; a wedge-shaped spot in marginal cell beyond stigma; a small round costal spot in submarginal cell at end of vein R₂₊₃ and a round spot above i-m cross-vein; brown ray in discal cell interrupted in cell and continued weakly through third posterior cell to hind margin of wing.

Abdomen. Oval; black with dense dust and coarse white pubescence. Male genitalia fulvous.
Female. As for male. Tergites V and VI about equal in length; oviscape shining black with pale setae, length 0,6 mm; aculeus not exposed.

Biology

Two of the type-specimens were collected on *Erlangeria misera* (Compositae) growing on the sandy bank of an island in the Zambezi River.

Distribution

Known only from the Zambezi Valley. This species appears to replace *D. confluens* (Wiedemann) in western Zimbabwe.

Genus GONIURELLIA Hendel

This genus was revised by Freidberg (1980), who noted it to be close to *Dectodesis*, which it resembles in having only 2 scutellar bristles and differs in having a short proboscis and a very elongate vesica on the male genitalia. To the four Afrotropical species placed here by Freidberg (1980) (*G. spinifera* Freidberg, *G. persignata* Freidberg, *G. munroi* Freidberg, *G. omissa* Freidberg), may be added *G. eminens* (Hering), comb. nov., from Tanzania, and *G. comis* (Munro), comb. nov., from Madagascar. Both these latter species were referred to "unplaced species of Tephritini" by Cogan and Munro (1980).

Genus PHEROTHRINAX Munro

This genus was established by Munro (1957) for *P. redimitis* Munro and has short apical scutellar bristles, a short proboscis, a distinct star-shaped subapical patch and paler basal and discal markings, and a voluminous, membranous vesica. Except for the absence of pale basal wing markings, *Trypanea woodi* Bezzi also fits this diagnosis and appears to belong here, as do several species which appear to be related to *woodi*. The following species are thus transferred from "unplaced species of Tephritini", as placed by Cogan and Munro (1980): *P. arrhiza* (Bezzi), comb. nov.; *P. furcatella* (Bezzi), comb. nov.; *P. lutescens* (Bezzi), comb. nov.; *P. subcompleta* (Bezzi), comb. nov.; *P. woodi* (Bezzi), comb. nov.; *P. bistellata* (Bezzi), comb. nov.; *P. mutila* (Bezzi), comb. nov.; *P. pulchella* (Bezzi), comb. nov. In addition, *P. lamborni* (Munro), comb. nov. is also transferred here; it was placed in *Trupanea* Schrank by Cogan and Munro (1980).

Genus TEPHRITIS Latreille

Except for a few European species, members of this genus have no distinct star-shaped subapical patch but are dark on the apical half and have large hyaline spots. An apical fork is usually present and the scutellum has 4 bristles. This genus might not be entirely homogeneous but, apart from *T. cinerea* Munro, two species referred by Cogan and Munro (1980) to their "unplaced species of Tephritini", *T. afra* (Hering), comb. nov. and *T. hemimelaena* (Bezzi), comb. nov., appear to belong here.

Genus PARATEPHRITIS Shiraki

The only record of this genus from Zimbabwe appears to represent an undescribed species close to *P. incomposita* Munro, from which it differs in the yellow head, broader wing and more distinct medial wing band. However, the only specimen, a female from Inyanga, has a damaged head so it is not described here, although the wing is figured (Fig. 9).

CHECKLIST OF ZIMBABWEAN TEPHRITINAE

The 69 species of Tephritinae known from Zimbabwe are recorded here, together with locality data and plant associations. Association of a species with a particular plant does not necessarily imply that the plant is a host, although in cases where a species is frequently collected on a particular plant, this is likely to be a host.

OEDASPIDINI

Oedoncus taenipalpis Speiser

Harare.

TEPHRELLINI

Gymnosagena unicornuta Munro

Mazowe, ex flowers of *Nidorella resedifolia* (Compositae).

Manicomomyia chirindana (Munro)

Vumba; Chimanimani Mts; Mt Selinda.

Parafreutreta vumbae Hancock

Vumba.

Chipingomyia manica Hancock

Chipinge, on *Vernonia glabra* (Compositae).

PLATENSININI

Bezzina margaritifera (Bezzi)

Recorded by Cogan and Munro (1980).

Hyaloctoides semiater (Loew)

Mt Selinda, on *Dicliptera nobilis* (Acanthaceae); Penhalonga, on *Berkheya zeyeri* (Compositae).

Triandomelaena brevicostalis Hancock

Mazowe; Harare; Sapi/Zambezi confluence.

Pliomelaena exilis Munro

Birchenough Bridge.

Pliomelaena stevensoni Munro

Mazowe; Bulawayo.

Pliomelaena brevifrons (Bezzi)

Mt Selinda, on *Dicliptera nobilis* (Acanthaceae).

Psednometopum nigratum Munro

Mazowe. The lack of a pale spot in the stigma in all available specimens suggests that *nigratum* is

specifically distinct from *P. aldabrensis* (Lamb).

Platensina woodi (Bezzi)

Mt Selinda.

Platensina diaphasis (Bigot)

Chipinge.

Pseudefreutreta biseriata (Bezzi)

Mt Selinda

Elaphromyia adatha (Walker)

Mt Selinda; Devuli Ranch (Sabi Valley); Matopos; 25 km W. of Victoria Falls.

DITHRYCINI

Perirhithrum marshalli Bezzi

Chipinge; Penhalonga, on *Vernonia stipulacea* (Compositae).

SCHISTOPTERINI

Heringomyia fordiana (Munro)

Mazowe, ex flowers of *Vernonia* sp. (Compositae).

Heringomyia zernyana (Hering)

Penhalonga.

Eutretosoma marshalli Bezzi

Mt Selinda.

Cordylopteryx marshalli (Bezzi)

Mt Selinda.

Rhabdochaeta nigra Bezzi

Chipinda Pools, Gonarezhou National Park, on *Sphaeranthus* sp. (Compositae).

Rhabdochaeta lesneae (Séguy)

Chimanimani (= Melsetter), on *Vernonia hymenolepis* (Compositae).

Rhabdochaeta neavei Bezzi

Widespread, on *Vernonia glabra* (Compositae).

Rhochmopterum antiñeum (Munro)

Mazowe, ex flowers of *Vernonia* sp. (Compositae).

Rhochmopterum munroi Bezzi

Widespread, on *Vernonia glabra*, *V. cistifolia* and *Erlangera misera* (Compositae).

Rhochmopterum sp. A

Chipinda Pools, Gonarezhou National Park.

Rhochmopterum sp. B

Mazowe

Rhochmopterum sp. C

Mazowe; Shamva.

Brechiopterna ornithomorpha (Munro)

Sapi/Zambezi confluence, Sapi C.H.A., on *Sphaeranthus angolensis* (Compositae).

TEPHRITINI

Clematochaeta acrophthalma (Bezzi)

Juliasdale and Chimanimani, on *Vernonia hymenolepis*; Vumba, on *Helichrysum nitens* (Compositae).

Clematochaeta discipulchra (Bezzi)

Widespread, on *Vernonia glabra* and *V. bainsii* (Compositae).

Clematochaeta perpallida (Bezzi)

Juliasdale; Penhalong; Vumba; Chimanimani; Chipinge; Mt Selinda; all on *Vernonia hymenolepis* (Compositae).

Actinoptera ampla Munro

Rusape, on *Helichrysum cooperi* (Compositae).

Actinoptera contacta Munro

Chimanimani, on *Helichrysum kilimanjari*.

Actinoptera mundella (Bezzi)

Nyanga (= Inyanga), on *Helichrysum herbaceum* and *H. nudifolium*; Matopos, on *H. nudifolium*.

Actinoptera peregrina (Adams)

Chipinge and Rusape, on *Helichrysum cooperi*; Harare.

Actinoptera stricta Munro

Chimanimani, on *Helichrysum kilimanjari*.

Capitites aurea (Bezzi)

Mazowe, on *Vernonia oligocephala*; Zambezi R., Mana Pools Game Reserve, on *V. glabra*; Sanyati West, Lake Kariba.

Capitites dentiens (Bezzi)

Bulawayo.

"Phorellia" peringueyi (Bezzi)

Mazowe. This and the following species belong to an undescribed genus (Freidberg and Hancock, in prep.).

"Phorellia" sp. A

Vumba.

Dectodesis confluens (Wiedemann)

Widespread in the east and south, known as far west as Harare and Bulawayo, on *Helichrysum cooperi*, *H. adenocarpum*, *H. kilimanjari*, *H. herbaceum*, *H. nudifolium*, *H. panduratum*, *H. nitens* and *Gnaphalium luteoalbum* (Compositae).

Dectodesis katamborae Hancock

Kariba; Katombora Rapids, W. of Victoria Falls, on *Erlangera misera*.

Desmella myiopitoides (Bezzi)

Penhalonga, on *Senecio latifolius* (Compositae).

Dioxyna sororcula (Wiedemann)

Widespread, ex seeds of *Bidens pilosa* and on *B. biternata*, *B. pilosa*, *Senecio strictifolius*, *S. latifolius* and *Chrysanthemum leucanthemum* (Compositae).

Goniurellia munroi Freidberg

Sapi/Zambezi confluence, Sapi C.H.A.; Lundi R., Gonarezhou Nat. Park.

Insizwa striatifrons Munro

Mazowe; Bulawayo.

Lethyna gladiatrix (Bezzi)

Chimanimani, on *Helichrysum kilimanjari*; Cashel, on *H. nitens*.

Paradesis auguralis (Bezzi)

Recorded by Munro (1955).

Paratephritis sp. A (near *incomposita* Munro)

Nyanga.

Paroxyna granulata Munro

Harare, ex *Calendula* sp.; Bulawayo and Penhalonga, on *Arctotis grandis* (Compositae).

Paroxyna ignobilis (Loew)

Harare; Mazowe. This species breeds in thistles (*Sonchus* spp.).

Paroxyna siphonina (Bezzi)

Harare; Mt Selinda; Mazowe, ex flowers of *Bidens pilosa*.

Pherothrinax woodi (Bezzi)

Widespread, on *Vernonia glabra* and *Erlangera misera*.

Scedella caffra (Loew)

Harare, ex *Adenostemma viscosum* (Compositae).

Scedella dissoluta (Loew)

Penhalonga, on *Senecio latifolius*; Chipinge, on *Aspilia pluriseta*; Bulawayo, ex *Wedelia menotriche* (all Compositae); 40 km NW of Gwai R., Victoria Falls Road.

Scedella praetexta (Loew)

Harare, on *Aspilia comophylla*; Chipinge, on *A. pluriseta* and *Vernonia glabra*; Penhalonga, on *Senecio latifolius*; Mt Selinda; Vumba; Mutare (= Umtali); Mazowe.

Sphenella helianthoides (Bezzi)

Penhalonga, on *Senecio latifolius*; Mazowe.

Stephanotrypeta taeniaptera (Bezzi)

Matopos, on *Bidens pilosa*; Chipinge, on *Vernonia glabra*; Mazowe; Shangani; Limpopo R. near Chiturupadzi.

Telaletes ochraceus (Loew)

Matopos, on *Helichrysum nudifolium*; Harare.

Trupanea bisdiversa Bezzi

Harare, on sunflowers.

Trupanea bisreducta Bezzi

Nyanga, ex *Berkheya zeyeri* (Compositae).

Trupanea constans Munro

Chipinge, on *Vernonia glabra*.

Trupanea furcifera Bezzi

Mazowe, ex *Laggera pterodonta* (Compositae).

Trupanea infissa Munro

Chipinge, on *Vernonia glabra*; Mazowe; Mt Selinda; Bulawayo.

Trupanea superdecora Bezzi

Mazowe; Penhalonga, on *Senecio latifolius*.

Trupanea tersa Munro

Bulawayo, ex flowers of *Wedelia menotriche* (Compositae).

Trupanea tubulata Munro

Mazowe; Matopos, on *Bidens pilosa*.

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