The Plastotephritinae represent a small, but distinctive subfamily of Platystomatidae (Diptera). The Afrotropical genera and species are revised, including material from 26 international collections. This revision is based exclusively on adult morphology, because other life stages are not known for Plastotephritinae. The Afrotropical taxa constitute approximately three-quarters of the subfamily (16 genera; 78 species).

An historical résumé provides background and chronological lists of the binomina preceding this revision are given. The phylogenetic position and characterisation of the Platystomatidae and Plastotephritinae are discussed and the morphology of adult characters is reviewed. The Afrotropical genera are revised from 11 to 16 and a generic key including Afrotropical and Oriental genera is provided. Six new genera are described, one genus is newly re-instated and two genera are synonymised. Within each generic revision there is a key to all Afrotropical species. Of the total of 78 species, 45 are newly described and the remainder re-described. Five new specific synonyms are proposed. Twelve new combinations are established and 8 lectotypes are designated. A new catalogue of species is provided, listing in detail all names, name combinations, synonyms, type species, type depositories and locations.

Die Plastotephritinae repräsentieren eine kleine aber distinkte Unterfamilie innerhalb der Platystomatidae (Diptera). Die afrotropischen Gattungen und Arten werden in vorliegender Arbeit unter Einbeziehung von Material aus 26 internationalen Sammlungen einer Revision unterzogen. Sie basiert ausschließlich auf der Morphologie der Imagines, weil die präimaginalen Stadien der Plastotephritinae bislang unbekannt geblieben sind. Die afrotropischen Vertreter haben mit ihren 16 Gattungen und 78 Arten am Gesamtspektrum der Plastotephritinae einen Anteil von drei vierteln.

Ein geschichtlicher Überblick zur Erforschung der Unterfamilie und eine chronologische Liste der Binomina bis zum Zeitpunkt dieser Revision fixieren den Ausgangspunkt der Arbeit. Die phylogenetische Position und Charakterisierung der Platystomatidae und der Plastotephritinae werden diskutiert und es wird ein detaillierter Überblick zu den morphologischen Merkmalen der Imagines gegeben. Im Ergebnis vorliegender Revision erhöht sich die Anzahl der afrotropischen Gattungen von 11 auf 16. Ein Bestimmungsschlüssel ermöglicht die Zuordnung der afrotropischen und orientalischen Genera. Sechs Gattungen werden neu beschrieben und eine Gattung wird wieder eingerichtet sowie zwei Genera synonymisiert. Innerhalb der Gattungsrevisionen finden sich Bestimmungsschlüssel zu allen afrotropischen Arten. Unter den insgesamt 78 behandelten Arten sind 45 Neubeschreibungen vertreten und die restlichen Spezies werden ebenfalls detailliert beschrieben. Fünf neue Synonyma auf Artniveau werden vorgeschlagen. Weiterhin sind 12 Neukombinationen festgelegt und 8 Lectotypen designiert worden. Ein neuer Arten-Katalog beschließt das Werk. Er umfasst detaillierte Angaben zu allen Namen, allen Namens-Kombinationen, den Synonyma, den Typus-Arten, zum Verbleib der Typen und zum Vorkommen der Spezies.

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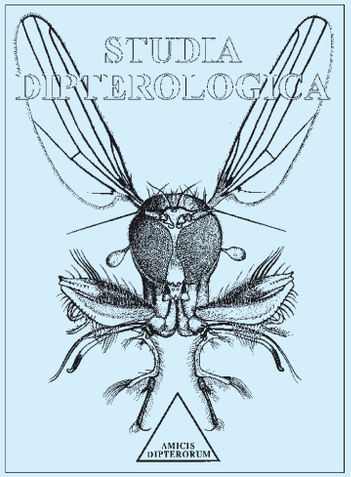

STUDIA DIPTEROLOGICA

Supplement

Andrew E. Whittington

Taxonomic revision of the Afrotropical Plastotephritinae (Diptera, Platystomatidae)

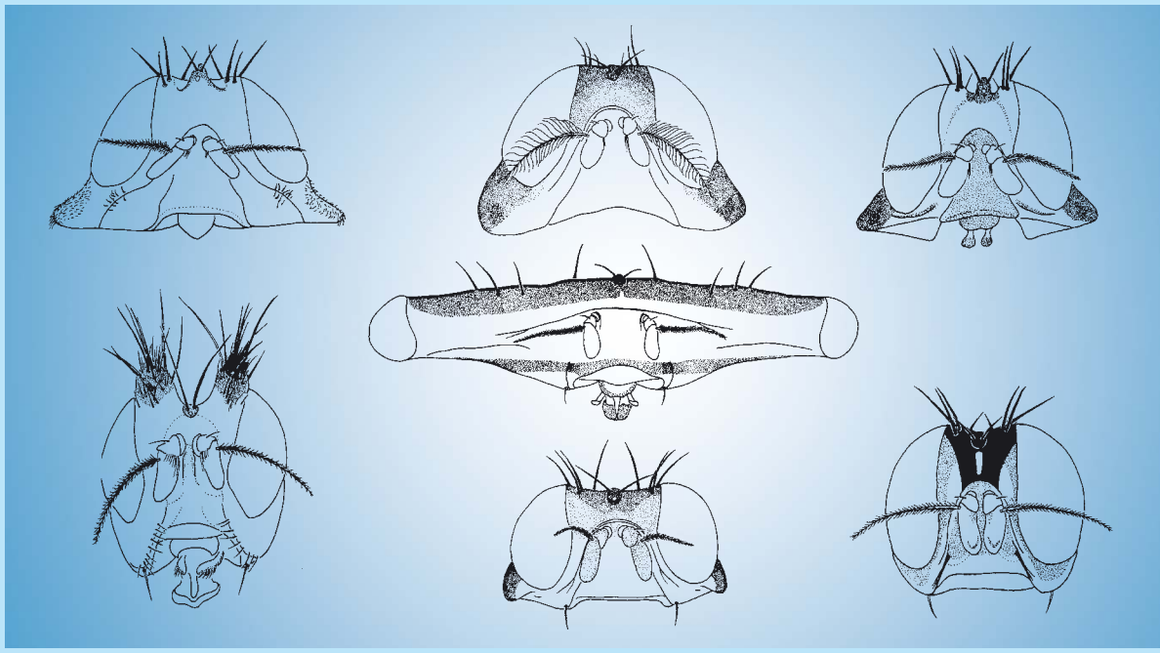

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Abb. 1-3: *Stilpon nubilus* Collin; - **1**: Flügel; - **2**: Kopf lateral; - **3**: Antenne. Maßstrich 0,2 mm.

Tabellen werden wie folgt **überschrieben**: **Tab. 1**: Fundorte von *Stilpon lunatus* (Walker)

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Taxonomic revision of the Afrotropical Plastotephritinae (Diptera; Platystomatidae)

Summary

The Plastotephritinae represent a small, but distinctive subfamily of Platystomatidae (Diptera). The Afrotropical genera and species are revised, including material from 26 international collections. This revision is based exclusively on adult morphology, because other life stages are not known for Plastotephritinae. The Afrotropical taxa constitute approximately three-quarters of the subfamily (16 genera; 78 species), although the Australasian Plastotephritinae (3 genera; 10 species) need to be revised. The Oriental members of the subfamily (2 genera; 2 species) were recently revised (Whittington 2000a).

An historical résumé provides background and chronological lists of the binomina preceding this revision are given. The phylogenetic position and characterisation of the Platystomatidae and Plastotephritinae are discussed and the morphology of adult characters is reviewed. The Afrotropical and Oriental genera are divided into two tribes, Agrochirini and Plastotephritini, each including 9 genera. Agrochirini can be divided again into the *Agrochira*-group and the *Cladoderris*-group, each with 5 and 4 genera respectively. The relative characters of these tribes and groups are discussed.

The Afrotropical genera are revised from 11 to 16 and a generic key including Afrotropical and Oriental genera is provided. Six new genera are described: ***Eudasys* gen. nov.**, ***Furcamyia* gen. nov.**, ***Micronesomyia* gen. nov.**, ***Stellapteryx* gen. nov.**, ***Venacalva* gen. nov.**, and ***Xyrogena* gen. nov.** One genus, *Mesanopin* Enderlein, 1912, is newly re-instated and two genera (*Acanthoneuropsis* Frey, 1932 and *Prionoscelia* Enderlein, 1922) are newly synonymised with it. Within each generic revision there is a key to all Afrotropical species.

Of the total of 78 species, 45 are newly described and the remainder re-described. Five new specific synonyms are proposed: *Onceroparia parviseta* Enderlein, 1924 = *Pterogenomyia picta* (Bigot, 1891), *Onceroparia strigata* Enderlein, 1924 = *Pterogenomyia picta* (Bigot, 1891), *Pterogenomyia mirifica* Frey, 1932 = *Pterogenomyia picta* (Bigot, 1891), *Pterogenomyia paradoxa* Hendel, 1914 = *Pterogenomyia picta* (Bigot, 1891), *Tessmannella undulata* Enderlein, 1924 = *Mesanopin minax* (Enderlein, 1922).

Twelve new combinations are established: *Conopariella paucifenestrata* (Steyskal, 1963), *Federleyella pallidipes* (Enderlein, 1922), *Furcamyia difficilis* (Frey, 1932), *Mesanopin bismarckburgensis* (Enderlein, 1924), *Mesanopin hendeli* (Enderlein, 1922), *Mesanopin laticeps* (Enderlein, 1922), *Mesanopin minax* (Enderlein, 1922), *Pterogenomyia picta* (Bigot, 1891), *Venacalva seriata* (Enderlein, 1924), *Xyrogena campiglossoides* (Frey, 1932), *Xyrogena gratiosa* (Enderlein, 1922), *Xyrogena pannosa* (Enderlein, 1922).

Eight Lectotypes are designated, for: *Conopariella acutigena* Enderlein, 1922, *Conopariella crenata* Enderlein, 1922, *Conopariella picipennis* (Enderlein, 1922), *Conopariella tibialis* (Hendel, 1914), *Furcamyia difficilis* (Frey, 1932), *Oeciotypa rotundiventris* Frey, 1932, *Plastotephritis compta* Enderlein, 1922, *Xyrogena campiglossoides* (Frey, 1932). A new catalogue of species is provided, listing in detail all names, name combinations, synonyms, type species, type depositories and locations.

Key words Diptera, Platystomatidae, Plastotephritinae, Afrotropical, taxonomy

Introduction

The family Platystomatidae (Signal flies), although reasonably speciose (over 1000 species world-wide), is biologically poorly known and has received sparse and sporadic taxonomic attention over the last half century. The vernacular name for the family has only recently come into use (D. K. McAlpine 1998b, 2000; Whittington 1998b) in reference to diverse morphological and behavioural characteristics utilised in communication between conspecifics in many genera, including wing waving (D. K. McAlpine 2000; Whittington *pers obsv*.).

The intended aim of this revision is explicitly to update the alpha taxonomy of the subfamily Plastotephritinae (Diptera; Platystomatidae). It is a study of the morphological similarity and dissimilarity of taxa below the subfamily category and introduces new genera, new species and new binominal combinations. These new names and combinations are proposed in accordance with the Fourth Edition of the International Code of Zoological Nomenclature (International Commission on Zoological Nomenclature 1999). The magnitude of the alpha taxonomic task at hand dictated that this revision would exclude biogeographic and phylogenetic analysis, but would lay the foundation for future research in those fields. Furthermore, little is known of the biology of these flies and the author hopes that by establishing a sound taxonomic foundation and providing a means to identify genera and species, it will lead to further biological research into Plastotephritinae.

The subfamily Plastotephritinae represented a distinct and numerically suitable topic for a revision of this nature. In the intervening years between the last revision of this subfamily (Frey 1932) and this one, numerous specimens have been accumulated in Museums across the globe. Along with these has come an element of uncertainty, brought about by the inadequacy of Frey's (1932) keys to deal with new species and new species concepts intrinsic to that material. Frey's paper was preceded by the works of Enderlein (1922, 1924) and prior to that Hendel (1914a, b).

At the time of Frey's (1932) paper dealing with 31 species, there were an estimated 74 specimens available, mainly in European Museums, although the content of that paper deals almost exclusively with the material sent to him from the (then) Imperial Institute of Entomology (in The Natural History Museum, London). Frey cross-checked this material against species described and loaned to him by Enderlein. On this basis, he will have examined almost all the material then available. This revision deals with approximately 1100 specimens from 23 museums, universities and entomological institutions – clearly a large increase from the 1932 number, but nevertheless, a relatively scarce taxon. Based on this material it includes six new genera, 42 new species, two generic and five specific new synonyms and twelve new combinations. There is now a total of 75 species in this subfamily in the Afrotropical Region.

The descriptions presented here represent the species concepts that seem justified based on the material available now. These concepts are, however, limited by the availability of few specimens over a wide (and difficult to collect from) geographical area. At the time of writing little is known about any aspects of the biology of the Plastotephritinae, a severe disadvantage, for this is a taxon in which there is a large amount of similarity in character-states between genera and between species. Thus, it seems clear that species concepts and the placement of the species in genera will be subject to further revision and changes in the future, especially as new biological knowledge about the subfamily becomes available. This said, it is hoped that this revision will serve the purposes of aiding other entomologists to identify new specimens and establishing a basis on which to develop biological information.

Taxonomic history and major historical publications

Higher taxonomy

Like many flies, the first described species of Platystomatidae were placed in the large family Muscidae. During the Nineteenth Century, this family formed a portmanteau group for the higher Diptera. It was only after many species were accumulated into larger collections and numerous names proposed, that taxonomists began to realise that the Diptera consisted of several distinct families.

The oldest family-group name for this family is in fact not Platystomatidae, but Achiasidae FLEMING, 1821, based on the genus *Achias* FABRICIUS, 1805. There has, however, been an overwhelming predominance of the usage of names based on the genus *Platystoma* MEIGEN, 1803. After petition by STEYSKAL & MCALPINE (1974), the INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE (1979) ruled under plenary power that family-group names based on *Achias* should be suppressed, giving those based on *Platystoma* precedence.

Initially, subfamilies within the Muscidae were recognised; the early Platystomatidae belonging to the Ortalides. Toward the end of the Nineteenth Century, many of these subfamilies were raised to family status, at which point the Ortalides became the Ortalidae. BEZZI (1918) placed the Afrotropical genus *Cladoderris* BEZZI, 1914, *Agrochira* (*Mesanopin*) *tephritina* (ENDERLEIN, 1912b) and the then undescribed specimens of the Oriental *Rhegmatosaga insignis* (FREY, 1930), in the Ortalidae. Placement of Platystomatidae remained problematic even until the last genus named (*Guamomyia* MALLOCH, 1942), which was included in the Otitidae (a replacement name for Ortalides).

HENDEL's significant contribution and re-organisation of the genera of the World (HENDEL 1914a) firmly placed the Platystomatidae as a subfamily of Muscaridae, divided into several tribes. Furthermore, he recognised the broad divisions Acalyptrae and Calyptrae, placing Platystomatinae correctly in the former. ENDERLEIN, who proposed more new plastotephritine names than HENDEL, still preferred Ortalidae to Muscaridae, but adopted the Platystomatinae subfamily status that HENDEL had proposed (ENDERLEIN 1922 & 1924).

In 1930 and 1932 FREY used the family status Platystomatidae and included subfamily divisions – Plastotephritinae in particular (FREY 1932). FREY (1932) attributed the name Plastotephritinae to ENDERLEIN 1922, although ENDERLEIN treated the group at tribal level (hence Plastotephritini ENDERLEIN, 1922). The correct stem for Plastotephritinae, based on *Tephritis* LATREILLE, 1804, is Plastotephritidinae (SABROSKY 1999). Common usage of the shorter stem (Plastotephritinae and Plastotephritini) has prevailed and is used here following the decision of SABROSKY (1999).

FREY (1932) noted that this was a family whose species were difficult to distinguish. For this reason he used the wing markings as diagnostic features, having the wings of all the species at his disposal photographed. This is useful in so much as there are distinct pattern forms, which may be useful to distinguish groups of species or even genera. As new specimens and species have become available, however, it has become obvious that for species diagnosis, use of the patterns is sometimes unsatisfactory. Much variation exists in the wing pattern of particular species and overlap between species is frequent. Even so, in some genera (e.g. *Oeciotypa* HENDEL, 1914a) the approach is still valuable.

HENNIG (1958), followed by STEYSKAL (1961), clearly separated the Otitidae and Platystomatidae with substantial characters, suggesting that these families were not only inter-related, but formed distinct lineages. From this springboard the modern approach to the Tephritoidea, and the definitions of the families comprising it, have developed.

Contrary to this approach, GRIFFITHS (1972) did not accord the Platystomatidae family status, but placed them (without status) in the Tephritidae *sensu lato*, together with the Pyrgotidae, Tachiniscidae, Otitidae, Ulidiidae, Pterocallidae and *Palloptera*. He gave superfamilial status to the Muscoidea, with the Tephritidae *sensu lato* as a family under the category Prefamily Tephtioinea. He used the name Tephritidae rather than the often previously used "Trypetidae" on grounds of priority (after SABROSKY 1946). The analysis was based mainly on characters in the genitalia and character studies taken from the literature. Furthermore, he based the restriction of the families that he included in the Tephritidae on a lack of fossil evidence and the young age (post Tertiary). The fossil fauna of the Platystomatidae is impoverished, with only two species known of Holocene or at most Pleistocene age (EVENHUIS 1994). GRIFFITHS (1972) therefore did not consider the constituent taxa of Tephritidae *sensu lato* equivalent to other families in Muscoidea and, together with considerations of phylogenetic data, he placed the Pyrgotidae, Tachiniscidae, Otitidae, Ulidiidae, Pterocallidae and *Palloptera* at D-level of his analysis. GRIFFITHS' (1972) approach has gained scant acceptance among Dipterists and these families remain at the family category within the superfamily Tephritoidea.

In modern works (e.g. J. F. MCALPINE 1989) there has been considerable rearrangement of the position of many families, resulting to a considerably altered phylogeny to that presented by HENNIG (1958). In addition the categories *sensu* GRIFFITHS (1972) have been shifted upwards, thus placing the Tephritidae *sensu lato et sensu* GRIFFITHS (1972) at Superfamily level (hence Tephtridoidea *sensu* J. F. MCALPINE 1989). This has the effect of raising the sub-groups Platystomatidae, Pyrgotidae, Tachiniscidae, Otitidae, Ulidiidae, Pterocallidae and *Palloptera* to family level (which GRIFFITHS (1972) had not done for lack of significant characters, in his opinion, to warrant it).

In his introductory comments, GRIFFITHS (1972) stated that he had considered all literature related to the subject up until 1969. Thus by virtue of this date, he could not have consulted the most significant publication dealing with the family status and characterisation of the Platystomatidae, viz. the publication of D. K. MCALPINE'S (1973a) revision of the Australasian members of this family. D. K. MCALPINE (1973a) provided good characters and reasoning to give family status to the Platystomatidae, separate from the Tephritidae and other tephritoid families.

The first formal attempt to clearly define and delimit the five subfamilies of the Platystomatidae currently used and to list the included species, came with D. K. MCALPINE'S revision (1973a). The placement of some genera and the distinction between Scholastinae and Plastotephritinae is, however, still problematic (D. K. MCALPINE *in litt*. 29 August 1995; see subfamily discussion below), even although MCALPINE & KIM (1977) improved upon the definitions. There are, nevertheless, sufficient grounds to recognise the subfamilies as monophyletic clades within the Platystomatidae. The limits set by D. K. MCALPINE (1973a), for the subfamily Plastotephritinae are accepted for the purposes of the current work.

Early significant works describing species

Prior to this revision, 52 specific names (from the Afrotropical, Oriental and Australasian Regions) were placed in the subfamily Plastotephritinae, described by ten authors over 107 years. ENDERLEIN named the bulk of these species (Table 1). Of the 52 names listed, two are subspecies and two are junior synonyms, leaving 48 valid species at the beginning of this revision. The 24 generic names (Table 2) under which these species were placed, were described over 61 years by nine authors, with ENDERLEIN again responsible for the bulk of these names.

Tab. 1: Chronological list of Plastotephritinae binomina and authorities prior to this revision. Species marked * are junior synonyms.

Date	Genus	Species	Authority
1856	*Rhegmatosaga*	*latiuscula*	(WALKER, 1856)
1859	*Atopognathus*	*complens*	(WALKER, 1859)
1860	*Atopognathus*	*signifacies*	(WALKER, 1860)
1861	*Atopognathus*	*tarsalis*	(WALKER, 1861)
1864	*Atopognathus*	*leucomerus*	(WALKER, 1864)
1865	*Atopognathus*	*contigua**	(WALKER, 1865)
1881	*Atopognathus*	*platypalpus*	BIGOT, 1881
1911	*Agrochira*	*achiodes*	ENDERLEIN, 1911
1912	*Agrochira*	*tephritina*	(ENDERLEIN, 1912b)
1914	*Atopognathus*	*angustifrons*	(HENDEL, 1914a)
1914	*Atopognathus*	*barbatus*	(HENDEL, 1914a)
1914	*Atopognathus*	*goniceps*	(HENDEL, 1914a)
1914	*Cladoderris*	*silvestrii*	BEZZI, 1914
1914	*Conopariella*	*tibialis*	(HENDEL, 1914b)
1914	*Lasioxiria*	*hirsuta*	HENDEL, 1914a
1914	*Oeciotypa*	*parallelomma*	HENDEL, 1914a
1914	*Pterogenomyia*	*paradoxa*	HENDEL, 1914a
1922	*Acanthoneuropsis*	*laticeps*	(ENDERLEIN, 1922)
1922	*Agrochira*	*hendeli*	ENDERLEIN, 1922
1922	*Atopocnema*	*manicatifrons*	ENDERLEIN, 1922
1922	*Atopocnema*	*marginepunctata*	(ENDERLEIN, 1922)
1922	*Conopariella*	*acutigena*	ENDERLEIN, 1922
1922	*Conopariella*	*albitarsis*	(ENDERLEIN, 1922)
1922	*Conopariella*	*crenata*	ENDERLEIN, 1922
1922	*Conopariella*	*pallidipes*	(ENDERLEIN, 1922)
1922	*Conopariella*	*picipennis*	(ENDERLEIN, 1922)
1922	*Conopariella*	*togoensis*	ENDERLEIN, 1922
1922	*Federleyella*	*septemfenestrata*	(ENDERLEIN, 1922)
1922	*Plastotephritis*	*compta*	ENDERLEIN, 1922
1922	*Plastotephritis*	*gratiosa*	ENDERLEIN, 1922
1922	*Plastotephritis*	*limbata*	ENDERLEIN, 1922
1922	*Plastotephritis*	*pannosa*	ENDERLEIN, 1922
1922	*Plastotephritis*	*patagiata*	ENDERLEIN, 1922
1922	*Prionoscelia*	*minax*	ENDERLEIN, 1922
1922	*Prosopoconus*	*fuscigenu*	ENDERLEIN, 1922
1924	*Agrochira*	*bismarckburgensis*	ENDERLEIN, 1924
1924	*Plastotephritis*	*seriata*	ENDERLEIN, 1924
1924	*Prionoscelia*	*undulata*	(ENDERLEIN, 1924)
1924	*Pterogenomyia*	*parviseta*	(ENDERLEIN, 1924)
1924	*Pterogenomyia*	*strigata*	(ENDERLEIN, 1924)
1930	*Rhegmatosaga*	*insignis**	FREY, 1930
1932	*Agrochira*	*difficilis*	FREY, 1932
1932	*Atopocnema*	*brunnipennis*	FREY, 1932
1932	*Conopariella*	*conspicua*	FREY, 1932
1932	*Oeciotypa*	*rotundiventris*	FREY, 1932
1932	*Plastotephritis*	*campiglossoides*	FREY, 1932
1932	*Pterogenomyia*	*mirifica*	FREY, 1932
1936	*Atopognathus*	ssp. *fasciatus*	(CURRAN, 1936)
1939	*Atopognathus*	ssp. *separatus*	MALLOCH, 1939
1942	*Guamomyia*	*fascipennis*	MALLOCH, 1942
1957	*Oeciotypa*	*hendeli*	LINDNER, 1957
1963	*Federleyella*	*paucifenestrata*	STEYSKAL, 1963

Tab. 2: Chronological list of Plastotephritinae genera and authorities prior to this revision. Genera marked * are junior synonyms.

Date	Genus	Authority	Type species
1881	*Atopognathus*	Bigot, 1881	*Atopognathus platypalpus* Bigot, 1881
1911	*Agrochira*	Enderlein, 1911	*Agrochira achiodes* Enderlein, 1911
1912	*Mesanopin**	Enderlein, 1912	*Mesanopin tephritium* Enderlein, 1912
1913	*Chaetorivellia*	De Meijere, 1913	*Ortalis trifasciata* Doleschall, 1858
1913	*Dasiortalis**	De Meijere, 1913	*Ortalis contigua* Walker, 1865
1914	*Cladoderris*	Bezzi, 1914	*Cladoderris silvestrii* Bezzi, 1914
1914	*Dasyortalis**	Hendel, 1914a	*Ortalis complens* Walker, 1859
1914	*Lasioxiria*	Hendel, 1914a	*Lasioxiria hirsuta* Hendel, 1914a
1914	*Oeciotypa*	Hendel, 1914a	*Oeciotypa parallelomma* Hendel, 1914a
1914	*Pterogenomyia*	Hendel, 1914a	*Pterogenomyia paradoxa* Hendel, 1914a
1922	*Anaphalantias**	Enderlein, 1922	*Anaphalantias picipennis* Enderlein, 1922
1922	*Atopocnema*	Enderlein, 1922	*Atopocnema manicatifrons* Enderlein, 1922
1922	*Conopariella*	Enderlein, 1922	*Conopariella acutigena* Enderlein, 1922
1922	*Plastotephritis*	Enderlein, 1922	*Plastotephritis compta* Enderlein, 1922
1922	*Prionoscelia*	Enderlein, 1922	*Prionoscelia minax* Enderlein, 1922
1922	*Prosopoconus*	Enderlein, 1922	*Prosopoconus fuscigenu* Enderlein, 1922
1924	*Onceroparia**	Enderlein, 1924	*Onceroparia strigata* Enderlein, 1924
1924	*Tessmannella**	Enderlein, 1924	*Tessmannella undulata* Enderlein, 1924
1925	*Tessmanniola**	Enderlein, 1925	Replacement name for *Tessmannella*
1930	*Rhegmatosaga*	Frey, 1930	*Rhegmatosaga insignis* Frey, 1930
1932	*Acanthoneuropsis*	Frey, 1932	*Agrochira laticeps* Enderlein, 1922
1932	*Federleyella*	Frey, 1932	*Anaphalantias septemfenestrata* Enderlein, 1922
1936	*Lasiopsila**	Curran, 1936	*Lasiopsila fasciata* Curran, 1936
1942	*Guamomyia*	Malloch, 1942	*Guamomyia fascipennis* Malloch, 1942

Only 15 of these World genera are currently placed in Plastotephritinae. Seven of the remainder are junior synonyms, one name (*Tessmannella* Enderlein, 1924) is a junior homonym and *Chaetorivellia* de Meijere, 1913 was moved to Scholastinae by McAlpine & Kim (1977).

The earliest described Plastotephritinae were the six Oriental and Australasian species described by Walker in the years 1856 to 1865 (Table 1). He placed these species in various genera in the subfamily Ortalides (Muscidae), since at that time the family Platystomatidae (with its own subfamilies) was not recognised.

Although prolific in other Diptera taxa, Bezzi, Curran, Lindner and Steyskal each published only a single plastotephritine species (Table 1). Bigot and Malloch each described two species, of which one of Bigot's was overlooked until recently and one of Malloch's is considered a subspecies (Evenhuis 1989). Bigot, Bezzi, Curran, and Malloch were also responsible for a single plastotephritine genus (Table 2).

The importance and priority of both of Hendel's 1914 works have been discussed in length by D. K. McAlpine (1973a), Steyskal (1977), Evenhuis (1989) and finally by D. K. McAlpine (1994). The correct priority for these papers has been established by D. K. McAlpine (1994) and I follow his conclusion that Hendel's *Genera Insectorum* has priority over the *Abhandlungen der Kaiserlich-Königlichen Zoologisch-Botanischen Gesellschaft in Wien* paper. The National Museums of Scotland, Edinburgh (NMSE), volume of the *Genera Insectorum* Fascicles 157 to 163 has the accession date "18.6.14" stamped in the front covers of each Fascicle. This is in agreement with the dates listed by D. K. McAlpine (1994 table 1). The fascicles of the NMSE volume are bound together with a title page dated "12.3.17", this later date being the date at which the next series of Fascicles arrived in the library together with the title page for the 157 – 163 series, which then went to be bound.

By far the larger number of species (25) and (11) genera in the Plastotephritinae were proposed by Enderlein in the years 1922, 1924 and 1925, all of which are from the Afrotropical region. Of the nine genera he described six remain in current use. All nine were initially placed in the Platystominae of the Ortalidae (= Otitidae). Of the 23 species he described in this period all but three were placed in the above nine genera.

A key paper among the early works on Plastotephritinae is Frey's 1932 paper on African species. In it he provided a key to the Afrotropical plastotephritine genera and in most cases provided keys to the species in those genera. A great advantage in this paper is the use of photographic plates of the wing patterning. The main failing of the work is that only the specimens sent to him by the Director of the Imperial Institute of Entomology were studied. Thus, although he examined the material sent to him by Enderlein, not all the taxa known at the time were included in the keys. With the availability of new specimens, it has become clear that many of the characters used in his keys are now inadequate, since they either do not clearly delimit taxa, or are variable within taxa. He named six new species and two new genera. Prior to 1932, he had described the genus *Rhegmatosaga* with the type species *R. insignis* Frey, 1930. This species was later synonymised by Hardy (1959) with *Noeeta latiuscula* Walker, 1856.

The significance of the Dr George C. Steyskal unpublished manuscript on Platystomatidae

In the early 1960's Dr George Constance Steyskal began working on African (and more generally, World) Platystomatidae, and borrowed large quantities of material from various institutions. Over the next three decades he produced fifteen papers on this family (see Sabrosky 1997).

Unfortunately, the most important of these papers was never published and exists only in manuscript form. I know of two copies of this manuscript: one is with Dr Amnon Freidberg (TAUI, Tel Aviv) and the other with myself. The second of two pages inserted between page 2 and 3 bears the hand written statement "genera ok 1968" and page 16 covering the Trapherinae is dated 1989. This indictes the length of time he had been working on the manuscript. Soon after my own interest in this Family began, Dr Freidberg told me (*in litt.* 1 July 1992) about the unpublished manuscript. Needless to say, this caused some concern, since it meant that the unpublished key to Afrotropical genera of Platystomatidae that I was then working on may have been preceded by publication of this manuscript. Dr Freidberg then posted a copy to me and it was immediately obvious that the manuscript was in a preliminary form not ready for publication. Nevertheless, Dr Steyskal's intentions regarding this manuscript were important. Following my enquiries, Dr Steyskal informed me (*in litt.* 8 April 1993) that he had no intention of publishing the manuscript and hoped I would proceed, which of course I have.

The manuscript itself is a collection of keys, rough notes and rough illustrations, with little or no discussion and several re-runs of keys. There are several new names proposed. Out of respect and in honour of the vast amount of work he did, I have used some of the names proposed by Dr Steyskal, where the manuscript types are recognisable and where I am in agreement with the new taxon. Apart from this usage and the occasional reference to his keys, I have had little need to refer to the manuscript. Thus it does not form the basis of this revision and all taxa have been examined afresh and without prior reference to the manuscript. New taxa are proposed here because they stand out as having not been previously published and only some concur with the views of Dr Steyskal. In some instances I do not agree with the det. labels placed on specimens by Dr Steyskal and his work on the group was clearly incom-

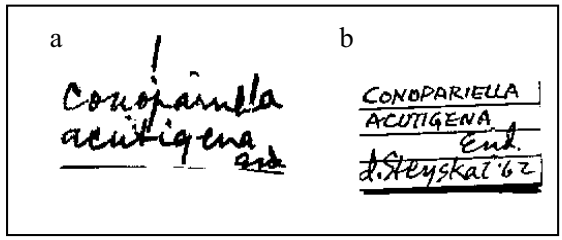


Fig. 1a–b: Examples of Dr G. C. Steyskal determination labels. – **a**: Rough "working" label; – **b**: Permanent determination label.

plete. Some of the determination labels are clearly "working" labels and not intended to have any permanency (Fig. 1a). Nevertheless, I have not removed these labels, since they are informative in their own right. Other labels are more formal (Fig. 1b) and obviously Dr Steyskal intended their permanency.

There are cases where Dr Steyskal's descriptions and illustrations (in various papers and in the preliminary manuscript) are difficult to check since some of the material referred to seems to have been irretrievably lost. To my knowledge, all Plastotephritinae previously seen by him, that still exist, have been included in this revision.

Dr Steyskal died in Gainesville, Florida on 30 May 1996 (Sabrosky 1997), having compiled a great wealth of knowledge in acalyptrate flies. I wish to respectfully pay tribute to this great Dipterologist, and hope that this thesis adequately fulfils his original intentions.

Techniques

This revision deals exclusively with adults, since larvae for the subfamily are not known (Ferrar 1987). All descriptions are based on primary type specimens, with information about variable characters from supplementary specimens. Bilaterally symmetrical features are described in the singular. Variable character states and measurement ranges, such as those of body and wing lengths, are listed under a separate heading. Body length was measured from the apex of the frons, in a straight line to the apex of the abdominal segment 5. In cases where the abdomen was bent, the constituent parts before and after the deflexion were added together. Where female ovipositors were extended, these were excluded from the body length measurement. Wing length was measured from the base of the costa to the wing tip. Frons width is measured relative to head width in dorsal aspect.

Terminology and abbreviations concerning gross morphology follows White *et al.* (2000), with reference to (and in many cases replacing) older terminology (Munro 1947, D. K. McAlpine 1973a, J. F. McAlpine 1981, White 1988, White & Elson-Harris 1992 and Cumming, Sinclair & Wood 1995). The terminology used throughout is represented and illustrated in the section discussing Morphology, and in the list of abbreviations (Appendix 1).

New names and combinations introduced in this revision are proposed in accordance with the Fourth Edition of the International Code of Zoological Nomenclature (International Commission on Zoological Nomenclature, 1999). Specifically, lectotypes have been designated where taxonomic uncertainty would exist if they were not designated. Etymology of new names was derived from Thompson & Craddock (1971), Kidd (1972), Borror (1988) and Brown (1991). Descriptions of Plastotephritinae prior to this revision were not accompanied by etymological statements, therefore the etymological statements supplied for those names are interpretations based on the translation of the derivatives of those names. The original intention of the authors in naming particular species as they have is usually uncertain.

So as to avoid the formation of synonyms, proposed generic names have been checked in Neave (1939, 1940, 1950), Edwards & Hopwood (1966), Edwards & Vevers (1975), Edwards & Tobias (1993), Edwards, Manly & Tobias (1996) and in Biosis (2000). The latter is a database of names reported in the Zoological Record since 1978 and, as such, covers new names added since Edwards, Manly & Tobias (1996). Synonyms of new species names are avoided by reference to Steyskal (1980) and direct reference to the literature concerning the Plastotephritinae.

Authorities and dates of botanical names, where mentioned, have been checked against the *Index Nominum Genericorum* (Ing 1998), however, this database is still under construction and not all names are available on it.

Drawings were made with the aid of a stereomicroscope and a drawing tube. Holotypes were usually illustrated, or specimens compared with the holotype and deemed sufficiently similar to warrant illustration (this was necessary for instance where the holotype was damaged, or where a body part was obscured). Where body parts were absent or damaged, the illustration was composed from comparison with other specimens and other bilaterally symmetrical parts. All scale bars represent 1 mm, unless specified as 0.5 mm in the figure caption.

In instances of closely related species, dissection of the genital segments was necessary for positive identification. Specimens suitable for dissection were softened in a humidity chamber (treated with house-hold disinfectant containing Dichloroxylenol 2.5 % W/W and Terpineol 5.0 % W/W) for a day prior to dissection. This allowed for the careful removal of the terminal segments of the abdomen, without causing damage to legs and wings. Usually the last three abdominal segments were removed to ensure that all necessary terminalia were dissected. These were cleared in hot potassium hydroxide for about ten minutes, then viewed, illustrated and stored in glycerine. An attempt was made to illustrate the glans of the male aedeagus in a similar aspect throughout the revision. The long dimension of the eversible membrane in the female ovipositor was compared to the full length of the oviscape (T_7). Care must be taken to measure the full length of the oviscape, since some of it is covered by T_5.

In sexually dimorphic species (such as is found in the genus *Agrochira* Enderlein, 1911 or *Conopariella* Enderlein, 1922) it is important to examine both males and females and to bear in mind that the description was based on the primary type, which may be either gender. In such instances comment on dimorphic characters is made under the heading "*Variation*"

Vestiture was described as one of three basic types: microtrichia, setulae or setae. Microtrichia (pruinescence in previous papers) were viewed with the light striking the specimen at an oblique angle to the surface. Viewing perpendicular to the specimen surface usually makes microtrichia difficult to observe and results in erroneous conclusions.

Setulae are fine, often abundant, background setae, without clearly visible sockets. Setae are generally easily distinguished from other macrotrichia (i.e. setulae) being specifically positioned, clearly inserted into sockets, considerably thicker and often differently coloured to the setulae. There is a gradation among small setae and large setulae (as is frequent on the anepimeron for example), but this is commented upon in the text where confusion may result. Usually setae can be clearly separated from setulae in Plastotephritinae.

The clearest method of viewing the wing pattern is to arrange the light so that it shines on to a white surface behind the wing; thus, the wing is "back-lit". If the light source is allowed to shine onto the wing surface, then the features will be obscured by the sheen derived from the microtrichia covering the membrane. Patterns on the wing of dark on hyaline are sometimes in bands. Terminology for such banding has become confused, with different names being applied as described by D. K. McAlpine (1973a), Freidberg (1991), Freidberg & Hancock (1989),

Freidberg & Kaplan (1992) or White *et al*. (2000). Terminology of the latter paper (White *et al*. 2000) has been followed, to conform to recent Tephritoid work.

Setulae on the wing veins are not always easy to find, but are frequently important as intergeneric and interspecific diagnostic characters. The best technique is to examine the specimen across the wing membrane at an oblique angle, but with the membrane almost flat to the plane of view, picking out each vein in turn, searching for setulae. Secondly, the setulae can also be viewed in silhouette against the wing membrane if they are erect enough. Thirdly, it is important to search for sockets of these setulae, since setulae are frequently broken off. Search for sockets from a vertical orientation, perpendicular to the membrane.

The male genitalia of Plastotephritinae have undergone flexion to an inverted position beneath tergite four. The descriptions and illustrations relate to the "upright" position in which the cerci are in the dorsal position, rather than in the inverted ventral position. In most instances dissection is necessary to observe the post abdominal genital apparatus (including S_7). However, in certain species the shape of the lateral surstylus is diagnostic enough not to need dissection, while in other cases it can be avoided because, in a few specimens, the distiphallus is exposed (either naturally during death or by careful preparation at the time of pinning.

Label data of primary types are quoted verbatim with forward slashes between lines and semicolons between labels. Details in 'Additional material examined' are not quoted verbatim and have been standardised, so that localities are listed by country, from north to south and west to east. The locality (with latitude and longitude in square brackets if not provided on the data label) is given first, followed by date, collector, any other relevant details and lastly the institutional coden (refer to Acknowledgements). Dates conform to the format 'day.month.year', with the day and year in Arabic numerals and the month in lower case Roman (e.g. 8.iii.1991). Where labels share similar data, these are included in one entry, with all dates and collectors for that locality listed sequentially by date after the locality and co-ordinates. Co-ordinates were checked against the Times (1994) and Nima (2000).

Contributing institutions

I am grateful to the following list of institutions for the loan of specimens and to the individual staff members listed for their help and endurance administering those loans. Institutional codens follow Arnett *et al*. (1986), unless not listed or more than one alternative is available (marked *).

AMNH = American Museum of Natural History, New York, U.S.A. (Dr D. Grimaldi & C. Chaboo)
AMSA = Australian Museum, Sydney, Australia (Dr D. K. McAlpine)
BMNH = The Natural History Museum, London, England (Dr B. R. Pitkin & Mr J. Chainey)
CASC = California Academy of Sciences, San Francisco, U.S.A. (Dr N. Penny & K. J. Ribardo)
CMNH = The Carnegie Museum of Natural History, Pittsburgh, U.S.A. (Dr C. W. Young)
CUMZ = Cambridge University Museum of Zoology, Cambridge, England (Dr Foster)
DEIC = Deutsches Entomologisches Institut, Eberswalde, Germany (Dr J. Ziegler).
ETHZ = Entomologische Institute, Eidgenössische Technische Hochschule-Zentrum, Zürich (Dr A. Müller).
KBIN* = Koninklijk Belgisch Institut voor Natuurwetenschappen, Brussels, Belgium (Dr P. Grootaert)
MNHN = Muséum National d'Histoire Naturelle, Paris, France (Prof. L. Matile)
MRAC = Musée Royal de l'Afrique Centrale, Tervuren, Belgium (Dr M. de Meyer & E. De Coninck)
MZLU = Museum of Zoology, Lund University, Lund, Sweden (Dr R. Danielsson)
NHMW = Naturhistorisches Museum, Wien, Austria (Dr R. Contreras-Lichtenberg)
NMBZ = Natural History Museum, Bulawayo, Zimbabwe (Ms K. Donnan)
NMSA = Natal Museum, Pietermaritzburg, South Africa (Dr D. A. Barraclough)
NMSE* = National Museums of Scotland, Edinburgh, Scotland.

NMWC = National Museum of Wales, Cardiff, Wales (Dr J. C. Deeming)
OXUM = Hope Entomological Collections, University Museum, Oxford, England (Mr D. Mann)
PANZ* = Polska Akadenia Nauk Muzeum i Instytut Zoologii, Warszawa, Poland (Dr W. Mikolajczyk).
SANC = National Collection of Insects, Pretoria, South Africa (Dr M.W. Mansell)
SMNS = Staatliches Museum für Naturkunde, Stuttgart, Germany (Dr H.-P. Tschorsnig)
TAUI = Tel Aviv University, Tel Aviv, Israel (Dr. A. Freidberg)
USNM = United States National Museum, Washington, U.S.A. (Dr A. L. Norrbom & Mr G. F. Hevel)
UZMC = University Zoological Museum, Copenhagen (Dr R. Meier)
UZMH* = University Zoological Museum, Helsinki, Finland (Dr P. Vilkamaa)
ZMHB = Zoologisches Museum an der Humboldt-Universität, Berlin, Germany (Dr H. Schumann, Dr H. Wendt & Dr M. Kotrba)

Higher taxonomy and morphology

Phylogenetic position and characterisation of the Platystomatidae

Although it is not within the scope of this thesis to discuss in detail the characterisation and phylogenetic position of this family, a brief comment is appropriate. Neither of these goals can be adequately addressed without lengthy study of the Tephritoidea and analysis of many hundreds of specimens, a task that has been partially dealt with by other authors (D. K. McAlpine 1973a, J. F. McAlpine 1989, Korneyev 1994, 2000a).

D. K. McAlpine (1973a) provided the most complete characterisation of the family at that time and outlined possible relationships with Richardiidae, Otitidae, Tachiniscidae, Pyrgotidae and Tephritidae. Based on the criteria put forward by D. K. McAlpine (1973a), Platystomatidae can be distinguished from all other tephritoids by the following combination of characters:

- Ocelli present (vestigial only in *Bromophila* Loew, 1873); frontal setae absent; vibrissa absent but genal seta often present; costa broken at subhumeral and/or humeral positions; R_1 and R_{4+5} dorsally setulose; cell bcu obtusely closed at apex;
- male genitalia: sternite 6 is reduced or absent, strongly sclerotised bilobed cap to the ejaculatory apodeme, phallapodeme always present, well developed medial surstylus;
- female ovipositor: tergite 6 is reduced or absent, segment 7 is present as a conical oviscape, which forms a rigid base to the tubular ovipositor sheath protecting a retractable (by invagination) segment 8 or aculeus, which terminates with apical sensory setae on either side.

Many of these characters occur in other Diptera families (Korneyev 1994), but it is the combination of characters that D. K. McAlpine (1973a) stressed. J. F. McAlpine (1989), who provided a more restrictive set of apomorphic characters, developed the analysis further:

– pedicel with long dorsal seam
– postocellar setae weak or absent
– abdominal tergite 6 reduced or absent in female (autapomorphy)

J. F. McAlpine (1989) suggested the sister group relationship of the Platystomatidae with the Tephritidae + Pyrgotidae + Tachiniscidae. Korneyev (1994) confirmed the monophyly of these families, but refined the phylogeny to show a sister-group relationship between the Platystomatidae and Tephritidae. He recognised 3 monophyletic clades represented by the subfamilies Plastotephritinae + Scholastinae + Platystomatinae.

These synapomorphies were critically examined by Korneyev (2000a) and found to be either shared with some Tephritidae (and other families) or to be inaccurately defined. He proposed a new, more robust set of synapomorphies for Platystomatidae:

– cell bcu closed by a straight vein, perpendicular to Cu (i.e. never acutely lobed)
– sternal apodemes of sternites 4–6 absent.

Characterisation of the Plastotephritinae

There are frequent overlapping character states within the family Platystomatidae, making clear definitions of the taxonomic categories below family level difficult. Nevertheless, there are combinations of characters that together define the subfamilies. D. K. McAlpine (1973a) provided the first detailed analysis of subfamily classification in the Platystomatidae, proposing the division of the family into: Trapherinae, Plastotephritinae, Scholastinae, Platystomatinae and Angitulinae. His definitions for the Plastotephritinae and Scholastinae were then improved (McAlpine & Kim 1977); these are, by and large, accepted and used here. Prior to those analyses, characterisation of the subfamily was made in general terms by Frey (1932), using characters distinct to some genera and subfamilies now no longer considered to agree with the definition of Plastotephritinae *sensu* D. K. McAlpine (1973a).

The Plastotephritinae are characterised by having the following subset of characters:
- subcosta angled forward and usually evanescent (ceasing before joining costa)
- lower calypter reduced to a narrow, linear fringe (Fig. 416 & Whittington 2000b fig. 1a.)
- tergites 4 and 5 not much shorter than tergite 3 (in some cases T_5 is longer than both preceding tergites together)
- distiphallus terminating in a glans (at least partly sclerotised) without elongate terminal filaments
- tergite 6 of female abdomen absent or vestigial and concealed below tergite 5
- aculeus variable between slender with a rounded apex and broad with an acute apex (the latter condition being the exception rather than the rule).

Additional characters are less clearly defined and have exceptions either within the Plastotephritinae or in the other subfamilies of the Platystomatidae. For example, the head is frequently flattened (in anterior to posterior dimension), especially dorsal to the occipital foramen. There are exceptions in that some genera of Plastotephritinae have sub-globular heads and some Scholastinae have the head narrowing dorsally. In all Plastotephritinae with antero-posteriorly flattened heads, the frons is near vertical, while in Scholastinae with narrowed heads the frons is at an oblique angle posteriorly away from the ptilinal fissure. Further modifications to head shape are frequent in Plastotephritinae and include the lateral development of eyestalks, orbital plate raised into distinct lobes either side of the vertex or genal extensions.

The main difficulty between Scholastinae and Platystomatidae lies in certain transitional characters apparent in some genera. These characters include: shape of head; extent of reduction of lower calypter; degree of reduction of tergite 5; extent of development of bilobed cap on ejaculatory apodeme; and extent of terminal filaments of the glans of the distiphallus. Elongate terminal filaments do not occur in Plastotephritinae, but much reduced structures do; the homology of these structures is contentious and polarity of the character state is not clearly understood in the higher Tephritoidea (Korneyev 2000a & b). For example, enclosed within the lateral flaps of the praeputium of the glans of *Oeciotypa rotundiventris* Frey, 1932 are three processes (Fig. 2). This character is further developed in other Plastotephritinae (e.g. see *Mesanopin*), in which similar structures are extended beyond the apex of the glans. The homologies of such processes are difficult to establish, but these are debatably proposed to be paired lateral filaments and the medial, blunt ended to bifurcate acrophallus.

Chaetorivellia de Meijere, 1913 (from Australia) was originally placed in the subfamily Plastotephritinae (D. K. McAlpine 1973a; Evenhuis 1989). D. K. McAlpine (1973a) noted however, that this genus appeared to be transitional between the Plastotephritinae and Scholastinae. In a later paper, McAlpine & Kim (1977) placed *Chaetorivellia* in Scholastinae

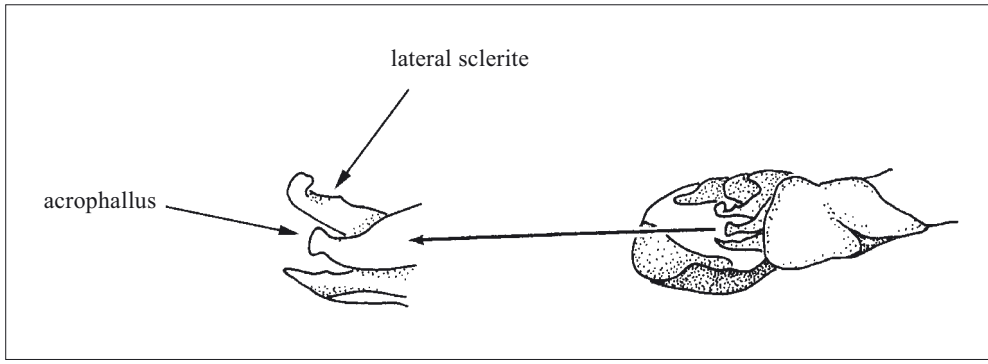


Fig. 2: *Oeciotypa rotundiventris* FREY, 1932 apex of glans.

based on the accumulation of further evidence. Nevertheless, D. K. MCALPINE later maintained that the genera *Lenophila* GUÉRIN-MÉNEVILLE, 1843 and *Chaetorivellia* are ambiguous as to subfamily (D. K. MCALPINE, *pers. comm.*) and now believes that there are no Australian members of Plastotephritinae. Having examined Australian members of the genera previously placed in the Plastotephritinae, I concur with these views. The distribution of the subfamily Plastotephritinae is thus predominantly Afrotropical, with only two genera in the Oriental Region (viz. *Rhegmatosaga* FREY, 1930 and *Agadasys* WHITTINGTON, 2000a) and a few genera scattered over the Pacific, Indonesian, Micronesian and New Guinean Islands, including *Atopognathus* BIGOT, 1881 and *Guamomyia* MALLOCH, 1942. Little more can be said until a thorough revision is made of the Australasian and Oceanian genera. Thus I have excluded them from this analysis.

Included in the Afrotropical section of this subfamily are the following 16 genera: *Agrochira* ENDERLEIN, 1911, *Atopocnema* ENDERLEIN, 1922, *Cladoderris* BEZZI, 1914, *Conopariella* ENDERLEIN, 1922, *Eudasys* gen. nov., *Federleyella* FREY, 1932, *Furcamyia* gen. nov., *Mesanopin* ENDERLEIN, 1912, *Micronesomyia* gen. nov., *Oeciotypa* HENDEL, 1914, *Plastotephritis* ENDERLEIN, 1922, *Prosopoconus* ENDERLEIN, 1922, *Pterogenomyia* HENDEL, 1914, *Stellapteryx* gen. nov., *Venacalva* gen. nov., and *Xyrogena* gen. nov. In addition the two Oriental genera, *Agadasys* and *Rhegmatosaga*, are included in the following discussion and key to genera.

In 1922, ENDERLEIN included all the Plastotephritinae (*sensu* STEYSKAL 1980) plus two genera of Platystomatinae in the tribe Plastotephritini (ENDERLEIN, 1922), within the Platystomatinae of the family Ortalidae. These higher taxa have undergone considerable revision and now no longer exist *per se*. The type genus of Plastotephritinae and Plastotephritini is *Plastotephritis* ENDERLEIN, 1922. The above mentioned 18 genera can be divided into two distinct groups based on the extent of pubescence on the arista in combination with the number of well-developed setae on the vertex (Table 3). I propose the Tribes Agrochirini **tribus nov.** and Plastotephritini ENDERLEIN, 1922 to correspond with these two groups respectively.

Additional characters are restricted to some, but not all, genera in each of these tribes. For instance, some (but not all) Agrochirini also have raptorial fore-femora, armoured hind trochanters, or extended parafacial, frontal and occipital plates and some (but not all) Plastotephritini have genae considerably expanded laterally (especially in males). It is also notable that one of the two Oriental genera belongs in each tribe (WHITTINGTON 2000a). The Agrochirini can be divided into two distinct genus-groups (Table 3), while the Plastotephritini is a looser assemblage of genera, for which no such groups are proposed.

Tab. 3: Subdivision of the subfamily Plastotephritinae.

Tribe Agrochirini	**Tribe Plastotephritini**
Genera with pubescent arista and 2 distinct pairs of vertical setae (medial pair seta-like even if shorter than lateral pair)	Genera with plumose arista and 1 distinct pair of vertical setae (medial pair reduced and distinctly setula-like)
Type genus *Agrochira* Enderlein, 1911	**Type genus *Plastotephritis* Enderlein, 1922**
Agrochira-group	*Atopocnema* Enderlein, 1922
Agrochira Enderlein, 1911	*Conopariella* Enderlein, 1922
Furcamyia gen. nov.	*Federleyella* Frey, 1932
Mesanopin Enderlein, 1912	*Oeciotypa* Hendel, 1914
Micronesomyia gen. nov.	*Plastotephritis* Enderlein, 1922
Prosopoconus Enderlein, 1922	*Pterogenomyia* Hendel, 1914
Cladoderris-group	*Rhegmatosaga* Frey, 1930
Agadasys Whittington, 2000a	*Venacalva* gen. nov.
Cladoderris Bezzi, 1914	*Xyrogena* gen. nov.
Eudasys gen. nov.	
Stellapteryx gen. nov.	

General morphology and terminology

With the distinctive characters listed above in mind, the Plastotephritinae can generally be separated from other Platystomatidae. The following discussion of morphological characters describes some features found throughout the Plastotephritinae. These are, however, not necessarily exclusive to this subfamily, because many of the features can be found in other subfamilies of Platystomatidae. Furthermore, many of the structures discussed are homologous with those found in families sharing close affinities with the Platystomatidae, such as Tephritidae and Ulidiidae. General morphology therefore follows White, et al. (2000), with reference to (and in many cases replacing) older terminology (Munro 1947, D. K. McAlpine 1973a, J. F. McAlpine 1981, White 1988, White & Elson-Harris 1992 and Cumming *et al.* 1995). The most important morphological features are illustrated in Figures 2 to 23 and a list of abbreviations is provided in Appendix 1.

The general body morphology of Plastotephritinae, is similar to other "higher" Tephritoidea (*sensu* Korneyev 2000a). The thorax and abdomen are uniform in shape, except for a few notable variations. For example, *Oeciotypa* has the abdominal tergites strongly sclerotised and convex, resulting in an hemispherical shield like dome over the sternites and genitalia. At the opposite extreme, in *Rhegmatosaga* the abdomen is poorly sclerotised and has a tendency to collapse when dried. The thorax is widest across the posterior margin of the anepisternum and the abdomen generally is widest along the posterior margin of syntergite 1+2.

Setae also tend to be uniform. The ocellar setae are always lateroclinate and the orbital setae always reclinate to weakly lateroclinate. Paravertical and postocellar setae are reduced to setulae and are usually indistinguishable from other setulae by anything other than location. Genal setae are common, but not always present and in some taxa only present in females. Subvibrissal setae are variable in length. There is usually a dominant setula on the scape that is clearly distinct from the background setulae. The postpronotal seta may be present or absent. The number of setae on the scutellum varies between genera from four to six, but is consistent in any particular genus. The thoracic setal formula for the subfamily is: 1(or 0) pprn s; 2 npl s; 1 anepst s; 1 psut spal s; 1 pal s; 1 ial s; 1 dc s; 1(or 0) acr s; 1 b sctl s; 1(or 0) l sctl s; 1 a sctl s (Fig. 3).

The posterior notopleural seta (p npl s) is always on a raised callus. The subalar sclerite is raised and weakly v-shaped in all Plastotephritinae (Fig. 4). Anepimeral setae are often present,

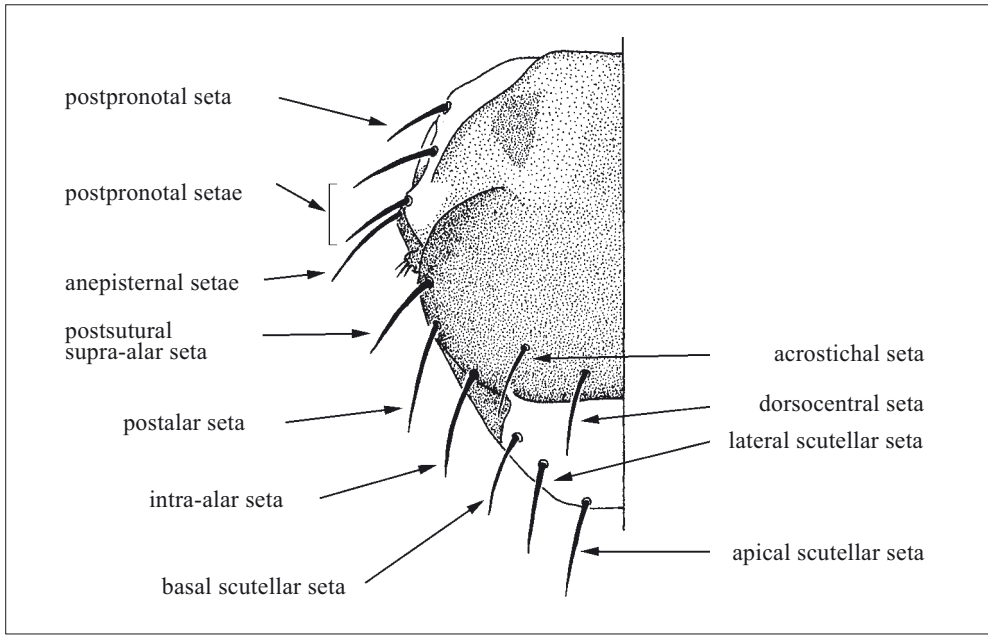


Fig. 3: Plastotephritinae thoracic setae, dorsal view.

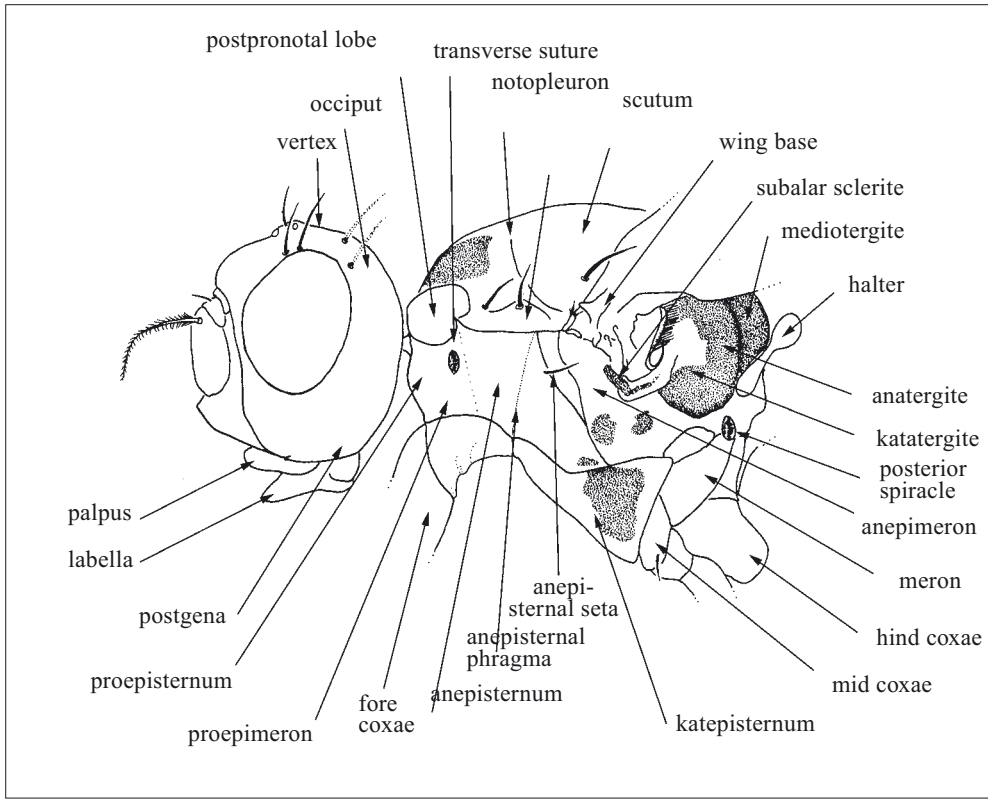


Fig. 4: Plastotephritinae head and thorax, lateral view.

but weakly formed and difficult to distinguish from background setulae. Coxal setae frequently provide good taxonomic characters, being conspicuous dorsally or ventrally at the apex of the fore coxae and single or paired laterally on mid and hind coxae. The abdomen is normally lacking setae, *Agadasys* being an exception.

There are four main regions of innovation in Plastotephritinae morphology. The head, legs, wings and genitalia all exhibit a large amount of elaboration throughout the subfamily. The shape of the head varies from subglobose, with the lower facial margin thrust forward, to strongly compressed, with or without the postgena bulbous. From the basic ground-plan head shape (Fig. 5), there are three main lines of development of the head, particularly in males:

1. vertex sunken and/or dorsal development of orbital lobes
2. lateral development of the parafacial plate, resulting in stalked eyes (e.g. *Agrochira*; Fig. 6)
3. lateral development of the gena, resulting in extended "cheeks" and a triangular shape to the head in frontal view (e.g. *Conopariella*; Fig. 7).

Plastotephritinae also have elaboration of colour patterns, bars and spots, particularly on the face and frons. The enormous variation found in the head of Plastotephritinae suggests a strong selection pressure driving evolutionary change, perhaps linked to agonistic behaviour and mating selection, as is found in other Platystomatidae (D. K. McAlpine 1973b, 1975, 1979). Some genera of Platystomatidae and Tephritidae (e.g. *Phytalmia* Gerstaecker, 1860) have well-developed genal spurs, which are also used agonistically in elaborate sparring contests (Dodson 1997, Moffett 1997). In Plastotephritinae the eye is usually correspondingly misshapen to accommodate the changes in head shape. These modifications provide a large set of characters to draw from for diagnostic purposes and are important to the taxonomy of this subfamily.

Modification of the legs consists mainly of the presence of fringes of setae, spines, spurs and lobes:

– fringes of stout setae on fore and mid femora in males and in fore femora in females (*Rhegmatosaga*) (Whittington 2000a, figs. 21 & 22)
– fringes of long setae ventrally on the fore femora (*Oeciotypa*, Fig. 8)
– spines on the fore femora (*Agrochira*-group; Fig. 9)
– scoop-shaped lobes at the apex of hind tibiae (*Atopocnema*, Fig. 10)
– spurs on the hind trochanters (e.g. *Cladoderris*, 1914; Fig. 11)

The functions of the spinose structures on the fore legs of some genera (e.g. *Agrochira*-group) are unconfirmed, but evidence from other Platystomatidae suggests that agonistic behaviour may be involved (e.g. D. K. McAlpine 1975, 1979, 1994). An alternative view might be that these structures function as coupling mechanisms during sexual contact, similar the situation found in Sepsidae, which also have fore femora and tibia modifications (Šulc 1928, Hennig 1949, Pont 1979, Steyskal 1987c, Eberhard 2001). In Sepsidae, the male leg modifications clamp onto locations on the base of the female wing enabling the male to remain located on the female back while copulating. In *Euprosopia* (Platystomatidae), however, the mid-tarsal claws are used for grasping (D. K. McAlpine 1973b). Neither the agonistic nor the coupling hypotheses have been tested for Plastotephritinae. That the spines occur in both males and females, argues somewhat against both hypotheses and may infer that another funtion is also involved. There is also no known functional significance to the fringes of setae on the femora (e.g. *Rhegmatosaga*) and the spurs on the hind trochanters of other genera (e.g. *Cladoderris*).

Elaboration of the wings is mainly restricted to the distribution of the brown markings on a hyaline background (Fig. 12) and in some genera the distribution of setulae along M and/or Cu.

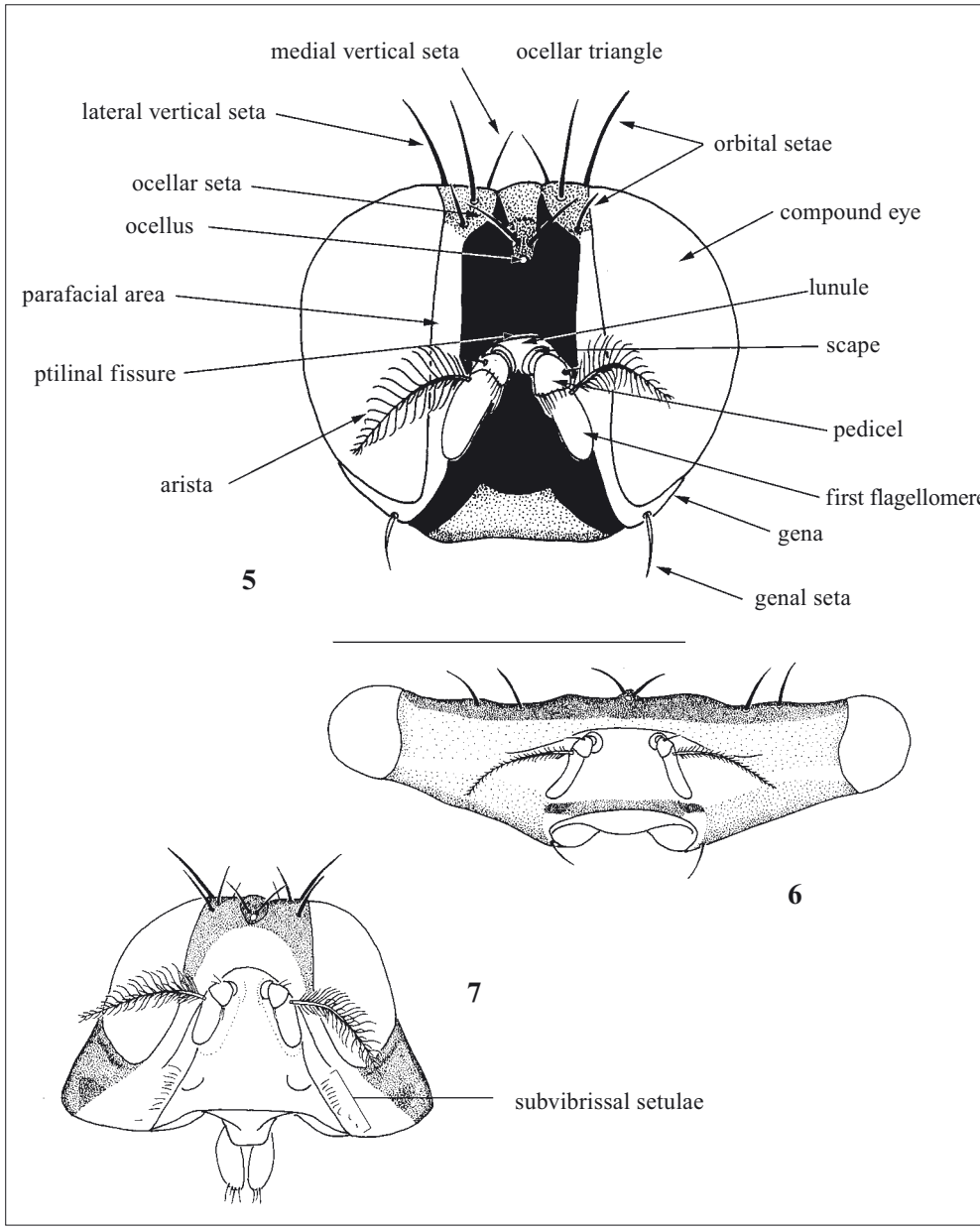
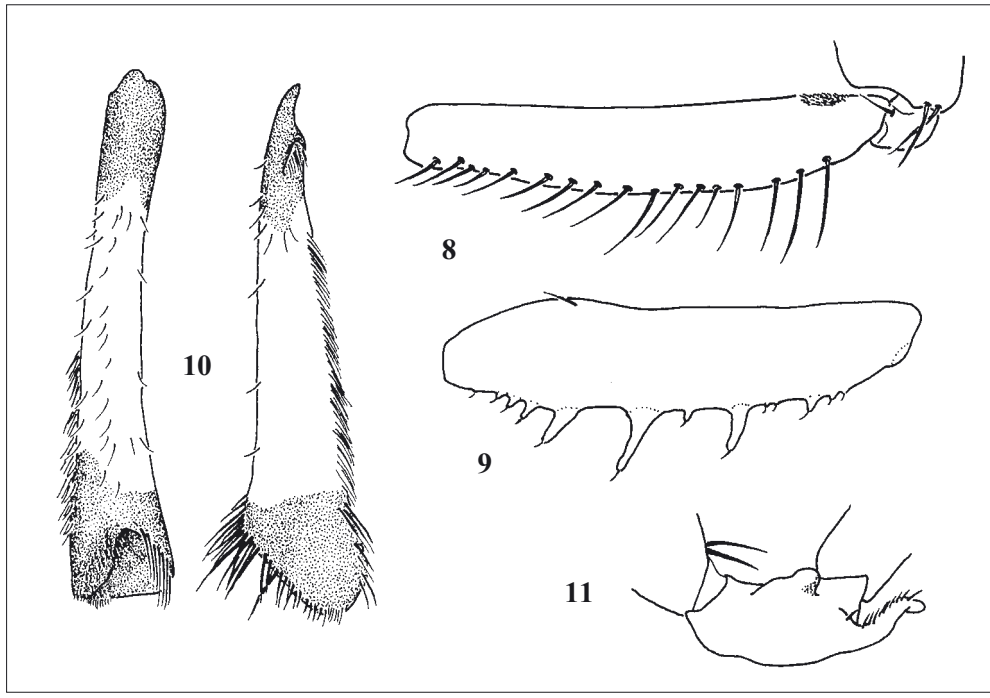


Fig. 5: Plastotephritinae head morphology.

Figs 6–7: Variation in Plastotephritinae head morphology. – **6**: *Agrochia achoides* ENDERLEIN, 1911, lateral development of the parafacial and orbital plates, resulting in stalked eyes; – **7**: *Conopariella tibialis* (HENDEL, 1914) lateral development of the gena, resulting in extended "cheeks" and a triangular head shape.



Figs 8–11: Variation of legs in Plastotephritinae. – **8**: *Oeciotypa rotundiventris* Frey, 1932, fringes of long setae ventrally on the fore femur; – **9**: *Agrochia achoides* Enderlein, 1911, ventral spines on the fore femur; – **10**: *Atopocnema marginepunctata* Enderlein, 1922, scoop-shaped lobes at the apex of hind tibiae; – **11**: *Cladoderris silvestrii* Bezzi, 1914, spurs on the hind trochanter.

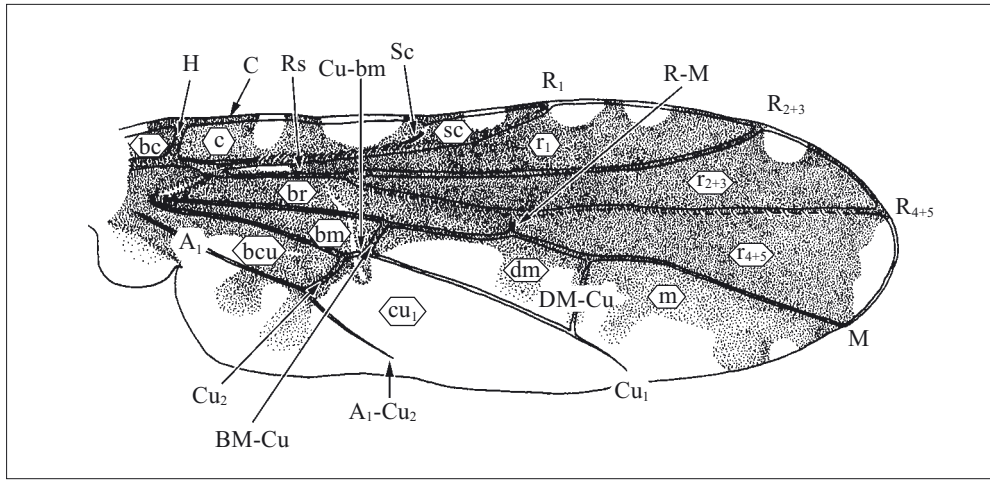


Fig. 12: Right wing *Agrochia achoides* Enderlein, 1911 (cells in lowercase letters, veins in capitals).
A_1 = first anal vein; A_1+Cu_2 = second branch of cubital vein plus first anal vein; bc = basal costal cell; bcu = basal cubital cell; bm = basal medial cell; BM-Cu = basal medial-cubital crossvein; br = basal radial cell; C = costa (costal vein); c = costal cell; Cu_1 = first branch of cubital vein; cu_1 = anterior cubital cell; Cu_2 = second branch of cubital vein; dm = discal medial cell; DM-Cu = discal medial-cubital crossvein; H = humeral crossvein (basal crossvein); M = medial vein; m = medial cell; R-M = radial-medial crossvein; R_1 = first branch of radial vein; r_1 = first radial cell; R_{2+3} = first branch of radial sector vein; r_{2+3} = third radial cell; R_{4+5} = last branch of radial vein; r_{4+5} = fifth radial cell; Rs = sectoral branch of radial vein; Sc = subcostal vein; sc = subcostal cell.

Wing patterns can be described as one of four basic forms:

1. Transverse banded pattern: mostly hyaline with narrow, transverse bands of brown (e.g. *Oeciotypa*; Fig. 13)
2. Reticulate pattern: a series of patterns ranging from all brown (*Conopariella picipennis* ENDERLEIN, 1922), to mostly brown with scattered hyaline spots, sometimes with the posterior margin hyaline to about M, (e.g. *Atopocnema*; Fig. 14), or with the brown pattern fading away along the posterior margin (e.g. *Agrochira*; Fig. 12)
3. Radiate pattern: central brown area on a hyaline background with radiating rays to the wing margin (e.g. *Cladoderris*; Fig. 15)
4. Longitudinally banded pattern: bands of colour along the length of the wing (e.g. *Pterogenomyia*; Fig. 16).

A certain amount of variation on these themes exists and is discussed in the descriptions to species.

Structural differences in venation include the width of the costal cell (twice as broad in the *Cladoderris* group of genera than in other genera) and the position of R-M along M adjacent to dm (positioned basally, medially or distally). The position of R-M varies within genera (Appendix 3) and has not been used diagnostically. In *Pterogenomyia* the costal cell is short, resulting in the humeral crossvein and apex of the subcosta being close together relative to the overall length of the wing (Fig. 16).

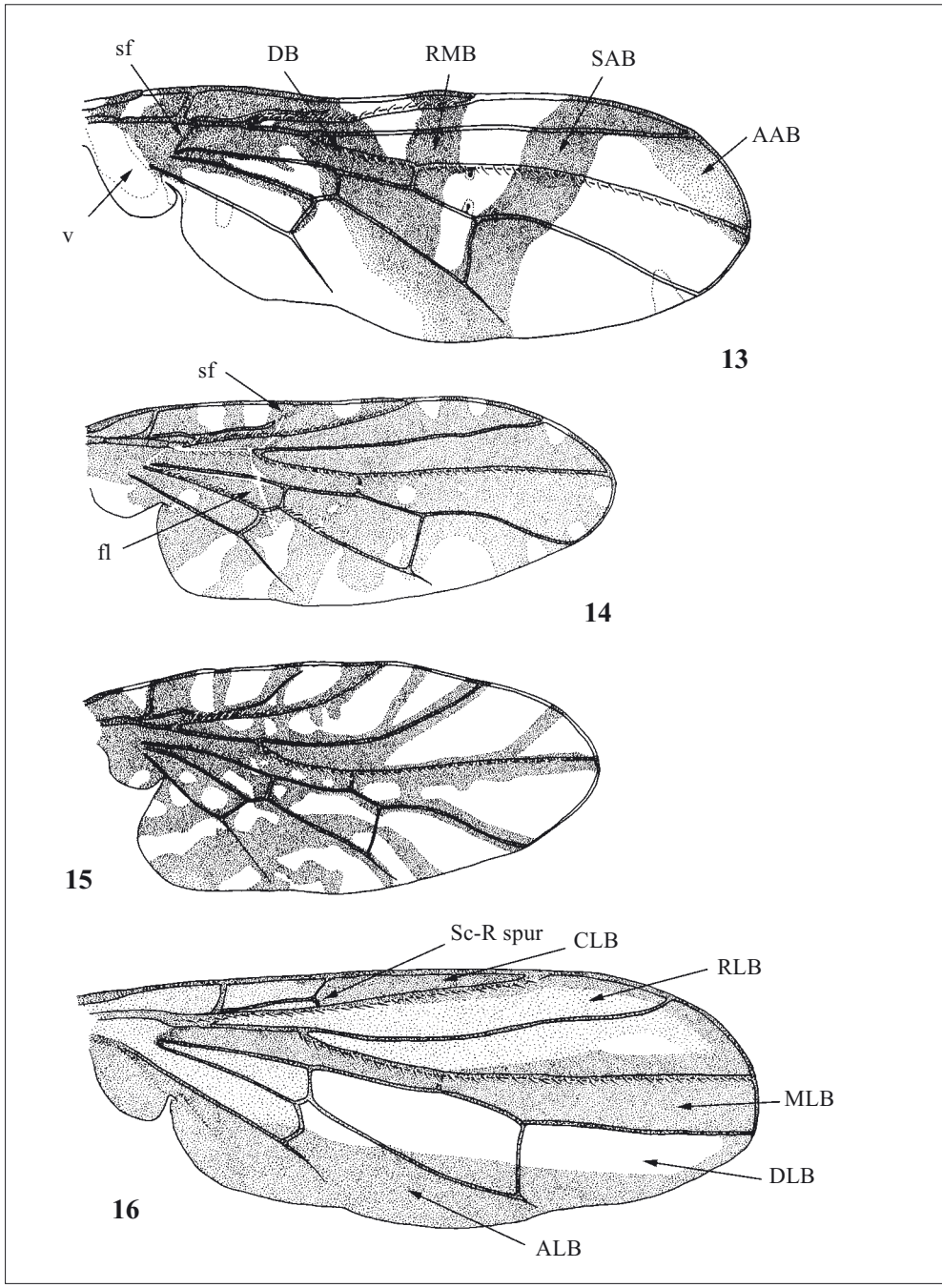
A further notable feature of the wing is that there is a flexion line (Figs 12 & 14) passing posteriorly across RS, through the cells br and bm into cu. In some genera this line can also be traced anteriorly through the base of R_1 to the tip of Sc and sometimes as a fold to C. This subcostal fold may easily be mistaken for a vein. Either side of the node on RS, this line is angled toward the wing tip. ENNOS (1989) refers to this as ventral flexion and suggests that it has two benefits:

1. to allow fast and perhaps unpredictable changes in direction and increases in manoeuvrability, without change in body angle and
2. to reduce stress on wing articulation, therefore allowing the wing to stop early on the downstroke without damage.

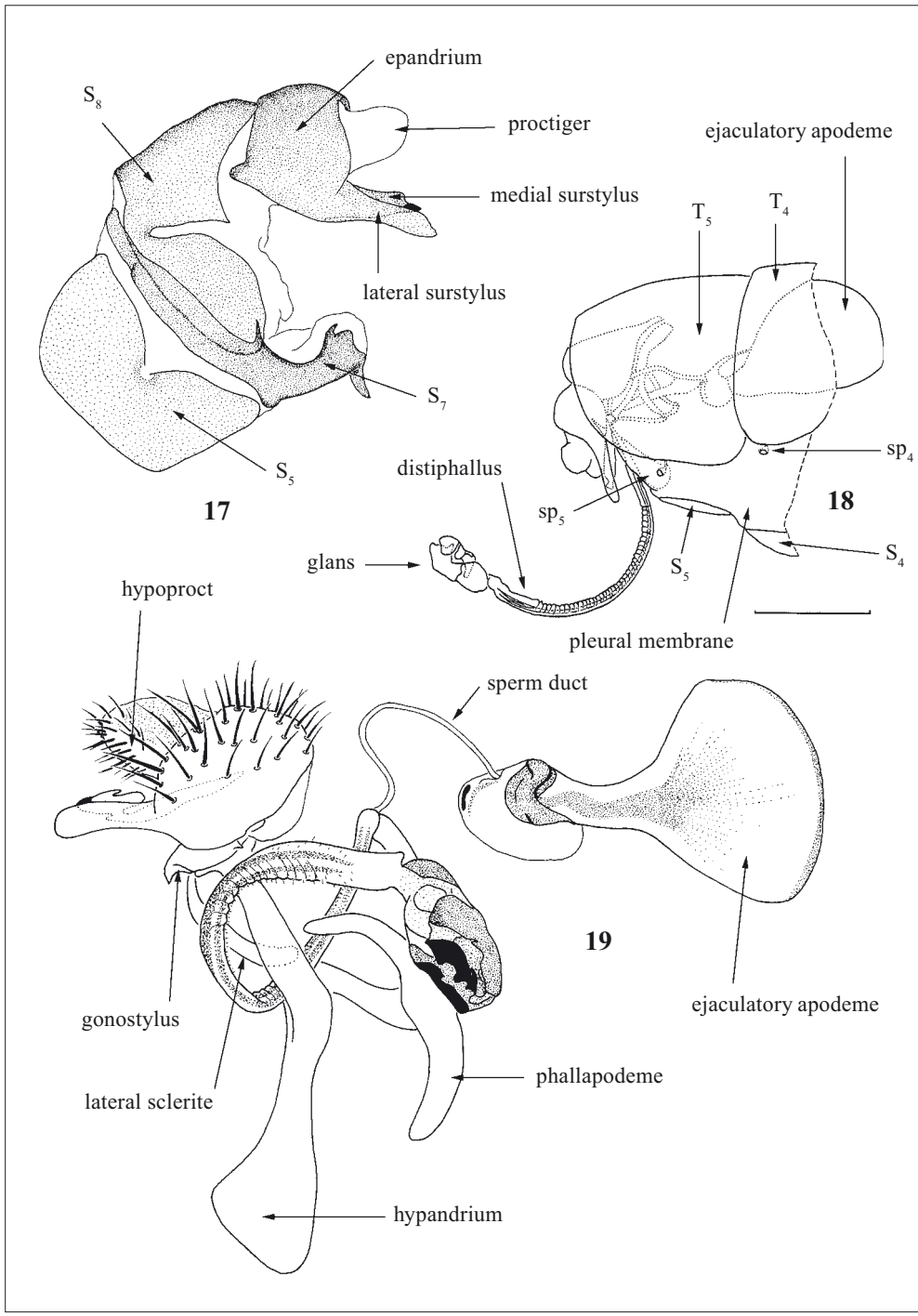
It is a common wing feature in the Schizophora, does not occur at the same position in all families and may have evolved at least thrice. There is another fold in the wing membrane, the basal fold, which is angled baso-posteriorly from RS to the base of M and Cu (Figs 12–16).

The male genitalia (Figs 17–19) are compact and complex. Difficulty in interpretation of the genitalia is compounded by the varying terminology used by different authors, often with confusion between structures for which homology is difficult to establish. Many of the structures found in the Plastotephritine genitalia are shared with similar structures in other Tephritoid families. As a consequence of the close affinity of the Platystomatidae and Tephritidae, it is logical to conform to the unified terminology proposed in WHITE *et al.* (2000). The negative result of following this route is that this revision can not easily be compared structurally with previously used platystomatid terminology (e.g. D. K. MCALPINE 1973a).

Flexion of the genitalia has resulted in the genital apparatus being tucked under T_5, facing forward rather than backward. A genital pouch, formed by a membranous invagination between T_5 and T_9 receives the apical parts and coiled distiphallus in the resting position. Sternite 7, which is often fused at one end to the base of S_8 forms the ventral margin of this pouch, thus keeping it from collapse (Fig. 17). Sternite 7 may be setulose or bare. As a further consequence of flexion, S_8 is dorsally positioned. Tergites 6–8 and S_6 and abdominal spiracles 6 and 7 are absent.



Figs 13–16: Wing patterns in Plastotephritinae. – **13**: Transverse banded pattern - *Oeciotypa parallelomma* Hendel, 1914; – **14**: Reticulate pattern, mostly brown with scattered hyaline spots - *Atopocnema marginepunctata* Enderlein, 1922; – **15**: Radiate pattern - *Cladoderris silvestrii* Bezzi, 1914; – **16**: Longitudinally banded pattern - *Pterogenomyia picta* (Bigot, 1891). AAB = anterior apical band; ALB = Anal longitudinal band; bf = basal fold; CLB = Costal longitudinal band; DB = discal band; DLB = discal longitudinal band; fl = flexion line; MLB = Median longitudinal band; RLB = Radial longitudinal band; RMB = radial-medial band; SAB =subapical band; sf = subcostal fold; v = variation in pattern indicated by dotted lines.



Figs 17–19. Male genitalia of Plastotephritinae. – **17**: Generalised view from left; – **18**: *Pterogenomyia picta* (BIGOT, 1891), *in situ*, lateral view from right; – **19**: *Plastotephritis compta* ENDERLEIN, 1922, dissected out, lateral view from right.

The epandrium (= T_9) is broadly U-shaped and distally articulates with paired lateral surstyli, sometimes bearing setae or modified with lobes. In the context of Platystomatidae and associated families of acalyptrates, various authors have referred to the lateral surstylus by different names. Munro (1947) referred to it as the "surstylus", while D. K. McAlpine (1973), McAlpine & Kim (1977), Steyskal (1987a, b) and White (1988) called it the "outer surstylus". Griffiths (1972) did not deal with this structure with reference to the Tephritidae *sensu lato* (including the Platystomatidae), but used the term "telomere" for similar structures in other family groups. Use of the term surstylus may infer a separate segmentation i.e. a T_{10} derivative (Hennig 1976) or articulation as indicated by Cumming *et al.* (1995), who refuted Hennig's T_{10} derivative hypothesis. In Plastotephritinae the epandrium and the lateral surstyli are usually a single structure, fused and lacking articulation. In certain species there is a feint suture visible.

The structures enveloped immediately within (and to some extent protected by) the lateral surstyli, are the medial surstyli, correlating to the surstyli of Korneev (1985) and coloured red-brown by Cumming *et al.* (1995) (refer to their figures 8, 10c, 16 and 18–20 for example). It is common for these structures to be apically (or subapically) bifurcate in Plastotephritinae, but the single (undivided) state also exists (e.g. in *Conopariella*). The point of insertion of these parts is situated among the membranous material beneath the epandrium, is frequently observed to articulate with the X-shaped subepandrial sclerite, articulating with the anterodorsal surface of the aedeagal complex (Cumming *et al*. 1995). Munro (1947) referred to these structures as "outer claspers"; Steyskal (1961) used the term "postgonite"; while D. K. McAlpine (1973) and McAlpine & Kim (1977), Steyskal (1987a, b) and White (1988) used "inner surstylus". Sometimes, they have been represented as paired structures (see McAlpine & Kim 1977, figure 43 for example).

A secondary articulation of the medial and lateral surstyli frequently occurs in Plastotephritinae. In some species, the apex of the medial surstylus is completely fused to the apical inner surface of the lateral surstylus (*Conopariella*), or there may be a dorsal spur on the medial surstylus, which articulates with a dorsal notch on the lateral surstylus. Elaboration of the apex of the medial surstylus, provides important taxonomic characters, taking the form of sclerotised bars, barbs, claws, setae and lobes. The nature of the apical ornamentation provides little evidence to suggest that these structures are homologous with prensisetae used in Tephritidology (White 1988, Freidberg & Hancock 1989, White *et al*. 2000) to signify highly modified short, stout setae of the medial surstylus (White *et al.* 2000). Thus I have purposely avoided using the term prensisetae in most cases. Hara (1989, 1993) used the same term when describing minute teeth on the lateral surstylus, but avoided its use later (Hara 1994).

Distal to the epandrium is the proctiger, consisting of all structures posterior to T_9 collectively (Cumming *et al.* 1995). It is a sac like organ, surrounding the anus. In Plastotephritinae microtrichia, or minute folds and wrinkles, often cover the dorsal portion of this sac. Moderate to strong setulae, sometimes grouped or in a row, normally cover the apical, apico-ventral or ventral margins. These apical setulae are sometimes grouped on an area of sclerotisation (e.g. *Pterogenomyia picta* Bigot, 1891). The proctiger is not visible above the sides of the epandrium and surstyli in some species, while in others it is strongly protruding. These characters are useful at both generic and species level diagnosis.

Lateral to the proctiger is the apex of the epandrium and the surstyli. Ventral to it, in certain genera (e.g. *Mesanopin*) there is a fused plate – the hypoproct (= S_{11}; Hara 1987, 1992, Michelsen 1988, Cumming *et al*. 1995). The ventral surface of the proctiger may be fused to or free from the hypoproct and the general shape and setation of the hypoproct is important in generic diagnosis.

The phallus (or intromittent organ) originates from the ventrobasal portion of T_9. It was frequently referred to as the aedeagus by many authors (*inter alia* D. K. MCALPINE 1973a, MCALPINE & KIM 1977, STEYSKAL 1957, 1961, 1964, 1987a, b, 1990; FOOTE & STEYSKAL 1987, WHITTINGTON 2000a, b). The distal (and external) portion of the phallus is the distiphallus, which is usually an unsclerotized tube with a series of semi-circular annular rings in the dorsal surface. In a few species these rings may be complete; and sometimes the distiphallus is covered in fine microtrichia. The seminal ducts within the distiphallus are partially sclerotised and clearly visible through the unsclerotized wall. The distiphallus terminates in a highly variable structure, the glans. As discussed above, elongate, coiled, terminal filaments at the apex of the glans, such as are found in the Platystomatinae, do not occur in the Plastotephritinae. There are occasionally short, paired apical structures which I have called paired lateral filaments and on occasion there is a smaller medial structure, the acrophallus, in which the terminal opening of the genital tract is considered to be positioned. In most species, however, these structures cannot be seen and the apex of the glans ends in a cup-like hood, comprising two hollow halves formed by a complex interlocking assemblage of sclerotised structures of the praeputium. In the tephritid *Bactrocera oleae* (ROSSI, 1790) the glans was shown to play an important role during insemination in placing sperm directly at the entrance to the spermathecal ducts of the female genital tract (SOLINAS & NUZZACI 1984). The basiphallus is poorly developed in Plastotephritinae.

Internal structures of the male genitalia are the subepandrial sclerite, ejaculatory apodeme, hypandrium and phallapodeme (Figs 18 & 19). The subepandrial sclerite (i.e. S_{10} of J. F. MCALPINE 1981) articulates with the basal ends of the medial surstylus, bridged medially, forming a broad P-shaped or X-shaped structure. In *Cladoderris* a dorsal spur exists at the point of articulation.

Situated deepest in the male abdomen, is the ejaculatory apodeme (Figs 18 & 19), a large fan-shaped structure. It has a sclerotised and bulbous, bilobed head into which the sperm duct is inserted dorsally. Surrounding the head is a membranous bag, which I have interpreted to be the sperm sac. In large species such as the members of *Pterogenomyia* HENDEL, 1914, the sperm duct can be seen leaving this sac from a lateral position. The body of the ejaculatory apodeme is a large spatulate plate, often strongly sclerotised and striate on its surface. This plate can stretch forward into the abdominal cavity as far as the third segment and is often damaged in dissection, unless the entire abdomen is removed. DREW (1969) clearly demonstrated that the spatulate plate changes shape and size with sexual maturity in *Bactrocera tryoni* (FROGGATT, 1897) (Tephritidae). In some dissected Plastotephritinae specimens, concentric rings of sclerotisation are visible on the spatulate plate, suggesting that similar grow occurs in Plastotephritinae. This, together with the ease with which it is damaged in dissection, argues against its use as a taxonomic character of any reliability.

The phallapodeme (*sensu* MICHELSEN 1988, CUMMING *et al*. 1995, WHITE *et al.* 2000) was also referred to as the fultella (MUNRO 1947) or aedeagal apodeme (STEYSKAL 1957, 1961, 1990, D. K. MCALPINE 1973a, MCALPINE & KIM 1977, J.F. MCALPINE 1981, KORNEEV 1986, HARA 1987, 1992). It is a Y-shaped structure which, together with the hypandrium, forms a basket (Fig. 19) within the genital pouch, for muscle attachment (OVCHINNIKOVA 1994) and control of the phallus (MICHELSEN 1988; CUMMING *et al*. 1995; WHEELER 1995). It consists of the medial apodeme, basally narrow and articulating with the basiphallus and distally broadened into a subrectangular or narrowly spatulate apical plate. Laterally, about midway along its length are two distobasally directed processes, or vanes, which articulate at their apex with two lateral sclerites projecting ventrally from the junction of the epandrium and hypandrium. This is not homologous with the articulation in some Tephritidae, in which the phallapodeme articulates directly with the hypandrium (MUNRO 1947; WHITE 1988), although in other Tephritidae, e.g. *Terellia serratulae*

(L., 1758), *Pseudomyoleja* Han & Freidberg, 1994 and *Bactrocera tryoni* (Froggatt, 1897) the lateral sclerites appear to be present (Korneev 1986 fig. 1, Han & Freidberg 1994: fig.6 and Drew 1969: figs. 24 & 25).

Basally, in Plastotephritinae, the lateral sclerites articulate by an outer-condyle (lobe), with the epandrium at the point of articulation with the hypandrium. Internally, the point of articulation of these two lateral sclerites is either side of the basiphallus, dorsal to the base of the phallapodeme and ventral to the proximal end of seminal duct. There is little variation in the lateral sclerites, but they are generically useful taxonomically in Plastotephritinae. In this subfamily they are equal in length, unlike the situation in Tephritidae, where the right sclerite is longer than the left one (Korneev 1986, White *et al.* 2000).

The hypandrium is a Y-shaped structure, with the lateral vanes positioned outside of the lateral sclerites of the phallapodeme. The distal apex is more strongly developed and more spatulate than that of the phallapodeme. The lateral vanes vary in width (narrow to broad and strongly sclerotised) and articulate basally with the epandrium at the point of contact with the outermost condyle of the lateral sclerites. Munro (1947) suggested a gonocoxal derivation for this structure. This is consistent with the transverse gonocoxal bridge (Hennig 1976; Michelsen 1988). It is a useful diagnostic character at the generic level.

Two unsegemented, triangular sclerites (sometimes slightly hook-shaped) are present in some genera, ventral to the epandrium, in contact with the condyle of the hypandrium and lateral sclerites (e.g. *Plastotephritis*; Fig. 19). The position of these sclerites suggests that they may be homologous with gonostyli (*sensu* Michelsen 1988, Cumming et al. 1995). The terminology and homology of similar structures has been confused by the variety of names applied to them by many authors: e.g. parameres (J.F. McAlpine 1981), paraphysis (Griffiths 1972), postgonites (Cumming et al. 1995), telomers (Hennig 1976). Such structures are absent in many Tephritidae and Platystomatidae, but present as a plesiomorphy in some genera of the other "higher" tephritoid families (Korneyev 2000a).

The female post abdominal segments (Figs 20 – 23) are less complex and easier to interpret. Thus the terminology is less confusing and homologies more easily traced. The basic external structure is elongated to form a telescopic ovipositor tube. Tergite five and S_5 form the final pregenital abdominal segment, T_6 is much reduced (even absent in some genera) and represented as a narrow sclerotised bar on the inward folded intersegmental membrane between T_5 and T_7. Abdominal spiracles $1 – 5 + 7$ are clearly present.

In a few instances spiracle six is visible (Fig. 20) on the intersegmental membrane between T_5 and the remnant of T_6. Tergite seven and S_7 are thus readily distinguished, although fused to form the oviscape (= syntergosternite $T_7 + S_7$). Spiracle 7 is positioned basolaterally on the oviscape. There is frequently an internal peg-like apodeme on the basal margin of T_7. The telescopic tube is formed by the conical oviscape, the eversible membrane and the aculeus (T_8 + fused cerci) (Figs 20 & 21). The eversible membrane and most of the aculeus can be further retracted into the oviscape by inversion of the basal portion of the eversible membrane. Thus in the retracted state only the setose apex of the aculeus is visible at the tip of the oviscape. In Plastotephritinae the eversible membrane is in two parts: a basal semi-rigid portion, having paired flexible internal dorsal and ventral sclerites or taeniae; and a distal membranous portion. There may be elaborate folds on part or all of the eversible membrane and the distomedial portion often bears additional scale-like sclerites called denticles. The length of the taeniae and distribution of the folds and denticles are important taxonomic characters.

Distal to the eversible ovipositor sheath is the aculeus – a dorsoventrally flattened sclerotised structure comprised of an elongate, often membranous, T_8 and paired elongate eighth sternites.

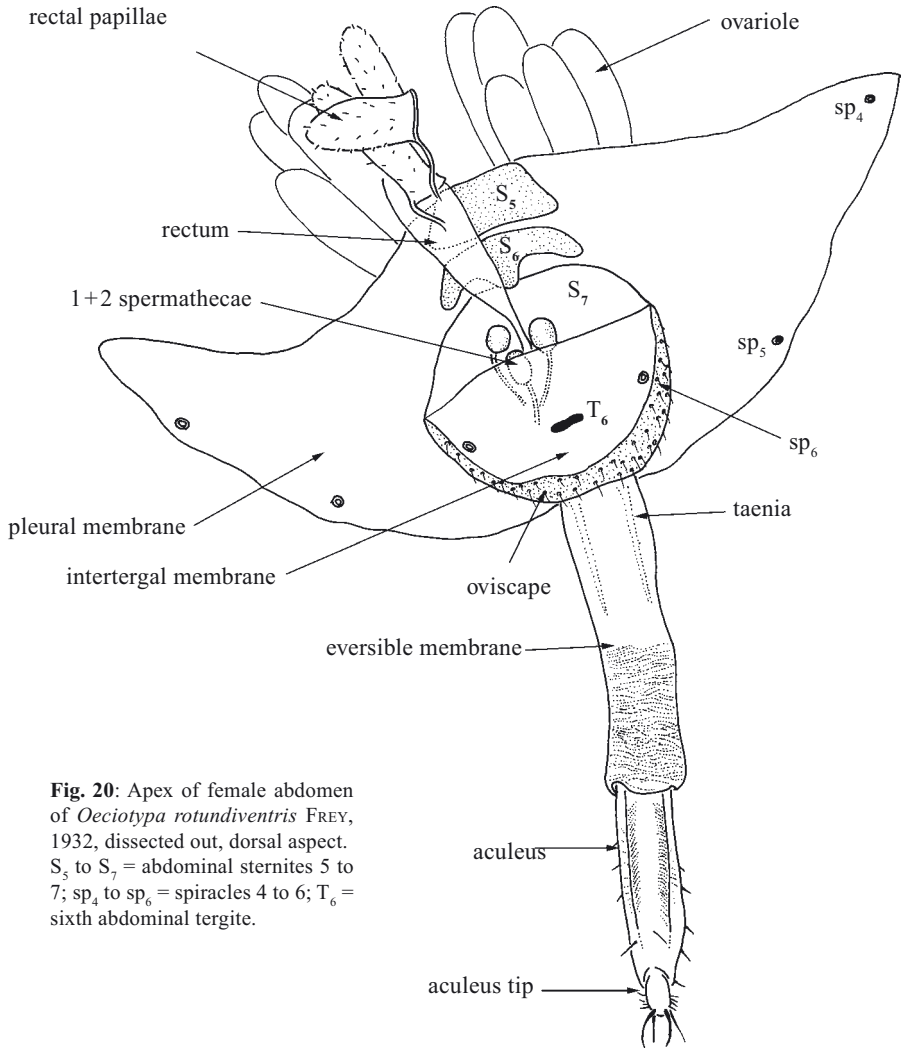
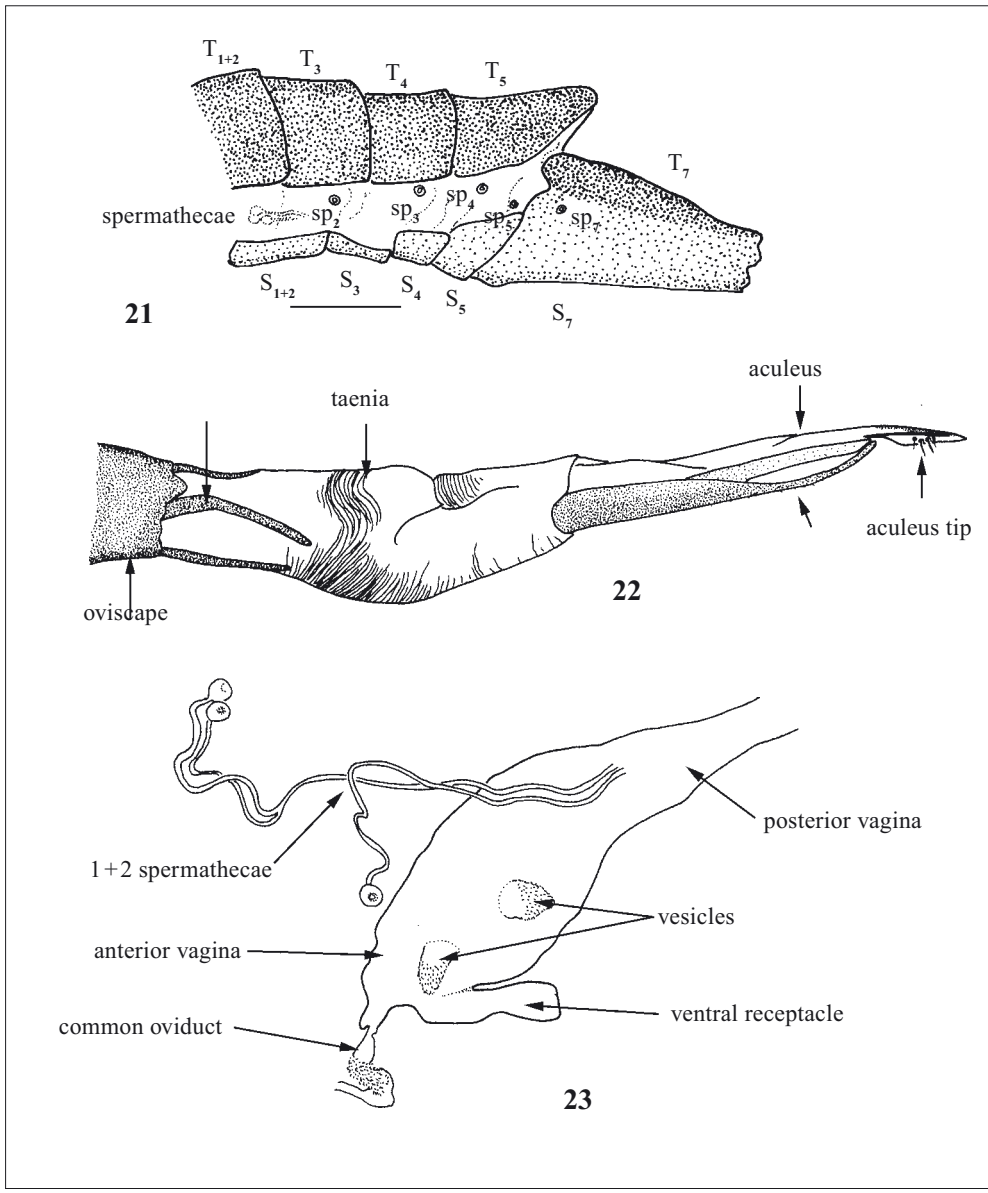


Fig. 20: Apex of female abdomen of *Oeciotypa rotundiventris* FREY, 1932, dissected out, dorsal aspect. S_5 to S_7 = abdominal sternites 5 to 7; sp_4 to sp_6 = spiracles 4 to 6; T_6 = sixth abdominal tergite.

Apical to these is a diamond shaped aculeus tip bearing the fused cerci at the apex. Apical to the eighth sternites is the cloacal opening (WHITE *et al*. 2000). There are frequently diagnostic setae and sculpturing on the aculeus and the apical setae on the cerci are often of specific interest.

The internal structures (Fig. 23) consist of the vagina, which is divided into posterior and anterior portions, the ovaries, or ventral receptacle, accessory glands, spermathecae and respective ducts (SOLINAS & NUZZACI 1984, KOTRBA 1993, 1995). The posterior vagina is a narrow tube from the copulatory opening through the aculeus and eversible ovipositor sheath and opens out into a wider cavity, the anterior vagina. It is sometimes twisted or partially coiled just before opening into the anterior portion. The apex of the anterior vagina receives two spermathecal ducts and the common oviduct. One spermathecal duct remains single for its full length and is positioned dorsal to the other duct, which branches into two approximately



Figs 21–23: Female abdomen and genitalia of Plastotephritinae. – **21**: Lateral view of female abdomen *Pterogenomyia picta* (Bigot, 1891); – **22**: Lateral view of ovipositor of *Conopariella acutigena* Enderlein, 1922; – **23**: Dissected female genital tract of *Conopariella acutigena* Enderlein, 1922.
S_{1+2} to S_8 = abdominal sternites 1+2 to 8; sp_2 to sp_7 = abdominal spiracles 2 to 7; spmth = spermathecae; T_{1+2} to T_7 =abdominal tergites 1+2 to 7.

half way along its length. This 1 + 2 arrangement of the spermathecal duct is an important plesiomorphic character of the Platystomatidae, Ulidiidae and "lower" Tephritidae (Korneyev 2000a). The ducts are complexly folded and terminate in three spherical, barrel-shaped, round or sub-cuboid spermathecae, often with basal swellings and apical buttons, but otherwise appearing smooth.

These are sometimes thin walled and collapse during preparation. The common oviduct twists upward under the tergites and leads distally to the ovaries, consisting of finger like ovarioles (20 counted in *Conopariella*). Accessory glands, and ventral sclerite (KOTRBA 1995 and SOLINAS & NUZZACI 1984) have not been observed in Plastotephritinae, although there are sometimes vesicles on the anterior vagina. Rectal papillae may also be present and associated with the internal organs (KOTRBA *in litt*. 30 June 1999). The placement of the spiracles may also be a valuable taxonomic character (D. K. MCALPINE 1998a, b, KORNEYEV *pers. comm.*).

Notes on material examined and collecting localities

A large proportion of the material examined comes from the collections at the Natural History Museum (London), the Natal Museum (Pietermaritzburg, South Africa), DR AMNON FREIDBERG (Tel Aviv University, Israel) and from Musée Royal de l'Afrique Centrale / Koninklijk Museum voor Midden-Afrika, Tervuren, Belgium. Material from the latter collections are frequently labelled with the P.N.G. and P.N.U. codes as detailed in DE SAEGER (1956). Geographic co-ordinates for these localities are approximate, based on cross-references between the codes and the maps provided with that publication.

The material from The Natural History Museum is a mixture from numerous collectors, many of the specimens having been given to or collected for the Imperial Institute of Entomology, then at the British Museum (Natural History). V. G. L. & G. R. VAN SOMEREN (father and son; son = Dr G. R. Cunningham VAN SOMEREN, Karen, Kenya) gave a most valuable collection of this subfamily to the Institute. It is not always clear from the labels, which of the two was the collector since in many cases only the surname was used.

The material from the Natal Museum contains material from the important collections of Dr B. R. STUCKENBERG and D. COOKSON. The D. COOKSON material is almost entirely from Vumba in the Eastern Highlands of Zimbabwe and comprises one of the most valuable sources of data from that area (COOKSON 1967, WHITTINGTON 1998a). New material has been added to these collections by Dr J. G. H. LONDT (now Director of the Museum) and Dr D. A. BARRACLOUGH (Senior Researcher and Head of Invertebrate Zoology).

The Tel Aviv University material comprises recently collected specimens by DR AMNON FREIDBERG and his colleagues, strongly complementing the older material housed at the other institutions mentioned. Much of this material represents new species and new data concerning distribution.

A large proportion of the material collected by DR FREIDBERG (TAUI), DR MATILE (MNHN) and DR DEEMING (NMWC) and all the specimens collected by DR LONDT (NMSA.), DR B.R. STUCKENBERG (NMSA), DR BARRACLOUGH (NMSA) and myself (while at Natal Museum), were collected in dense forest (all *pers. comm.*). The forest types are varied: rainforest, oil palm (*Elaeis guineensis* JACQ.) plantations (with a dense upper canopy), riverine forest and coastal forest (Tables 4 & 5). Based on the few data available, and bearing in mind that nothing is known of oviposition and feeding biology, the type of forest is perhaps of little significance. The important point is that these specimens were taken in dense shade and the contrasting colour markings on the face and wings of a great many species may have great significance in courtship signalling or camouflage in these poorly lit conditions. Some specimens bear labels saying “in bush”, “caught in bush” or “in woodland”, but this is not explicit and these data have been excluded in Tables 4 & 5, but do appear in Table 6. There are very few specific associations with plant species (Table 6) and those that there are cannot be assumed to be oviposition sites. Even so, there are also a large number of specimens in the Central African Museum in Tervuren, of some species that were taken in forest and from other habitat types,

such as grassland, lowland savannah, dry river beds and swamp vegetation (De Saeger 1956), which implies that the apparent association with dense forest is probably not obligate.

Categorisation of habitat type by collectors is varied and results in proliferation of terms. As a consequence the data in Table 5 are spread over categories which may actually represent the same habitat type, even although they have been labelled differently. Thus, in discussing these data it is convenient to lump categories. For example, 29 out of the total 92 habitat scores on (31%) are rain forest of one type or another. All other forest types account for another 33%, that is, the total for all forest types is 64%. These figures underscore the above statement, that forest predominates as a habitat type for Plastotephritinae. Some categories are vaguely defined, such as Riparian vegetation, which could represent anything from rain forest to xerophytic vegetation in dry riverbeds. It is because these categories can be interpreted broadly, that I have firstly not placed too much emphasis on their use in the taxonomy of this subfamily and secondly recorded them as stated on the specimen labels, without further interpretation, unless provided by the collector.

It is interesting in retrospect, to examine which genera are associated with which habitat types, and this may result in more focussed collecting in the future. *Eudasys*, *Furcamyia*, *Mesanopin*, *Stellapteryx* and *Venacalva* are not presently known from rain forest and the two new monotypic genera, *Eudasys* and *Stellapteryx*, are known only from woodland. *Mesanopin* is present in a variety of forest types, excluding rain forest, seemingly preferring more mesophytic conditions. All other genera found in rain forest do not occur in Afromontane forest, except *Conopariella* and *Federleyella*. Broader statements about associations concerning the proposed tribes are not possible, because of the lack of biological data for some genera. The species *Conopariella acutigena*, *C. tibialis* and *Federleyella septemfenestrata* are widespread across the full range of habitat types

Material examined: **Holotype**: KENYA: ♂ (taui) "kenya: Cheymen / Rt. B1, 10 Km. / East Kericho [00°19'S;

Tab. 4: Afropical forest localities, from which Plastotephritinae have been collected, listed from West to East and from North to South.

Location: Place and (Country)	Forest category *	Collector and (depository)
· Bouaké forest and Taí region (Ivory Coast)	· Guinean rain forest; "secondary forest" & "on foliage in dense, humid forest"	· G. Couturier & V. van Zeijst, ORSTOM-Paris Mission UNESCO (mnhn)
· Dumbi Wood (Nigeria)	· Guinean sparse savannah woodland	· J. C. Deeming (nmwc)
· Gangume Forest (Nigeria)	· Guinean rain forest	· H. Roberts (nmwc)
· Ilaro Forest (Nigeria)	· Guinean rain forest	· M. A. Cornes (nmwc; usnm)
· Kagoro Forest (Nigeria)	· Guinean rain forest	· J. C. Deeming (nmwc)
· Forest on route to Concepcion (Fernando Póo = Bioko)	· Congolian (lowland) rain forest	· L.Matile (mnhn)
· Fumbot forest (Cameroun)	· Dense gallery forest	· L. Matile (mnhn)
· Présbidou forest & plantation (Cameroun)	· Rain forest	· L. Matile (mnhn)
· Maboke forest (Central African Republic)	· Dense gallery forest	· L. Matile (mnhn)
· Djoumouna Forest (Zaïre)	· Dense gallery forest	· L. Matile (mnhn)
· Lonkala Forest (Zaïre)	· unknown	· J. Ghesquière (mrac)
· Mandiélé Forest (Zaïre)	· Dense humid forest	· L. Matile (mnhn)
· Mayombe Forest (= Mayumbe; Zaïre)	· Congolian rain forest	· R. Mayné (mrac); Collaert (bmnh)
· Nabbarama River forest (Zaïre)	· Dense *Ficus trichopoda* forest	· H. De Saeger, (mrac)

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Location: Place and (Country)	Forest category *	Collector and (depository)
· Budongo Rain Forest (Uganda)	· Mixed *Maesopsis* forest	· F. W. EDWARDS (BMNH)
· Bwamba Forest (Uganda)	· Tropical rain forest	· G. V. VAN SOMEREN (BMNH)
· Bwindi (Inpenetrable) Forest (Uganda)	· Congolian rain forest: Moist evergreen submontane to montane forest	· A. FREIDBERG (TAUI)
· Kawanda Forest (Uganda)	· unknown	· H. HARGRAVES (BMNH)
· Kibale Forest (Uganda)	· Montane forest	· A. FREIDBERG & I. YAROM (TAUI)
· Kalinzu Forest (Uganda)	· Tropical rain forest	· T. H. E. Jackson (BMNH)
· Maramegambo Forest (Uganda)	· Montane forest	· A. FREIDBERG & I. YAROM (TAUI)
· Mpanga Forest (Uganda)	· Tropical rain forest	· G. V. VAN SOMEREN (BMNH)
· Namanve Forest (Uganda)	· Swamp forest and climax Tropical rain forest	· J. FORD (BMNH)
· Semiliki Forest (Uganda)	· Tropical rain forest	· A. FREIDBERG & I. YAROM (TAUI)
· Loti (Sudan)	· banana grove	· M. STEELE (BMNH)
· Kakamega Forest (Kenya)	· Tropical rain forest	· A. FREIDBERG & F. KAPLAN (TAUI)
· Ankarana nr. Ambilobe (Madagascar)	· Moist montane forest	· S.V. FOWLER (NMWC)
· Antongil (Madagascar)	· Moist montane forest	· B.R. STUCKENBERG (NMSA)
· Lakobe Forest (NosyBe, Madagascar)	· Primary lowland forest	· A. FREIDBERG & F. KAPLAN (TAUI)
· Gorongoza Mountain (Moçambique)	· Gallery forest	· B.R. STUCKENBERG (NMSA)
· Chirinda Forest Mt Selinda (Zimbabwe)	· Afromontane forest	· B.R. STUCKENBERG & P. GIFFORD; A.C. VAN BRUGGEN (NMSA)
· N. Vumba (Zimbabwe)	· Afromontane forest	· D. COOKSON (NMSA)
· Ngogolo, Panata Ranch (Swaziland)	· Riverine forest	· J. G. H.LONDT (NMSA)
· Botanic Gardens in Durban (South Africa)	· shaded, horticultural conditions (personal observation)	· F. MUIR (CUMZ & NHMW)
· Ferncliffe Forest	· Afromontane mist-belt mixed *Podocarpus* forest	· J. G. H.LONDT (NMSA)
· Gwalaweni Forest (Zululand, S. Africa)	· Coastal scarp forest	· B.R. STUCKENBERG (NMSA)
· Umhlanga Bush (North of Durban, South Africa)	· Maputaland-Pondoland coastal (or dune) forest and coastal dune association	· B. & P. STUCKENBERG; M.E. IRWIN (NMSA)
· Virginia Bush (North of Durban, South Africa)	· Maputaland-Pondoland coastal (or dune) forest	· D. BARRACLOUGH & A. WHITTINGTON (NMSA)

* Categorised after EGGELING 1935; WHITE 1983; COOPER 1985; BEENTJE, ADAMS & DAVIS 1994; and from data labels (given in quotation marks) and personal communications with collectors.

Tab. 5: Habitat associations for Afropical and Oriental Plastotephritinae (Diptera, Platystomatidae)

	Guinean rain forest	Primary Guinean rain forest	Secondary Guinean rain forest	Congolian rain forest: Moist evergreen	Congolian (lowland) rain forest	Rain forest or climax Tropical rain forest	Dense gallery forest	*Ficus trichopoda* forest	Mixed *Maesopsis* forest	Afromontane forest	Afromontane mist-belt mixed Podocarpus forest	Primary lowland (and indigenous) forest	Riparian forest	Dry riverine forest in dense shade	Swamp	Coastal scarp forest	Maputaland-Pondoland coastal (or dune) forest & coastal dune association	Woodland	Scrubland	Guinean sparse savannah woodland	Lowland savannah	Grassland savannah	Riparian vegetation	Dry river bed	Forest plantation	Banana plantation	Subsistance agriculture	Botanical Gardens
***Agrochira* ENDERLEIN, 1911**																												
bicolour sp. nov.													■															
bifocalis sp. nov.						■																						
corniculata sp. nov.						■																						
parallaxis sp. nov.						■									■													
***Atopocnema* ENDERLEIN, 1922**																												
binotata sp. nov.							■																					
manicatifrons ENDERLEIN, 1922			■			■							■							■								
***Cladoderris* BEZZI, 1914**																												
cnephosa sp. nov.							■																					
convexa sp. nov.						■									■													
ornata sp. nov.						■																						
***Conopariella* ENDERLEIN, 1922**																												
acutigena ENDERLEIN, 1922	■						■		■				■								■		■			■		
cidara sp. nov.																					■							
conspicua FREY, 1932										■																	■	
exigua sp. nov.								■															■					
paucifenestrata (STEYSKAL, 1963)						■																			■			
picipennis (ENDERLEIN, 1922)		■		■			■																■					
tibialis (HENDEL, 1914)					■		■			■			■		■						■	■	■	■				
togoensis ENDERLEIN, 1922	■					■																						
***Eudasys* gen. nov.**																												
ophrys sp. nov.																		■										
***Federleyella* FREY, 1932**																												
pallidipes (ENDERLEIN, 1922)			■					■		■			■															
septemfenestrata (ENDERLEIN, 1922)			■				■	■		■			■											■				
***Furcamyia* gen. nov.**																												
gladiatura sp. nov.											■	■																
***Mesanopin* ENDERLEIN, 1912**																												
biplexum sp. nov.													■														■	
bvumba sp. nov.										■																		
clavigrum sp. nov.										■																		
londti sp. nov.														■														
minax (ENDERLEIN, 1922)																			■									
palaga sp. nov.																	■											■
***Oeciotypa* HENDEL, 1914**																												
disjuncta sp. nov.																■												
hendeli LINDNER, 1957																	■						■					
parallelomma HENDEL, 1914	■		■																									
rotundiventris FREY, 1932																							■					
***Plastotephritis* ENDERLEIN, 1922**																												
limbata ENDERLEIN, 1922			■																									
patagiata ENDERLEIN, 1922			■				■																				■	
***Pterogenomyia* HENDEL, 1914**																												
picta BIGOT, 1891			■			■																	■					

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	Guinean rain forest	Primary Guinean rain forest	Secondary Guinean rain forest	Congolian rain forest: Moist evergreen	Congolian (lowland) rain forest	Rain forest or climax Tropical rain forest	Dense gallery forest	*Ficus trichopoda* forest	Mixed *Maesopsis* forest	Afromontane forest	Afromontane mist-belt mixed Podocarpus forest	Primary lowland (and indigenous) forest	Riparian forest	Dry riverine forest in dense shade	Swamp	Coastal scarp forest	Maputaland-Pondoland coastal (or dune) forest & coastal dune association	Woodland	Scrubland	Guinean sparse savannah woodland	Lowland savannah	Grassland savannah	Riparian vegetation	Dry river bed	Forest plantation	Banana plantation	Subsistance agriculture	Botanical Gardens
***Stellapteryx* gen. nov.**																												
stellata sp. nov.																		■										
***Venacalva* gen. nov.**																												
dichas sp. nov.																							■					
***Xyrogena* gen. nov.**																												
campiglossoides (FREY, 1932)	■																						■					
camura sp. nov.						■																						
floccus sp. nov.																							■					
gratiosa (ENDERLEIN, 1922)																							■		■			
grossa sp. nov.	■																											
hispida sp. nov.	■														■								■					
hypena sp. nov.						■																						
loxa sp. nov.						■																						
recta sp. nov.						■							■															
Totals (92)	**6**	**1**	**7**	**1**	**1**	**13**	**7**	**3**	**1**	**6**	**1**	**1**	**7**	**1**	**4**	**1**	**2**	**2**	**1**	**1**	**3**	**1**	**13**	**1**	**2**	**1**	**3**	**1**

Tab. 6: Collecting data for Afropical and Oriental Plastotephritinae (Diptera, Platystomatidae)

	Malaise trap	Light trap	Colour trap (unspecified)	Bait trap (unspecified)	Caught on window	Caught in bush	Swept in forest clearing	Swept from Acanthaceae	On Zea *maize* (Poaceae)	On *Prange afranjonum* (?)	In *Macaranga hurifolia* (Euphorbiaceae) fileds	On fruit (unspecified)	On *Annona* L. (Annonaceae) -Custard Apples	On *Syzygium jambos* (Myrtaceae) - rose apple - fruit	At *Mangifera indica* (Anacardiaceae) - mango -	On foliage	On plant stem	Under wood
Agadasys WHITTINGTON, 2000																		
hexablepharis WHITTINGTON 2000	■																	
Atopocnema ENDERLEIN, 1922																		
manicatifrons ENDERLEIN, 1922						■		■								■		
Conopariella ENDERLEIN, 1922																		
acutigena ENDERLEIN, 1922												■						
conspicua FREY, 1932									■									
paucifenestrata (STEYSKAL, 1963)			■															
picipennis (ENDERLEIN, 1922)													■					
togoensis ENDERLEIN, 1922			■															
Eudasys gen. nov.																		
ophrys sp. nov.														■				
Federleyella FREY, 1932																		
pallidipes (ENDERLEIN, 1922)			■													■		
septemfenestrata (ENDERLEIN, 1922)			■							■					■			
Mesanopin ENDERLEIN, 1912																		
palaga sp. nov.				■														
Oeciotypa HENDEL, 1914																		
parallelomma HENDEL, 1914						■					■					■		
rotundiventris FREY, 1932																		
Plastotephritis ENDERLEIN, 1922																		
limbata ENDERLEIN, 1922						■											■	
patagiata ENDERLEIN, 1922											■							
Rhegmatosaga FREY, 1930																		
latiuscula (WALKER, 1856)		■																
Venacalva gen. nov.																		
margarita sp. nov					■													
Xyrogena gen. nov.																		
camura sp. nov.							■											
gratiosa (ENDERLEIN, 1922)																■		
grossa sp. nov.						■												
hispida sp. nov.												■						■
Totals (29)	**1**	**1**	**4**	**1**	**1**	**4**	**1**	**1**	**1**	**1**	**2**	**2**	**1**	**1**	**1**	**4**	**1**	**1**

Taxonomy

Key to Plastotephritinae genera

For completeness the oriental genera (WHITTINGTON 2000a) are included in this key, marked by square brakets.

1 Arista pubescent (Fig. 24); medial and lateral vertical setae present (Figs 24 & 25) ... **2**
– Arista plumose (Figs 169 & 170); only lateral vertical setae strongly developed (medial vertical setae reduced and setula-like, often indistinguishable from postocellar setae – Figs 169 – 171) ... **9**
2 Wings with brown membrane with hyaline spots and bars (Fig. 29); fore femora distinctly spinose on ventral surface (Fig. 28) (these may be present only as small tubercles in females, e.g. *Mesanopin tridens* sp. nov.) ... **3**
– Wings with radiate brown pattern (Fig. 113), sometimes combined with spots (Fig. 559); fore femora sometimes distinctly setose, at most with a single ventral spine ... **6**
3 3 pairs of scutellar setae (Fig. 27) ... **4**
– 2 pairs of scutellar setae (Fig. 285) ... ***Furcamyia* gen. nov.**
4 Medial vertical setae clearly shorter and weaker than lateral vertical setae (Figs 435 – 437); notum strongly microtrichose; hind trochanter with a setulose ventral lobe (Fig. 438); hind tibia bent inwards at apex (Fig. 439) ... ***Micronesomyia* gen. nov.**
– Medial vertical setae equal to or similar in length to lateral vertical setae (not distinctly weaker) (Figs 24 & 25); notum lacking distinct patterns of microtrichia; hind legs simple ... **5**
5 Lateral surstyli of male genitalia elongate, equal to or longer than length of epandrium (Figs 30 & 37); aculeus tip sharply pointed (Fig. 39); wing pattern lacking r_{2+3} hyaline spots (Fig. 36) ... ***Agrochira* ENDERLEIN, 1911**
– Lateral surstyli of male genitalia reduced, much shorter than length of epandrium (Figs 324 & 329); aculeus tip bluntly rounded (Fig. 334); wing pattern frequently with r_{2+3} hyaline spots (Fig. 333) ... ***Mesanopin* ENDERLEIN, 1912**
(If in doubt and specimen has a broad head, then check key for *Agrochira* and couplet 6 of key for *Mesanopin*)
6 Postpronotal setae present (Fig. 111); setulae inconspicuous and sparse ... **7**
– Postpronotal setae absent (WHITTINGTON 2000a fig. 4); conspicuous white setulae interspersed among black setae and setulae, on head, scutellum and abdomen (WHITTINGTON 2000a figs 1 – 5 & 8) ... **8**
7 Orbital setae compressed – distinctly broader in lateral view than in frontal view (Figs 108 & 109); fore femur strongly setose ventrally, setae inserted normally; hind trochanter of male with a long curved, posteriorly directed, spur on ventral surface and a compact knob on inner dorsal surface (Fig. 112); hind tibiae of male simple ... ***Cladoderris* BEZZI, 1914**
– Orbital setae cylindrical – not distinctly compressed (Figs 542 & 543); male fore femur with at most one spine present, otherwise usually strongly setose ventrally inserted on small tubercles (Fig. 547), and inserted normally in females; hind trochanter of male rounded on inner ventral margin; hind tibiae of male swollen at apex and slightly concave, concavity bounded by a dense fringe of black setulae (Figs 548 & 549) ... ***Stellapteryx* gen. nov**
8 Eye bare; ocellar triangle small, slightly raised above frons, with two long thin ocellar setae (Fig. 258); orbital plate extended dorsally, thus raised well above top margin of eye in lateral view, beset with dense tufts of setae (Figs 257 & 258); 3 pairs of scutellar setae (Fig. 259) ... ***Eudasys* gen. nov.**

– Eye distinctly haired (WHITTINGTON 2000a figs 1 – 3); ocellar triangle elongate, strongly raised above frons, with 3 pairs of thick ocellar setae – a white pair anterior to lateral ocellus, a black pair above lateral ocellus and posterior white pair behind medial ocellus (WHITTINGTON 2000a figs 1 – 3); orbital plate only slightly raised above level of vertex, not distinct in lateral view, lacking tufts of setae, having two strongly thickened (in lateral view) orbital setae; 2 pairs of scutellar setae (WHITTINGTON 2000a figs. 4 & 5) .... [***Agadasys* WHITTINGTON, 2000a]**

9 3 pairs of scutellar setae (Fig. 445) (unusually sometimes 4 pairs in ***Atopocnema***) **10**

– 2 pairs of scutellar setae (Fig. 150) **16**

10 Lower facial margin strongly protruding forward, to beyond apex of antenna (Figs 528 & 529) ..... ***Prosopoconus* ENDERLEIN, 1922**

– Lower facial margin not protruding further than base of flagellomere 1 (Fig. 453) **11**

11 Abdomen strongly sclerotised and sculptured, hemispherical in shape (tergites arching around laterally and distally to form a concave shell) (Fig. 445) ..... ***Oeciotypa* HENDEL, 1914**

– Abdomen not heavily sclerotised, unsculptured, ovoid to elongate in shape and slightly dorsoventrally compressed or cylindrical (not a concave hemisphere) **12**

12 Fore and mid femora of males and fore femur of females having ventral row of short black setae (WHITTINGTON 2000a figs. 21 & 22); costal cell broad – distance from C to R_1 twice dimension of R-M (WHITTINGTON 2000a fig. 24); abdomen weakly sclerotised, prone to collapse or to become misshapen in dried specimens ..... [***Rhegmatosaga* FREY, 1930]**

– Fore and mid femora at most strongly setulose, entirely lacking short setae; costal cell narrower that twice length of R-M (Fig. 78), but in some cases nevertheless noticeably broad, but then abdomen normally sclerotised **13**

13 Postsutural acrostichal setae present adjacent to hind margin of notum (Fig. 91); face and frons narrow (about as wide as length of antennae), frons (between ptilinum and medial ocellus) less than twice as broad as high (Figs 89 & 90) **14**

– Postsutural acrostichal setae absent (Fig. 490); face and frons broad (wider than length of antennae), frons at least twice as broad as high (Fig. 487) **15**

14 Setulae always present on Rs and Cu (Fig. 70); arista long plumose (dorsal and ventral plumes together exceed width of flagellomere 1) (Fig. 68); outer margin of hind trochanter sometimes extended into a lobe; hind tibiae of ♂ swollen at apex to almost twice width of base of tibia and terminating in an acute angle on outer margin, with this surface glabrous and slightly concave and bounded by a dense fringe of black setulae (Fig. 69); face usually tuberculate (Fig. 68) ..... ***Atopocnema* ENDERLEIN, 1922**

– Setulae always absent on Cu, usually absent on Rs (Fig. 565); arista short plumose (dorsal and ventral plumes together less than or equal to width of flagellomere 1) (Fig. 563); inner surface of hind trochanter distally extended as a lobe (Fig. 564); hind tibiae of ♂ either not modified or modification is only slight and not readily noticeable, without border fringe; face concave – evenly curved between antennal sockets and lower facial margin, which extends forward forming a narrow "lip" (Fig. 563) ..... ***Venacalva* gen. nov.**

15 Head of many males triangular in frontal view with gena expanded laterally (Fig. 593); face tuberculate or concave, lower facial margin protruding forward beyond a line level with apex of pedicel (Fig. 594); apex of ♂ hind tibia elaborately modified (Figs 597 & 619); gena shallow (< 15 % of height of head in frontal view) (Fig. 593) ..... ***Xyrogena* gen. nov.**

– Head rounded to oval in frontal view; gena of males unmodified (Fig. 487); face flat, lower facial margin in approximately same plain as face (Figs 488 & 494), an even curve in frontal view (Fig. 493); ♂ hind tibia straight (Fig. 486); gena deep (> 20 % of height of head in frontal view) (Fig. 497) ..... ***Plastotephritis* ENDERLEIN, 1922**

16 Postpronotal setae present; notum lacking postsutural acrostichals; setulae sometimes present ventrally on R_1 basad to pterostigma and/or on base of R_{4+5}, in addition to setulae dorsally along length of R_1 and R_{4+5} (Fig. 535), but never along R_{2+3} nor on M; wings longitudinally banded (Fig. 535); posterior orbital seta reduced and setula-like (Figs 533 & 534); large species – wing length exceeding 6.9 mm ..... ***Pterogenomyia* HENDEL, 1914**

– Postpronotal setae absent (Figs 140 & 174); notum with postsutural acrostichals (Fig. 174); setulae present ventrally on R_{2+3} and/or on M, in addition to setulae dorsally along length of R_1 and R_{4+5}; wing membrane generally dark brown with hyaline spots and incisions (not longitudinally banded) (Figs 151 & 150); posterior orbital seta at most a little shorter than anterior orbital seta (Fig. 149); small species – wing length less than 6.5 mm **17**

17 Setulae present as a row dorsally along Cu (Figs 210 & 279) **18**

– Setulae absent on Cu (Fig. 151) ..... ***Conopariella* ENDERLEIN, 1922 part**

18 Medial surstylus of male genitalia bilobed at apex, having an outward directed hook midway along stem, which articulates with a notch in lateral surstylus (Figs 272 & 273) [♂ Body length 2.7 – 3.3 mm; wing length 2.7 – 3.8 mm; ♀ body length 2.7 – 3.4 mm; wing length 2.9 – 3.8 mm.] ..... ***Federleyella* FREY, 1932**

– Medial surstylus of male genitalia modified at apex, hooked and sickle-shaped, or with an extended apical lobe (Fig. 197); stem of medial surstylus lacking an outward projecting hook [♂ Body length 3.5 – 3.9 mm; wing length 4.0 – 4.9 mm; ♀ body length 3.2 – 5.5 mm; wing length 3.9 – 5.5 mm.] ..... ***Conopariella* ENDERLEIN, 1922 part** ..... [*C. paucifenestrata* (STEYSKAL, 1963) & *C. exigua* sp. nov].

Agrochira ENDERLEIN, 1911

***Agrochira* ENDERLEIN, 1911 –** ENDERLEIN (1911: 450) [description]. **Type species**: *Agrochira achiodes* ENDERLEIN, 1911, by original designation. ENDERLEIN (1912b: 369) [attributed to Loxoneurinae]; BEZZI (1918: 246) [mentioned and placed in Ortalidae]; FREY (1932: 257) [key]; STEYSKAL (1980: 563) [catalogue]; D. K. MCALPINE (1982: 666) [morphology].

Diagnosis. Head shape variable; some species having strongly stalked eyes. Arista pubescent. Medial vertical setae equal to or similar in length to lateral vertical setae (not distinctly weaker). Fore femora distinctly spinose on ventral surface. Notum lacking distinct patterns of microtrichia; 3 pairs of scutellar setae. Wing membrane banded brown along wing, with hyaline spots and bars; lacking hyaline spots in r_{2+3}; posterior margin hyaline. Lateral surstylus of male genitalia elongate, equal to or longer than length of epandrium; aculeus tip of female genitalia sharply pointed.

Etymology. *αγρα – agra* Gr. f. = catch, seizure or prey; *χηιρο – chiro* Gr.f. = hand; referring to the armoured fore femora. Gender feminine.

Description

Dimensions: ♂ Body length 3.8 – 6.2 mm; wing length 4.4 – 6.6 mm. ♀ Body length 3.7 – 7,5 mm; wing length 3.7 – 7,8 mm. **Colour/Vestiture**: Ground-colour predominantly combinations of buff to orange-brown and dark brown or black. Ocellar triangle dark brown to black. Arista brown. Legs usually pale buff banded or ringed with dark brown. Wing banded brown along wing, with hyaline spots within band and posterior margin hyaline. Microtrichia on body poorly defined, requiring an oblique angle of viewing; most noticeable on face and around eyes and on some thoracic pleurites; notum lacking microtrichose stripes. Abdominal pleurites pale- or orange-brown.

Head: Subglobose, gena strongly developed ventrally (at least one third of eye depth in lateral view); genal, parafacial, orbital and post orbital plates broadly expanded, resulting in eye-stalks in males of some species. Face projecting at lower facial margin as far as scape; distinct (usually

glossy) elongate antennal-grooves beneath flagellomere 1. Flagellomere 1 elongate oval, pendulous. Arista pubescent. Ocellar triangle situated in line with or slightly apicad of anterior orbital seta. Palp elongate, but not protruding beyond lower facial margin, apically rounded. Postgena slightly swollen such that it bulges postero-ventral to eye. Supracervical setulae present. Setae: 1 ocellar, 2 reclinate orbitals, 2 postverticals, 1 (small) pedicel, 1 genal. Postocular row weak, merging with background setulae.

Thorax: Anepisternal phragma present. Setae: 1 anepisternal, 2 notopleural (posterior one raised on a callus), 1 supra-alar, 1 postalar, 1 intra-alar, 1 postsutural dorsocentral and 1 postsutural acrostichal, (both along posterior margin of scutum), scutellum: 1 basal, 1 lateral and 1 apical; postpronotal seta may be absent or present (see key and species descriptions). Setae sometimes distinguishable from general background setulae: pre-sutural scapular setulae; anepimeral (two or three in a clump); margin of tegula. **Legs**: Fore femora distinctly spinose in two rows on the ventral surface – inner row weaker than outer; each spine ending in a fine setula. A row of weak setulae on dorsal surface of fore femur, sometimes merging with background setulae. Mid tibia with short ventral pre-apical seta. Long, conspicuous dorsal setulae on apex of final tarsomere, curving over apex and in front of claws. First two tarsomeres of each leg with ventral pad of stout, pale setulae. Terminal two or three tarsomeres with short black preapical setulae across latero-ventral margins, being most obvious on mid leg. Empodia setiform. Claws evenly curved and smooth. Pulvilli rounded; densely setose. **Wing**: Costa swollen at base; sub-humeral weakening between swollen base and remainder of costa marked by a ventral seta. Costa ending at apex of M, with progressively shorter black setulae toward wing apex. Sub-costa evanescent, ending at wing flexion. Fine setulae along posterior wing margin pale. Black setulae on entire length of R_1 and R_{4+5}. Wing flexion conspicuous; following line angled basad along sub-costal evanescence, across base of r_1 and RS bifurcation, then angled apicad across br, bm, through Cu-bm and across base of cu_1. Crossvein R-M a little beyond midway on dm. Cell bm longer than cell bcu. Veins R_{2+3}, R_{4+5} and M divergent, M arched forward distad of DM-Cu. Subalar sclerite concave. Tegula small.

Abdomen: Ovate, widest at hind margin of T_{1+2}. Pleurites membranous, matt. Sternites glossy, sclerotised, but reduced to about one third the width of abdomen. Male genitalia – epandrium subglobose to compressed, setose. Proctiger membranous. Hypoproct fused forming shield above surstyli, weakly setose along outer margin and apex. Lateral surstylus elongate, equal to or longer than length of epandrium; medial surstylus clawed at apex. Distiphallus stout, weakly to strongly annulate on dorsal surface. Glans elongate, club-shaped. Ejaculatory apodeme large, strongly sclerotised, spatulate. Vanes of phallapodeme and hypandrium and lateral sclerites narrow. Ovipositor – oviscape sub-triangular, strongly sclerotised; eversible membrane, with distinct denticles toward apex; aculeus pointed; three spherical spermathecae each with an apical "button".

Included species: *achiodes* Enderlein, 1911
bicolor **sp. nov.**
bifocalis **sp. nov.**
corniculata **sp. nov.**
parallaxis **sp. nov.**

Discussion. *Agrochira* Enderlein, 1911 and *Mesanopin* Enderlein, 1912 were both initially described as monotypic genera. In 1914, Hendel synonymised *Mesanopin* with *Agrochira* on the basis of the broadly similar external morphology. Later, Enderlein (1922 and 1924) and Frey (1932) added four (3+1 respectively) more species to *Agrochira*. In 1932 Frey made

Agrochira laticeps ENDERLEIN, 1922 type of a new genus, *Acanthoneuropsis*. This decision was based on the considerable widening of the head and on minor differences in wing patterning. Based on these characters, *Acanthoneuropsis* remained monotypic, until now.

Closer examination of all three genera (including specimens not examined by FREY and including dissection of genitalia) indicates that *Mesanopin* should be re-instated and that *Acanthoneuropsis* should become a junior subjective synonym of *Mesanopin*. Furthermore, *Mesanopin* should contain all of the species previously placed in *Agrochira* except the genotype, viz. *A. achiodes*. Four new species are now added to the newly defined *Agrochira*, while eight new species and one new combination (including a new synonymy) are added to the newly defined *Mesanopin*.

In his unpublished manuscript, STEYSKAL proposed a new species in each of *Agrochira* and *Acanthoneuropsis*. He also mislabelled (I believe in error) an illustration of *Agrochira achiodes* as "n.sp.", which of course is not correct and appears correctly on the preceding page attributed to ENDERLEIN, 1911. I have not been able to find the manuscript types of the two new species that he proposed.

Agrochira shares a close affinity with *Mesanopin*, both having spinose fore-femora and three pairs of scutellar setae. *Agrochira* is separated from *Mesanopin* by the relatively long lateral surstylus compared to the length of the epandrium, by the ornate eversible membrane and pointed aculeus of the ovipositor and by the lack of hyaline spots in r_{2+3}.

A dominant feature of *Agrochira* is the presence of sexual dimorphism. Male heads are wider and the spines on the femora longer, than in females of the same species. Contrary to FREY'S 1932 key, wing patterns are not distinct enough in this genus to be reliable for species recognition. The patterns and arrangement of spots are similar in several species and are even variable within species.

In his analysis of agonistic behaviour and sexual dimorphism in the Platystomatidae, D. K. MCALPINE (1975 & 1979) showed that numerous species show considerable size variation in length of eye-stalk and thorax. Smaller males frequently approximate the dimensions exhibited by females, rather than those of their male counter-parts. SHILLITO (1971) guards against using length of eye-stalk as the only criterion on which to base species identification, thus this character has not been used in the key to species without reference to other diagnostic features.

Stalked eyes have evolved more than once in the Platystomatidae: in the subfamily Plastotephritinae in *Agrochira* (from Africa) and in Platystomatinae in *Achias* and *Laglaizia* BIGOT, 1878 (from Australasia). Since these subfamilies are likely to be separate monophyletic lineages, it is evident that parallelism or convergent evolution has occurred, resulting in shared character states.

There are numerous similarities between African *Agrochira* and Australasian *Achias* FABRICIUS, 1805. Most important of these, include the widening of the head of males in many species and the presence of ventral spinescent setae on the fore femora (which in the case of *Agrochira* have developed into stout spines, tipped with a fine seta). The main distinction between these two genera is based on subfamily characters (see introduction and D. K. MCALPINE 1973a). In addition, the depth of the gena is less in *Agrochira*, antennal groove less pronounced, arista pubescent rather than plumose and anepisternal seta present.

The presence of sexual modifications (such as widening of the head, stalked eyes and spinose fore femora) in males of *Pogonortalis* DE MEIJERE, 1911 and *Achias*, is indicative of agonistic behaviour (D. K. MCALPINE 1975, 1979 & 1994). Therefore, presence of these characters in *Agrochira* suggests that agonistic behaviour is also likely to occur in this genus. There have

been few biological studies and recorded observations of African Platystomatidae, so this type of behaviour has not yet been recorded in *Agrochira*.

As noted by D. K. McAlpine (1975) stalked eyes occur in other acalyptrate families. This character is, however, not homologous in all the families that exhibit this trait. For example the widening of the head in Diopsidae is a result of the broadening of the facial and frontal plates together, resulting in displacement of the antennae to the ends of the stalks near the eye margin. This is not the case in the Platystomatidae that have stalked eyes, in which the broadening occurs in the parafacial area and the frons. The result being that the antennae remain in the central position, with the eyes widely separated either side of them.

Distribution (Fig. 682). *Agrochira* is presently known only from mainland Africa, with centres of distribution in West Africa (Liberia and Cameroun) and East Africa (Uganda and Kenya). Collection data would suggest that this genus is predominantly forest or woodland dwelling. The genus is probably widely distributed across Zaïre and West Africa, given the disjunct distribution in some species (e.g. *A. bicolor* and *A. corniculata*), but is under-recorded in these areas.

Key to the species of *Agrochira*

1 Postpronotal seta present; flagellomere 1 dark grey-brown and coinciding with facial stripe (Figs 33 & 34); spines on fore femur as long as width of femur, curved (Fig. 35); ovipositor densely ornamented with large, diamond-shaped denticles (Fig. 39) ..... ***A. bicolor* sp. nov.**

– Postpronotal seta absent (Figs 27, 44, 51, 62); flagellomere 1 pale coloured, even if dark facial band is present (Figs 24, 41, 48, 59); spines on fore femur shorter than width of femur, straight (Figs 28, 45, 54, 63); ovipositor (of known female) densely ornamented with fine, spinose denticles (Fig. 58) **2**

2 Head arched downwards in frontal view, so that upper margin of eye is below level of ocellar triangle (Fig. 59); width of head in males greater than wing length ..... ***A. parallaxis* sp.nov.**

– Head arched upwards (frontal view) so that upper margin of eye is level with ocellar triangle (Figs 24, 41, 48); head width less than wing length 3

3 Width of vertex double head height in males (Figs 41, 43); fore femora entirely pale (Fig. 45) ..... ***A. bifocalis* sp.nov.**

– Width of vertex at least three times head height in males (Figs 24, 25, 48); fore femora partly dark marked (Fig. 54) **4**

4 Pale brown narrow band across lower margin of face not continuous across parafacial area (Fig. 24); occiput lacking dark-brown bands (Fig. 25); post-sutural notum without dark brown patches (Fig. 27); anepisternum with only a ventral pale brown spot, anepimeron with two restricted brown spots (Fig. 26); subscutellum with pale-buff medial band and black lateral markings continuous with markings of scutellum (Fig. 27); fore femora with restricted dark-brown to black oval-shaped patch dorsally on basal half, but not extending to base and sides; fore coxae entirely pale ..... ***A. achiodes* Enderlein, 1911**

– Distinct dark-brown line across lower margin of face (sometimes paler in the centre) continuous across parafacial area from eye to eye (Fig. 48); occiput with dark-brown band diagonally from eye to occipital foramen; post-sutural notum marked with dark brown patches (Fig. 51); anepisternum with dark-brown marks dorsally and ventrally; anepimeron mostly black; subscutellum black; fore femora basally dark-brown or black (Fig. 54); fore coxae apically dark-brown continuous with dark-brown marking on fore femora ..... ***A. corniculata* sp. nov.**

Agrochira achiodes ENDERLEIN, 1911

(Figs 24–32, 682)

Agrochira achiodes ENDERLEIN, 1911 – ENDERLEIN (1911: 451, Fig. V) [description], ENDERLEIN (1912b: 369); STEYSKAL (1980: 564) [catalogue].

Diagnosis. Head arched upwards in frontal view, so that the upper margin of eye is level with ocellar triangle. Width of head less than wing length. Width of vertex at least three times head height in males. Pale brown narrow band across lower margin of face not continuous across parafacial area. Flagellomere 1 pale coloured. Occiput lacking dark-brown diagonal bands. Post-sutural notum without dark brown patches; anepisternum with only a ventral pale brown spot, anepimeron with two restricted brown spots; subscutellum with pale-buff medial band and black lateral markings continuous with markings of scutellum. Postpronotal seta absent. Fore coxae entirely pale. Fore femora with restricted dark-brown to black oval-shaped patch dorsally on the basal half, but not extending to the base and sides. Spines on fore femur shorter than width of femur, straight.

Etymology. ENDERLEIN did not provide a meaning for this name, but *achi-* is perhaps from *ακισ – akis* Gr. n = point or barb and *-odes* L. suf. for like. If this etymology is correct, it undoubtedly refers to the setulose fore femora.

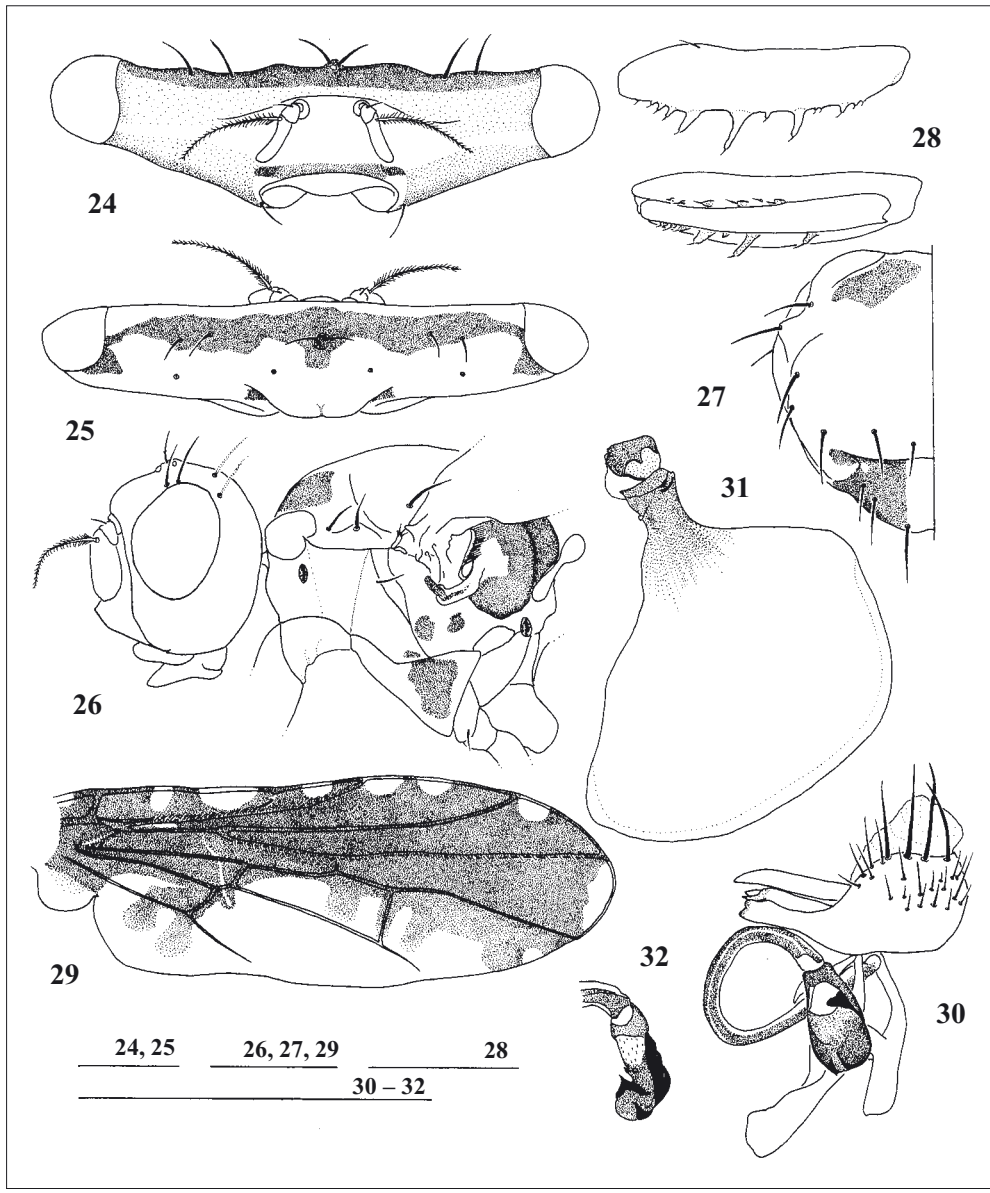
Description

Dimensions: ♂ Holotype. Body length 5.8 mm; wing length 5.7 mm. **Colour/Vestiture**: Ground-colour yellowish-buff to orange-brown with dark brown markings. Face marked with a brassy horizontal stripe along lower facial margin, below level of the eyes, slightly orange on glossy medial region with brown spot at apex of antennal groove (Fig. 24). Dorsal surface of frons marked with glossy dark-brown horizontal stripe, touching inner margins of both eyes and surrounding bases of orbital setae and ocellar triangle; ocellar triangle darker brown; occiput with spot at eye margin and along medial occipital suture (Fig. 25). Thoracic pleurites with black medial band only, this being interrupted on anepimeron, where it is represented by two spots and on lower anepisternum by one small indistinct spot (Fig. 26). Presutural notum marked with two dark trapezoid-shaped marks, posteriad to postpronotal lobe (Figs 26 & 27); postalar wall with a small oval brown spot. Scutellum dark-brown laterally (Fig. 27), orange-brown medially, with apex pale yellow; subscutellum similarly with medial orange-brown band. Anterior half of wing marked with dark brown; hyaline in posterior half (Fig. 29). Calypter smoky brown with darkened margin. Halter pale whitish-buff. Abdomen T_{1+2} = ground-colour, T_3 to T_5 glossy dark-brown. $S_{1–5}$ pale brown, pleurites matt pale whitish-buff. Male genitalia glossy, pale brown. Fine silver microtrichia conspicuous on face as a line between lower facial stripe and frons reaching from eye margin to apex of ptilinal fissure; and on notum, scutellum and katatergite.

Head: Strongly expanded and forming stalked eyes (Figs 24 & 25); vertex broader than thorax, with inner margin of eyes separated by more than thorax width, but less than wing length. In frontal view gena with straight, diagonal margin, slanting from lower margin of eye to subcranial cavity (Fig. 24). Postgena only slightly swollen (Fig. 26). Setulae mostly black, but short and pale on face and lower gena. Weak divergent postocellar setulae present. Supracervical setulae pale. Postocular row absent (Fig. 25).

Thorax: Setulae short, recumbent, and quite dense, pale; longer on pleurites. **Legs**: Distinct inner and outer rows of spines on the fore-femur with 3 large and 8 small peg-like outer spines and 8 short (peg-like) inner ventral spines (Fig. 28). Fore coxa with 2 long black apical setulae. Mid and hind coxae with single long dorsal setae (black on mid coxa, pale and inconspicuous on hind coxa). Mid and hind trochanter with short, weak dorsal seta (black on mid leg, pale and inconspicuous on hind leg) (Fig. 26). Setulae of legs pale. **Wing**: Pattern as in Fig. 29.

Abdomen: Setulae pale black. Genitalia (♂) – epandrium with 4 distinct long marginal seta and numerous pale setulae, proctiger membranous, protruding almost as high above the epandrial margin as the epandrium is deep (Fig. 30). Surstyli and hypoproct closely associated (Fig. 30). Hypoproct asetulose. Dorsal margin of lateral surstylus with subapical protruding lobe, with no visible setulae. Medial surstylus bifid, two claw-like processes at apex, no fine setulae visible on medial bulge, nor on inner side of apex. Distiphallus short; annulations weak (Fig. 30). Ejaculatory apodeme many times larger than epandrium, broadly spatulate, strongly sclerotised proximally only (Fig. 31). Glans bulbous at apex, with



Figs 24–32: *Agrochira achiodes* Enderlein, 1911. Y Holotype. – **24**: Head, frontal view; – **25**: Head, dorsal view; – **26**: Head and thorax, profile; – **27**: Thorax, dorsal half view; – **28**: Fore femora, top = left, lateral view; bottom = right, ventral view; – **29**: Right wing, dorsal view; – **30**: Genitalia, right lateral view; – **31**: Genitalia, ejaculatory apodeme, lateral view; – **32**: Genitalia, detail of glans, left side

single tiny claw-like lateral filament (Fig. 32). Apex of phallapodeme and hypandrium elongate and narrowly spatulate.

Variation: ♀ unknown.

Material examined: **Holotype**: CAMEROUN: ♂ (panz) "Kamerun / Barombi [multiple co-ordinates between 04°28'–40'N:09°15'–24'E] / Conradt" [printed on pale blue card with thin black frame]. "Type" [printed on orange-red card, with thin black frame]; "*Agrochira / achiodes* / Type Enderl. ♂ / det. Dr. Enderlein" [white card, hand written,

except the printed last line]; "Mus. Zool. Polonicum / Warszawe / 12/45" [white card, printed and framed (on the edge) in black]; "HOLOTYPE / *Agrochira achiodes* / ENDERLEIN, 1911 ♂ / Det. WHITTINGTON" [first and last lines printed, middle two hand written on red card]. Slightly damaged, vertical setae and left ocellar seta missing, left middle leg missing, all but two scutellar setae broken or missing and left wing worn. Genitalia dissected and in glycerine, in microvial on same pin as specimen.

Discussion. Although the date of capture in not known, other material collected by CONRADT in Cameroun was taken in the years 1893 and 1896, which may be an indication of the age of this specimen.

Distribution. *Agrochira achiodes* is known only from the type locality in Cameroun (Fig. 682).

Agrochira bicolor sp. nov.

(Figs 33–40, 682)

Diagnosis. A distinctly dorsally dark and ventrally pale species. Eye stalks not strongly developed. Flagellomere 1 dark grey-brown and coinciding with facial stripe. Postpronotal seta present. Pleurites (except katatergite, anatergite and mediotergite) and scutellum pale creamy-white. Forelegs pale, mid and hind femora with small dark apical markings. Spines on fore femur as long as width of femur, curved. Ovipositor densely ornamented with large, diamond-shaped denticles.

Etymology. *bi* L. = two; *color* L. m. = colour; referring to the distinctive dorso-ventral segmentation of dark and pale coloration of this species.

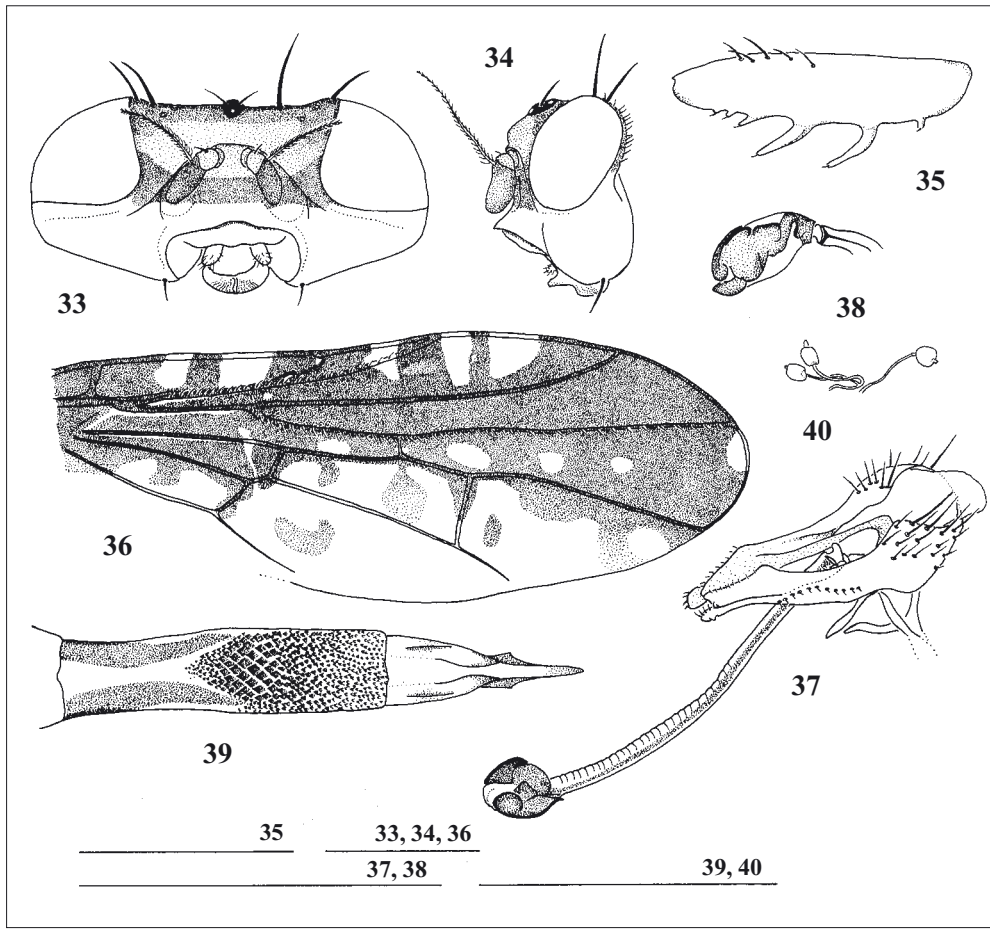
Description

Dimensions: ♂ Holotype. Body length 3.8 mm; wing length 4.4 mm. **Colour/Vestiture**: Ground-colour pale creamy-white. Head bi-coloured, brown dorsal to a line half way through the face, pale creamy-white ventrally; narrow dark-brown line across face at junction of dorsal brown and ventral pale creamy-white colours coincident with flagellomere 1; mottled pale and dark brown on frons (Figs 33 & 34); vertex glossy; pale creamy-white '♂' shaped mark leading down to occipital foramen on postocellar region. Ocellar triangle dark brown. Scape and pedicel pale brown, flagellomere 1 dark grey brown (Fig. 33); arista pale basally, dark brown distally. Occiput with dorsal half dark brown, ventral pale creamy-white; medial occipital sclerite dark brown laterally. Thorax: notum brown, indistinctly darker laterally, brown medial stripe on katatergite, anatergite and mediotergite dark brown; pleurites, sternites and scutellum pale creamy-white. Legs pale creamy-white except for restricted brown marks on apices of femora of mid and hind legs. Anterior half of wing dark brown marked with hyaline patches; posterior half hyaline with few faint brown spots (Fig. 36). Calypter grey-brown with darker grey margin; halter pale creamy-white. Abdomen lateral T_{1+2} and remainder of dorsal abdomen dark brown; sternites and pleurites pale creamy-white. Male genitalia *in situ*: epandrium (T_9) glossy dark brown, surstyli and distal parts pale brown. Fine silver microtrichia poorly developed and difficult to distinguish on frons and occiput, slightly apparent on flagellomere 1.

Head: Expanded but not forming stalked eyes (Fig. 33), vertex equal to width between notopleural setae, outer width of eye is more than thorax width. Margin of subcranial cavity raised almost to same level as lower margin of eye (Fig. 34). Gena (in frontal view) with an obtuse angle below eye and then diagonal between angle and subcranial cavity (Fig. 33). Postgena weakly swollen (Fig. 34). Setulae sparse, mostly pale, but a few short black setulae on frons and occiput; vertex asetose. Supracervical setulae sparse and pale. Postocular row black, short, but distinct (Fig. 34).

Thorax: Setulae recumbent on notum and black, otherwise short, sparse and pale. Postpronotal seta present. Anepimeral setae not differentiated from setulae. **Legs**: Fore femur with two long prominent medial ventral spines and three shorter apical, one small basal spine (Fig. 35) and tuberculate setulae in between; dorsal surface with five pale seta-like setulae conspicuously longer than surrounding setulae in a clump distal to midpoint (Fig. 35). Fore coxa and mid coxa with long pale apical setulae, three of which are seta-like on fore coxa and one on mid coxa; hind coxa with 2 pale lateral setae. Setulae pale, a few darkened on apex of femora. **Wing**: Pattern as in Fig. 36

Abdomen: Setulae short, fairly sparse, black on all tergites except T_{1+2}. Genitalia (♂) – surstyli noticeably elongate to about one and a half times length of main body of epandrium, which is small and flattened (Fig. 37). Proctiger rhombahedral, protruding above margin of epandrium (Fig. 37). Hypo-



Figs 33–40: *Agrochira bicolor* sp.nov. ♂ Holotype and ♀ Paratype. – **33**: Male head, frontal view; – **34**: Male head, profile; – **35**: Male left fore femur, lateral view; – **36**: Right wing, dorsal view; – **37**: Male genitalia, right oblique lateral view; – **38**: Male genitalia, detail of glans, left side; – **39**: Female ovipositor, dorsal view; – **40**: Spermathecae.

proct reduced, not extended across surstyli. Lateral surstylus rounded at apex, and curving ventral to apex of medial surstylus, with a small tuberculate protrusion on outer surface, finely setose at apex and bearing row of fine setulae along latero-ventral margin (Fig. 37). Medial surstylus and elongate, strongly sclerotised at apex, raised into a lobe dorsally before apex and fringed with short stout setulae (Fig. 37). Glans bulbous, with short rounded lateral filaments (Fig. 38). Ejaculatory apodeme with large basal knob (distally damaged). Lateral sclerite and vane of phallapodeme narrow. Hypandrium with strongly developed apical lobe, narrowly spatulate.

Variation: ♂ Body length 3.2–3.8 mm; wing length 3.3–4.4 mm. ♀ Body length 2.9–3.8 mm; wing length 3.3–3.8 mm. Creamy-white ground colour more yellowish in females. Line of bi-coloration of head shifted to middle of frons in Zaïrian and Nigerian specimens and then flagellomere 1 pale yellow-orange. Pale creamy-white patch on the postocellar region variable, restricted to single small spot centrally near top centre of medial occipital sclerite, with dorsal spot either side of head, between posterior orbitals and base of inner ventral setae. Cameroun specimen with shiny black vertex and ocellar triangle. Female specimens – head noticeably narrower than males with vertex width less than distance between notopleurals, but outer width of eyes exceeding thoracic width. Setulae dense. Notum consistently dark brown; katatergite pale and all legs entirely pale; abdomen entirely dark brown in Cameroun specimen (including

sternites and pleurae); T_3 has a pale central mark linked to pale parts of T_{1+2} in Nigerian female. Hyaline band at apex of wing sometimes broader than in Holotype. Ovipositor – oviscape glossy dark brown, with eversible membrane one and a half times length of oviscape; finely and densely covered with diamond shaped baso-clinate denticles, larger in central region; aculeus strongly pointed with lateral flange and no apical setulae.

Material examined: **Holotype**: KENYA: Y (TAUI) "KENYA: Cheymen / Rt. B1, 10 Km. / East Kericho [00°19'S; 35°21'E; ca. 2100 m] / 19.ix.1992 / A. FREIDBERG" [printed on white card]. "HOLOTYPE / *Agrochira bicolor* / sp.nov. ♂ / Det. WHITTINGTON" [first and last lines printed, middle two hand written on red card]. In good condition, but right anterior and both left orbitals, ocellars and right medial vertical missing, right posterior notopleural setae broken in half (distal part missing), genitalia dissected and in glycerine, in microvial on same pin as specimen.
Other material — **Paratypes**: NIGERIA: 1♀ Zugurma, Rt. F210, 100 Km North Ilorin [09°27'N; 04°52'E; ca. 100 – 200 m], 12.xii.1987, FINI KAPLAN (TAUI). CAMEROUN: 1♀ Rt. N9, 80 Km SE Yaounde [ca. 02°42'N; 10°53'E; ca.1000 – 1500 m], 6.xi.1987, A. FREIDBERG (TAUI). ZAÏRE: 2♂♂ P.N.G. Pali/9 [riparian forest 04°22'N; 29°47'E], 22.iii.1952, H. DE SAEGER, 3214 (MRAC); 1♂ P.N.G. I/a/3 [gallery forest on River Aka, ca. 04°21'N; 29°17'E], 17.vii.1950, G. DEMOULIN, 707 (MRAC); 2♂♂ 1♀ (headless) P.N.G. Makpe/8 [river source 04°20'N; 29°34'E], 5.xi.1951, H. DE SAEGER, 2718 (MRAC; 1♂ NMSE); 1♂ P.N.G. II/Pp.K.52/d/9 [riparian forest 04°06'N; 29°25'E], 28.x.1951, H. DE SAEGER, 2679 (MRAC); 1♀ P.N.G. II/fd/16 [confluence of Garamba and Nambirima rivers 03°58'N; 29°23'E], 28.xi.1951, H. DE SAEGER, 2814 (MRAC); 3♂♂ P.N.G. II/fd/17 [gallery 03°58'N; 29°23'E], 14 & 24.xi.1951, H. DE SAEGER, 2761 & 2468 (MRAC; 1♂ NMSE); 1♀ P.N.G. PpK.12/d/9 [riparian forest 03°53'N; 29°24'E], 2.I.1952, H. DE SAEGER, 2972 (MRAC); 1♂ 1♀ P.N.G. PpK.12/d/9 [riparian forest, 03°47'N; 29°29'E], 2.i.1952, H. DE SAEGER, 2972 (MRAC);1♂ P.N.U. River Kugoma (affl. Lusinga), 12.viii.1945, G.F. DE WITTE 213 – 220 (MRAC) [this specimen bears an unpublished STEYSKAL manuscript label "*Acanthoneur- / opsis / clara n.sp.*"].

Discussion. This species is unusual in several respects. The postpronotal seta is present and there are no anepimeral setae. Furthermore the genitalia of both sexes are distinctly different to other members of this genus: the male epandrium being strongly elongate and the female aculeus strongly narrowed apically ending in a spear-like point with a well developed lateral flange, while the sculpturing on the eversible membrane is distinctive.

Note that in the holotype the right hand postpronotal seta is aberrantly double and the mid tibiae bears two ventral pre-apical setae. The consistancy of setae number is poor in Platystomatidae (WHITTINGTON 2000b) and the duplication of the postpronotal seta occasionally ocurs in Plastotephitinae (see also Discussion for *Mesanopin minax*).

Among the older material collected in Zaïre, several specimens had the scutellar setae broken off at the socket and in some instances only the basal setae were missing. The basal socket is usually small and located close to the basal scutellar bridge. In the latter case especially, the generic identification could be mistaken as *Federleyella* (i.e. 2 scutellar setae instead of the 3 noted for *Agrochira*). This is clearly misleading and care must therefore be taken in counting the number sockets. Numerous other characters distinguish this species from any in *Federleyella*; most notable, the large surstylae of the male, but where doubt remains, the genitalia should be dissected.

Distribution. *Agrochira bicolor* has been collected in Kenya and in West and Central Africa in Nigeria, Cameroun and Zaïre (Fig. 682).

Agrochira bifocalis sp. nov.

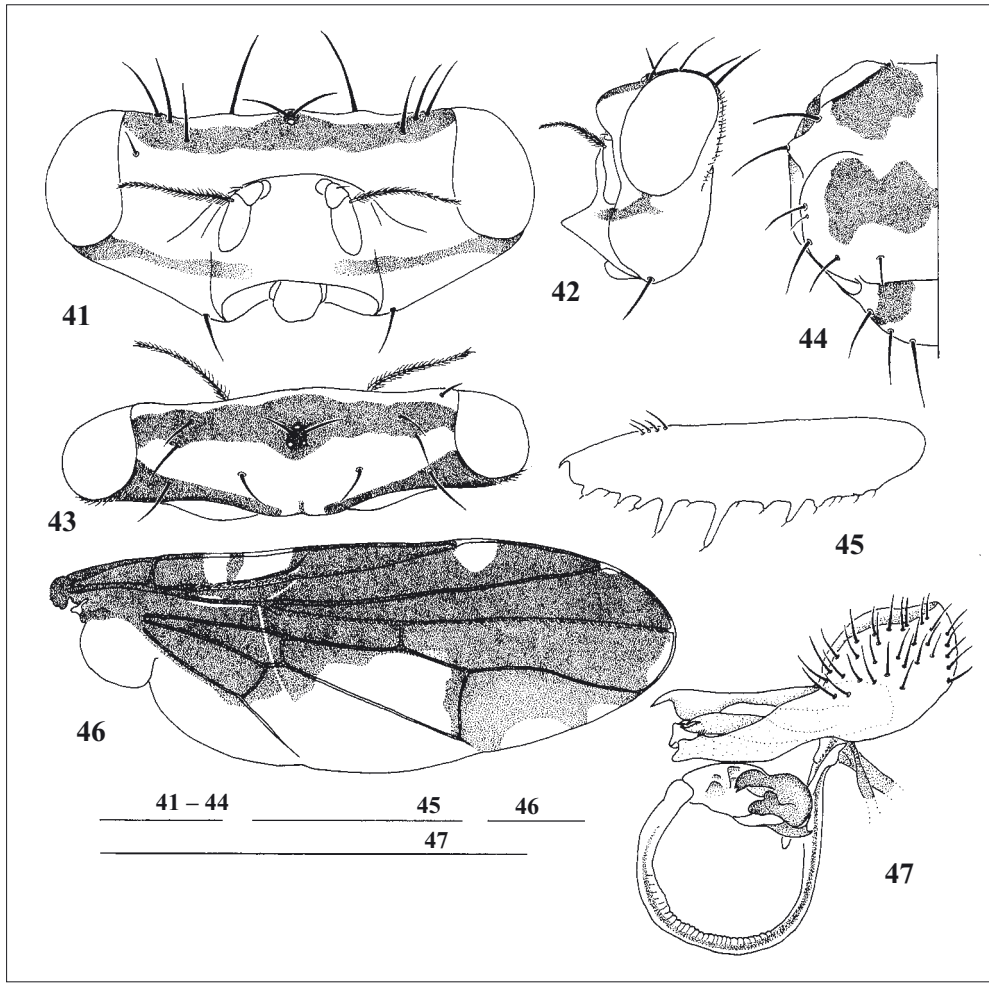
(Figs 41 – 47, 682)

Diagnosis. Head arched upwards in frontal view, so that upper margin of eye is level with ocellar triangle. Width of head less than wing length. Width of vertex double height of head in males. Flagellomere 1 pale coloured, contrasting with facial band. All femora entirely pale; spines of fore femur shorter than width of femur, straight. Postpronotal seta absent.

Etymology. *bi* L. = two and *focus* L. n. = central point; referring to widely stalked eyes of this species.

Description

Dimensions: ♂ Holotype. Body length 5.1 mm; wing length 6.2 mm. **Colour/Vestiture**: Ground-colour pale buff. Head yellowish with brown markings. Face marked with dark-brown horizontal stripe below lower margin of eyes, absent on glossy medial region (Figs 41 & 42). Dorsal half of frons marked



Figs 41–47: *Agrochira bifocalis* sp.nov. ♂ Holotype. – **41**: Head, frontal view; – **42**: Head, profile; – **43**: Head, dorsal view; – **44**: Thorax, dorsal half view; – **45**: Left fore femur, lateral view; – **46**: Right wing, dorsal view; – **47**: Genitalia, right lateral view.

with glossy dark-brown horizontal stripe, touching inner margins of both eyes and surrounding bases of orbital setae and ocellar triangle (Fig. 41). Ocellar triangle dark brown. Occiput with narrow diagonal stripes between eye margin and foramen (Fig. 43). Medial occipital sclerite buff. Flagellomere 1 with central oval patch of orange. Thoracic pleurites with black apical and medial bands, posterior band reaching no further ventrally than meron. Notum glossy, marked with a combination of dark-brown and orange-brown superimposed over ground colour, brown patches isolated either side of transverse suture (Fig. 44). Scutellum dark-brown laterally between basal and lateral setae (Fig. 44), orange-brown medially. Fore femur pale (Fig. 45). Anterior half of wing dark brown, marked with hyaline incisions; hyaline in posterior half (Fig. 46). Calypter smoky brown with a darkened margin. Halter pale orange-brown. Abdomen T_{1+2} pale orange-brown with dark-brown latero-posterior margins, T_3 to T_5 glossy dark-brown. S_{1-5} pale brown. Male genitalia glossy, brown. Fine, silver microtrichia difficult to see; on face beside lower lateral margins of eyes, on occiput, sparsely on pleurae and on pale parts of T_{1+2}.

Head: Strongly expanded (Fig. 41); vertex broader than thorax, with inner margin of eye in line with thorax margins. Frons abruptly angled (lateral view) (Fig. 42), antennae sunken into indented face. Gena with a straight diagonal margin, slanting from lower margin of eye to subcranial cavity (Fig. 41).

Postgena not swollen (Fig. 42). Supracervical sclerite with a vertical medial groove (Fig. 43). Setulae mostly pale, but a few short black setulae on dark patches on frons and occipital sclerite; quite long on frons and occiput. Supracervical setulae absent (or indistinct from surrounding setulae). Postocellar setae absent. Postocular row of fine setulae present.

Thorax: Setulae short and recumbent, pale brown, but a small patch of black setulae on anepimeron. **Legs**: Fore femur with three large and eight small ventral spines (Fig. 45) and an apical row of four setulae on dorsal surface. Fore coxa with long black dorsal and pale ventral setulae. Mid coxa with one black seta. Setulae pale, some brown on tarsomeres. **Wing**: Pattern as in Fig. 46.

Abdomen: Setulae pale brown on pale basal parts of T_{1+2}, otherwise black. Genitalia (♂) — epandrium small and compressed, hypoproct and surstyli elongate, a little longer than length of main body of epandrium (Fig. 47). Proctiger reduced and not visible above side of epandrium (Fig. 47). Hypoproct asetulose. Apex of lateral surstylus scooped, with two adjacent dorsal lobes; proximal lobe finely setose dorsally (Fig. 47). Medial surstylus bifid at apex (Fig. 47). Glans bulbous, with single tiny of terminal claw-like lateral filament (Fig. 47). Phallapodeme and hypandrium not examined.

Variation: ♀ unknown.

Material examined: **Holotype**: UGANDA: ♂ (BMNH) "vanSomeren / Mpanga Forest [00°21'N; 30°12'E; ca.1850 m] / Toro, Uganda / 5–6.1956" [printed on white card]; "V.G.L. van Someren / Collection. / Brit. Mus.1959–468" [printed on white card]. "HOLOTYPE / *Agrochira bifocalis* / sp. nov. ♂ / Det. WHITTINGTON" [first and last lines printed, middle two hand written on red card]. In good condition, left post alar setae broken. Genitalia dissected and stored in glycerine, in a micro-vial on same pin as specimen. Small aberrant setae present as follows: reclinate parafacial seta adjacent to margin of right eye and forward of the anterior reclinate orbital insertion (Fig. 41); presutural scapular seta present on anterior margin of notum (Fig. 44); on ventral extremity of katepisternum (surrounded by several strong pale hairs).

Discussion. Mpanga Forest is a tropical forest situated along the northern shore of Lake George Kasenyi, east of the main road (A109) through Kasese, in Toro district of western Uganda.

Distribution. *Agrochira bifocalis* is known only from the type locality, Mpanga Forest in western Uganda (Fig. 682).

Agrochira corniculata sp. nov.

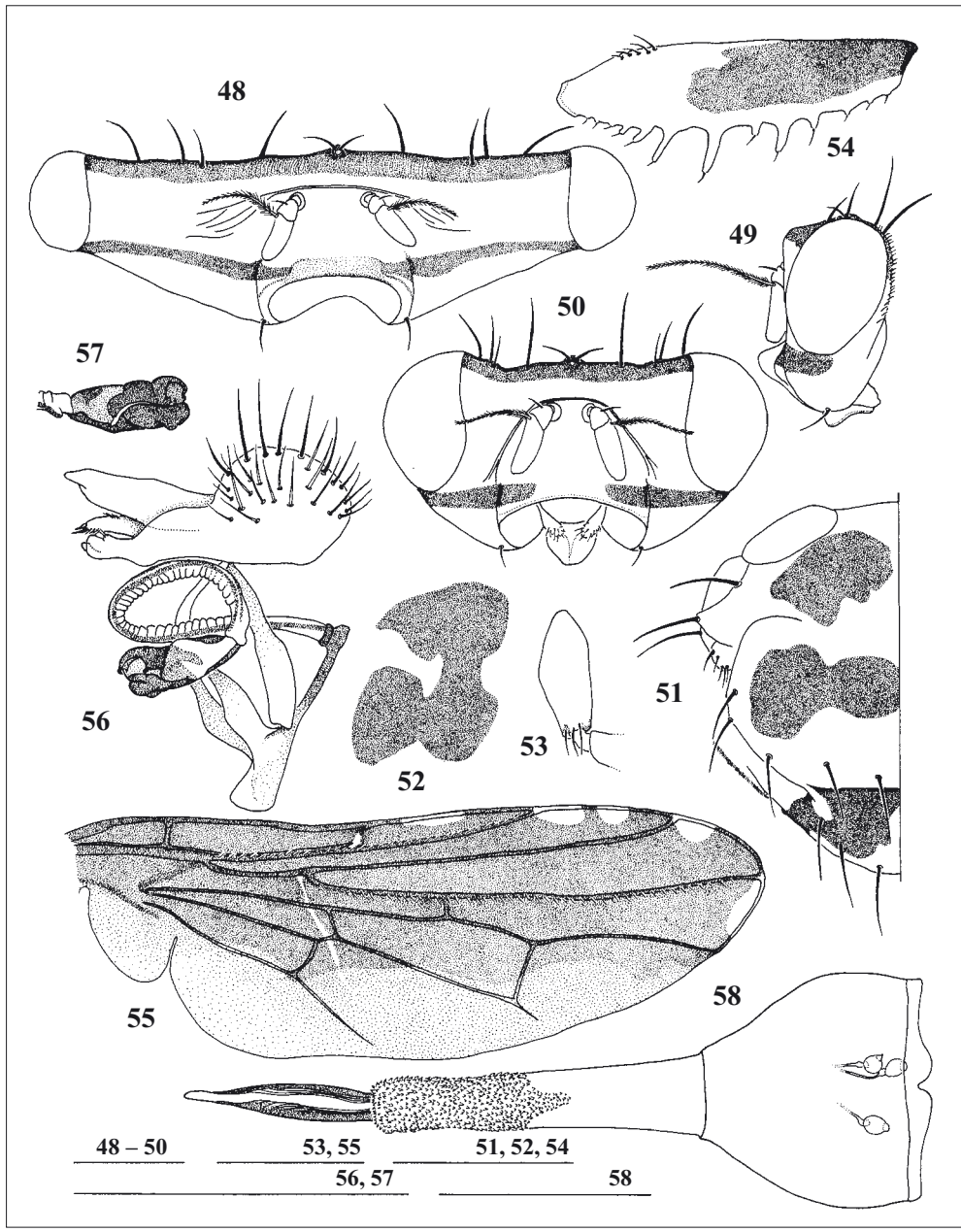
(Figs 48–58, 682)

Diagnosis. Head laterally extended into eye stalks; arched upwards in frontal view, so that upper margin of eye is level with ocellar triangle. Width of head less than wing length. Width of vertex at least three times head height in males. Distinct dark-brown line across lower margin of face (sometimes paler in the centre) continuous across parafacials from eye to eye. Flagellomere 1 pale coloured. Occiput with dark-brown band diagonally from eye to occipital foramen. Postpronotal seta absent. Post-sutural notum marked with dark brown patches; dark-brown marks dorsally and ventrally on anepisternum; anepimeron mostly black; subscutellum black. Fore femur basally dark-brown or black; fore coxa apically dark-brown continuous with the dark-brown marking on the fore femur; mid femora entirely pale, hind femora darkened apically. Spines on fore femur short than width of femur, straight.

Etymology. *cornus* L. n. = horned, referring to the stalked eyes of this species.

Description

Dimensions: ♂ Holotype. Body length 6.0 mm; wing length 6.3 mm. **Colour/Vestiture**: Ground-colour pale buff with brown markings. Face marked with dark-brown horizontal stripe below lower margin of eyes, orange on glossy medial region (Figs 48–50). Dorsal surface of frons marked with glossy dark-brown, horizontal stripe touching inner margins of both eyes and surrounding bases of orbital setae and ocellar triangle (Figs 48–50); ocellar triangle darker brown; occiput with narrow diagonal stripes from eye margin to occipital foramen. Medial occipital sclerite buff. Oval dull patch centrally on flagellomere 1. Thoracic pleurites with black apical and medial bands, posterior band absent; medial band interrupted at dorsal margin of katepisternum. Notum glossy, marked with combination of dark-brown and



Figs 48–58: *Agrochira corniculata* sp. nov. ♂ Holotype and ♀ Paratype; **– 48**: Male head, frontal view; – **49**: Male head, profile; – **50**: Female head, frontal view; – **51**: Thorax, dorsal half view; – **52**: Variation in thoracic pattern; – **53**: Right fore coxa, lateral view; – **54**: Left fore femur, lateral view; – **55**: Right wing, dorsal view; – **56**: Male genitalia, right lateral view; – **57**: Male genitalia, detail of glans, left side; – **58**: Female ovipositor, dorsal view.

orange-brown superimposed on ground colour (Figs 51 & 52), arranged as two isolated spots before the transverse suture and four posterior to it, the posterior spots merging slightly. Scutellum dark-brown laterally, orange-brown medially (Fig. 51). Fore femur basally dark-brown to black (Fig. 54); fore coxa apically dark-brown continuous with dark-brown marking on fore femur; mid femora entirely pale, hind femora

darkened apically. Anterior half of wing marked with dark brown; hyaline to pale brown posterior half (Fig. 55). Calypter smoky brown with darkened margin. Halter pale orange-brown. Abdomen T_{1+2} = ground-colour, with strongly restricted dark-brown latero-posterior margins, T_3 to T_5 glossy dark-brown. S_{1-5} pale brown. Male genitalia glossy, brown. Fine silver microtrichia indistinct.

Head: Strongly expanded and forming stalked eyes; vertex broader than thorax, with inner margin of eyes separated by more than thorax width, but no more than twice the thorax width at its widest point (Fig. 48). Gena with a straight and diagonal margin, slanting from lower margin of eye to subcranial cavity (Fig. 48). Postgena only slightly swollen (Fig. 49). Setulae mostly black, but a few short, pale setulae on face lower gena and occipital sclerite. Supracervical setulae absent. Postocellar setulae absent. Postocular row weak, merging with background setulae (Fig. 49).

Thorax: Setulae short, reclinate, and quite dense, pale, but a small patch of brown setulae on anepimeron, a few of which are strong and seta like. Postpronotal seta absent (Fig. 51). **Legs**: Fore coxa with three long black apical setulae (Fig. 53). Mid and hind coxae with single long pale (inconspicuous) dorsal setae. Mid trochanter with a short, weak black dorsal seta. Fore femur with three large and ten small outer and nine short inner ventral spines (Fig. 54) and an apical row of setulae on dorsal surface. Setulae pale, some brown dorsally on femora, and on tarsomeres. **Wing**: Pattern as in Fig. 55.

Abdomen: Setulae pale brown on pale basal parts of T_{1+2}, otherwise black. Genitalia (♂) — epandrium subglobose with a row of dorsal setae along margin among numerous setulae (Fig. 56). Proctiger not visible above margin of epandrium (Fig. 56). Hypoproct broad laterally, slightly hooked apically, asetulose (Fig. 56). Lateral surstylus blunt at apex and bent inwards; subapical dorsal lobe with few setulae (Fig. 56). Medial surstylus with paired apical claws; fine setulae on medial bulge and on inner side of apex (Fig. 56). Glans bulbous, with scoop-like lateral filament (Figs 56 & 57). Phallapodeme and hypandrium large, with well developed spatulate apices and broad lateral arms (Fig. 56).

Variation: ♂ Body length: 5.4–6.2 mm; wing length: 6.3–6.6 mm. ♀ Body length: 5.8–7,5 mm; wing length: 5.8–7,8 mm. Head sexually dimorphic, lacking well-developed eye-stalks in female (Fig. 50). Flagellomere 3 sometimes without central oval-shaped dull patch (the presence of this character may be an artefact of drying). Genal seta is sometimes (unusually) paired. Notum often with all dark-brown marks fused (Fig. 52). Some specimens have a fourth spine enlarged on fore femur. Fore trochanter sometimes having a small black seta. Dorsal seta on mid and hind coxa may be black and seta on mid-trochanter sometimes absent. Ovipositor — eversible membrane one and a half times length of oviscape, finely sculptured with tooth-like denticles at apical half (Fig. 58). Aculeus sclerotised and spear-like without well developed lateral fringes (Fig. 58).

Material examined: **Holotype**: UGANDA: ♂ (BMNH) "vanSomeren / Mpanga Forest [00°21'N; 30°12'E; ca.1850 m] / Toro, Uganda / 5–6.1956" [printed on white card]; "COLL. INST ENT / COLL. NO. 15054" [printed on white card]. "HOLOTYPE / *Agrochira* / *corniculata* / sp.nov. Y / Det. WHITTINGTON" [first and last lines printed, middle two hand written on red card]. Slightly damaged, right reclinate orbital setae broken, hole in notum on left postpronotal callus, ring wing a little broken along the anterior margin, verdigris accumulating on pin (cleaned away) and in thorax. Genitalia dissected and stored in glycerine, in a micro-vial, on same pin as specimen.

Other material — **Paratypes**: LIBERIA: 1♀ Kpaine [07°10'N; 09°07'W], 27.x.1953, W. PETERS, B.M. 1953–727 (BMNH); UGANDA: 4♂♂ 9♀♀ same locality data as Holotype (1♂ 1♀ NMSE; rest BMNH).

Discussion. Mpanga Forest is situated along the northern shore of Lake George Kasenyi, east of the main road (A109) through Kasese, in Toro district of western Uganda. The only known West African specimen is from Kpaine (Liberia). Further habitat information is not known.

Distribution. *Agrochira corniculata* is known from Liberia and western Uganda. This apparent disjunct distribution, with no specimens from the intervening 4450 km, is likely to be a result of the poor collecting, rather than any true distributional pattern and suggests that this species is widespread across Central and West Africa (Fig. 682).

Agrochira parallaxis sp.nov.

(Figs 59–65 & 682)

Diagnosis. Head with well developed eye-stalks, arched downwards in frontal view, so that upper margin of eye is below the level of ocellar triangle. Width of head in males greater than

wing length. Lower facial margin with horizontal brown band. Flagellomere 1 pale coloured, contrasting with dark facial band. Postpronotal seta absent. Fore femora with an oval dark-brown patch on the inner surface not touching the basal margin, mid femora entirely pale, hind femora darkened apically. Spines on fore femur short than width of femur, straight

Etymology. Derived from *παραλλαξισ – parallaxis* Gr. n. = change, hence *parallax* 'apparent angular displacement caused by change in the point of observation'; referring to the stalked eyes.

Description

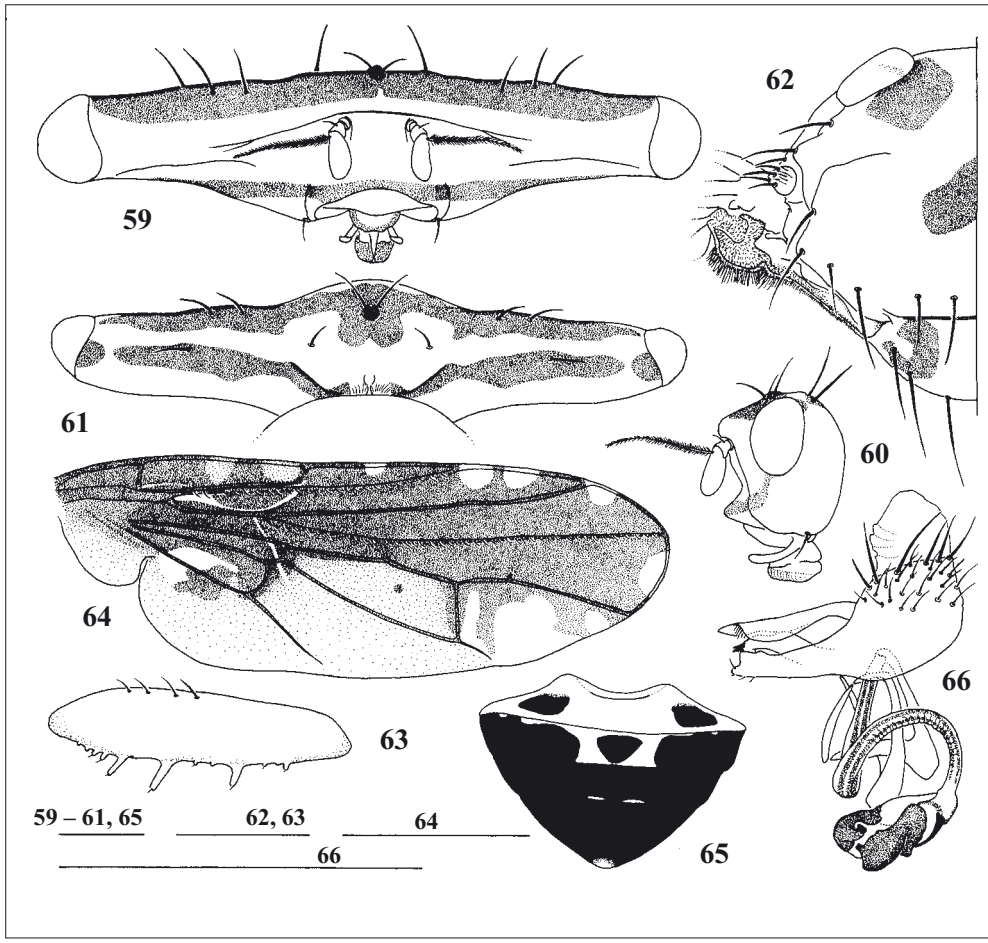
Dimensions: ♂ Holotype. Body length 6.2 mm; wing length 6.6 mm. **Colour/Vestiture**: Ground-colour pale buff with brown markings. Face yellow-brown, marked with orange-brown horizontal stripe across lower facial margin and gena (Figs 59 & 60). Mouthparts brown. Dorsal surface of frons marked with glossy dark-brown, horizontal stripe not quite touching inner margins of both eyes and surrounding bases of orbital setae and ocellar triangle, (Fig. 61). Ocellar triangle black (Fig. 61). Occiput with narrow diagonal brown stripes from eye margin to occipital foramen, but interrupted between eye margin and lateral vertical seta (Fig. 61) – paler than those on vertex, but darker medially either side of the occipital foramen. Medial occipital sclerite buff (Fig. 61). Flagellomere 1 slightly darker orange toward apex. Thoracic pleurites pale, with black medial and posterior bands strongly restricted to two small patches on anepimeron, katepisternum, anatergite and mediotergite (apical band absent). Notum glossy, marked with a combination of dark-brown and orange-brown superimposed on buff in two subsquare apical patches on pre-sutural notum posterior to postpronotal lobe and two patches on post-sutural notum either side of medial line (Fig. 62). Scutellum coloured with ground colour, except for lateral dark-brown marking over base of basal and lateral setae (Fig. 62). Spines of fore-femora brown. Anterior half of wing marked with dark brown; pale grey-brown in posterior half (Fig. 64). Calypter smoky brown with a darkened margin. Halter pale orange-brown. Abdomen T_{1+2} = ground-colour, with dark-brown posterior mid-lateral spots, T_3 to T_5 glossy dark-brown, with slight violet lustre in certain angles of light and with two pale buff patches medially on T_3 either side of darkened centre spot (Fig. 65). T_4 and T_5 with a narrow pale posterior margin (Fig. 65). S_{1-5} pale yellow brown. Male genitalia glossy, pale brown. Fine silver microtrichia restricted to narrow line above horizontal facial stripe.

Head: Strongly expanded and forming stalked eyes (Figs 59 & 61); vertex broader than thorax, with inner margin of eyes separated by more than twice thorax width at its widest point. Gena with a slightly concave margin, diagonally slanting from lower margin of eye to subcranial cavity (Fig. 59). Postgena weakly developed (Fig. 60). Setulae mostly pale, but a few black setulae on vertex and occiput. Supracervical setulae pale, the sclerite strongly grooved medially (Fig. 61). Postocellar setulae absent. Postocular row absent.

Thorax: Wider than long (Fig. 62). Setulae short, reclinate, and quite dense, pale, but a small patch of slightly stronger brown setulae on anepimeron. **Legs**: Fore coxa with three long black apical setulae (2 dorsal, 1 ventral). Mid and hind coxae with single long pale brown (inconspicuous) dorsal setae, pale ventral seta on hind coxa. Fore femur with three large and ten small outer and nine short inner ventral spines, each with pale apical seta and an apical row setulae on dorsal surface (Fig. 63). Setulae pale, some brown dorsally on femora, and on tarsomeres. **Wing**: Pattern as in Fig. 64.

Abdomen: Setulae pale brown, evenly spaced and semi-erect. Genitalia (♂) – Epandrium slightly flattened, with numerous pale setulae and a row of black setae on dorsal margin (Fig. 66). Proctiger membranous, bulbous, extending above epandrial margins to height equal to that of epandrium, finely wrinkled (Fig. 66). Hypoproct with row of small pre-apical lateral setulae (Fig. 66). Lateral surstylus (equal to length of main body of epandrium) turned inwards and indented at apex, with fine terminal setula on lower lobe and a few fine ventral setulae subapically (Fig. 66). Medial surstylus dorsally arched, apically darker coloured and bifid with two claw-like processes at apex (Fig. 66). Glans bulbous and large, with paired well developed apical process each bearing a single small terminal peg-like claw (Fig. 66). Ejaculatory apodeme not examined. Phallapodeme and hypandrium short, spatulate apices small (Fig. 66).

Variation: ♂ Body length: 5.8–6.2 mm; wing length: 6.3–6.6 mm; horizontal facial stripe pale and poorly defined; mouthparts pale buff (as opposed to brown in Holotype) darkened parts of flagellomere 1 varying (possibly an artefact of drying). Markings on T_{1+2} broader and those on T_3 poorly defined. ♀ Unknown



Figs 59–66: *Agrochira parallaxis* sp.nov. ♂ Holotype; – **59**: Head, frontal view; – **60**: Head, profile; – **61**: Head, dorsal view; – **62**: Thorax, dorsal half view; – **63**: Left fore femur, lateral view; – **64**: Right wing, dorsal view; – **65**: Abdomen dorsal view; – **66**: Genitalia, right lateral view.

Material examined: **Holotype**: UGANDA: ♂ (BMNH) "N.123 / Uganda / Namanve [00°21'N; 32°41'E; ca. 1440 m] / 11.10.1934, J.FORD" ["Uganda", "19" and "J. FORD" printed, the remainder hand written on white card that has become grey with fine dust; "N.123" written sideways on the left-hand side]; "A187" [hand written on brown paper]. "HOLOTYPE / *Agrochira* / *parallaxis* / sp.nov. ♂ / Det. WHITTINGTON" [first and last lines printed, middle two hand written on red card]. Slightly damaged, one left reclinate orbital seta broken, right antenna missing, dorsal surfaces dust with fine grey dust. An aberrant seta between the supra-alar and the postalar on the left-hand side. Genitalia dissected and stored in glycerine, in a micro-vial, on same pin as specimen.
Other material: — 1♂ **Paratype** (BMNH) same locality data as Holotype.

Discussion. Namanve is the name given to both a forest and a swamp situated in Mengo district of central Uganda, west of Kampala. Unfortunately the collector did not specify which habitat the collected material came from. The specimens were taken in the fifth year of the swamp reclamation programme (EGGELING 1935), through which large areas of swamp were drained and planted with *Eucalyptus robusta* SMITH. Thus the swamp was already considerably altered by this year. The surrounding forest type was swamp forest and climax tropical rain forest.

Distribution. *Agrochira parallaxis* is known only from the type locality, Namanve in Uganda (Fig. 682).

Atopocnema Enderlein, 1922

***Atopocnema* Enderlein, 1922 –** Enderlein (1922: 10) [description]. **Type species**: ***Atopocnema manicatifrons* Enderlein, 1922. by original designation.** Frey 1932: 257 [key], 263 [characterisation]; Steyskal 1980: 564 [catalogue].

Diagnosis. Face tuberculate, lower half of face and lower facial margin extending forwards to level with apex of pedicel. Lower facial margin raised in middle (frontal view). Face and frons narrow (about as wide as length of antennae), frons less than twice as broad as high. Medial vertical setae weak. Arista plumose (dorsal and ventral plumes together exceed width of flagellomere 1). Postsutural acrostichal setae present adjacent to hind margin of notum. Six (or eight) scutellar setae. Outer margin of hind trochanter sometimes extended into a lobe. Hind tibiae of ♂ swollen at apex to almost twice width of base of tibia and terminating in an acute angle on outer margin, with this surface glabrous and slightly furrowed and bounded by dense fringe of black setulae. Setulae always present on Rs and Cu.

Etymology. *Ατοπος – Atopos* Gr. = strange, odd, absurd or out of place; and *cnemo* Latinisation of *κνεμε – kneme* Gr. f. = leg or shin – referring to the unusual modifications found on the male hind tibia. Gender feminine.

Description

Dimensions: ♂ Body length 3.2 – 4.4 mm; wing length 3.7 – 4.8 mm; ♀ Body length 2.7 – 4.4 mm; wing length 3.1 – 4.7 mm. **Colour/Vestiture**: Ground-colour pale cream to buff brown; ocellar triangle, occipital sclerites and bands of femora and tibiae dark brown; pre-sutural notum plain or marked with dark brown, post-sutural notum completely brown; pleurites marked with brown; scutellum entirely pale yellowish; wing brown, spotted with hyaline marks, at least along costal margin. Eyes reddish-brown. Antennae buff, tinged pale-brown at apex of flagellomere 1. Calypter basally pale grey, distally grey-brown with a darker margin; halter pale-buff. Abdominal tergites four and five always dark brown. Abdominal pleurites and sternites pale brown. Silver microtrichia present on most other body parts, dominant over ground colour of frons adjacent to margins of eyes.

Head: Elongate and antero-posteriorly compressed, vertex much narrower than thorax and sunken between margins of eyes. Ocellar triangle raised above sunken vertex to level with eye margin; positioned level with anterior orbitals. Eyes elongate, oval. Ptilinal fissure arched above insertion of antennae, such that lunule is approximately equal to pedicel length. Frons widest about midway; narrowed dorsally and adjacent to antennal insertion. Antenna pendulous, scape inserted dorsal to midway down length of head. Arista plumose (dorsal and ventral plumes longer than width of flagellomere 1). Pedicel with latero-ventral fringe of long pale setulae. Antennal sockets shallow, but distinctive. Face indented ventral to insertion of antennae, evenly concave or tuberculate; lower facial margin projecting at margin to form protruding lip. Postgena slightly swollen. Palp short, broad and flattened, not extending to apex of clypeus, weakly setose. Setae – 1 ocellar, 2 reclinate orbitals, 1 lateral vertical, 1 weak (hair-like) medial vertical, 1 weak dorsal pedicel and 1 genal. Postocular and subvibrissal rows black and conspicuous. Silver setulae prevalent on frons and postgena, sometimes mixed with brown setulae on gena, sparse on mouthparts and less conspicuous elsewhere on head.

Thorax: Small cervical bulla present. Setulae pale, short on pre-sutural notum, longer on pleurites; black on post-sutural notum, especially over darkly coloured pleurites and central pteropleuron. Setae – 1 postpronotal, 2 notopleural (posterior one on raised callus), 1 anepisternal, 1 supra alar, 1 postalar, 1 intra-alar, 1 prescutellar ac and dc and 1 basal, 1 lateral and 1 apical scutellar. Anepisternal phragma often distinct from dorso-posterior angle to junction with dorso-anterior angle of katepisternum. **Legs**: Setulae on femora long on ventral margin and also on posterior surface of fore femur. Mid-coxal prong narrow, pointed and inconspicuous. Apex of mid coxa

protruding under base of trochanter; strongly setose. Pre-apical mid tibial setae present. Inner margin of hind trochanter extended into a short triangular lobe, without further modification. Setulae on apex of final tarsomere conspicuous and long, curving over apex in front of claws. Tarsomeres of each leg with ventral pad of stout, pale setulae. Short black preapical setulae across latero-ventral margins of mid-tarsus. Empodium setiform, small and inconspicuously situated between large, pale pulvilli. Claws strongly developed. **Wing**: Humeral break present, but not particularly distinct. Costal cell broad. Subcosta sinuous and evanescent basally; ending abruptly before curving toward costa, beyond which point membrane is distinctly folded until junction with costa. Sc-r spur poorly developed at apex of Sc. Setulae on dorsal surface (only) of entire length of R_1 and R_{4+5}, as well as on Rs, basal Cu (adjacent to bm and bcu) and in some specimens sparsely on Cu_1 (adjacent to dm). Flexion line forming a distinct line across apex of Sc, across Rs, M, apex of bm and terminating in cu_1. R_{2+3} and R_{4+5} diverging at apex of wing. Cu_2 almost straight; bcu slightly shorter than bm. DM-Cu straight. R-M weakened in middle and situated beyond midway on dm; M angled slightly at R-M and curved beyond DM-Cu.
Abdomen: Ovate, widest across apex of T_{1+2}. Segments T_{1+2}, S_1 and S_2 covered sparsely with pale setulae, the remainder covered with short, black setulae. Setulae longest along lateral margins of tergites. Male abdomen and genitalia – Posterior margin of S_1 to S_4 produced into shallow medial lobe (bilobed on S_4), which is minutely setose (Fig. 71). Keel-like apodeme present on interior midline of S_3. Sternite 5 with a basal medial lobe tucked beneath apex of S_4. Spiracle 6 small, situated adjacent to base of S_7. Sternite 7 broadened distally. Epandrium compact and rounded. Hypoproct fused into undersurface of membranous proctiger, apically spinose or setulose, laterally and ventrally setulose. Lateral surstylus poorly developed, wrapped around apex of medial surstylus. Medial surstylus apically divided into lobes, setulose or armed with spines. Phallapodeme and hypandrium robust and strongly sclerotised. Distiphallus of moderate length, annulate. Glans smaller than epandrium, apically enlarged into a cup-like structure comprised of curved lateral filaments. Gonostyle inconspicuous. Base of ejaculatory apodeme membranous large and bulbous, with paired sclerotised plates. Female abdomen and ovipositor – T_6 absent. Oviscape conical, shorter dorsally than ventrally, with distinct internal apodeme. Ovipositor not noticeably elongate. Taeniae only slightly more than one third of full ovipositor length; eversible ovipositor membrane ornamented with fine parallel transverse wrinkles, sometimes rugose. Aculeus finely ornamented with transverse wrinkles, setose on main body and either side of apex with a mixture of strong and fine apical setulae. Aculeus tip blunt. 3 spherical spermathecae.

Included species: *binotata* **sp. nov.**
brunnipennis FREY, 1932
manicatifrons ENDERLEIN, 1922
marginepunctata (ENDERLEIN, 1922)

Discussion. *Atopocnema* ENDERLEIN, 1922 shares a close affinity with *Venacalva* gen. nov., as is clearly indicated by the similarity in key characters. It is distinguished from *Venacalva* by a number of characters, not least of which is the setose condition of Rs and Cu and the strange modification of the hind tibia in males in *Atopocnema* (absent in *Venacalva*). WHITE (2000) suggested that similar modification of the hind tibia in Dacinae (Tephritidae) may have a role in the transfer of pheromones. The ladle shaped modifications seen in *Atopocnema* and *Xyrogena* seem suited to similar, although no such behaviour has been observed.

Although the body size ranges overlap considerably, males of *Atopocnema* tend to be larger than males of *Venacalva* (body 3.2–4.4 mm and wing 3.7–4.8 mm versus 2.5–4.0 mm and 2.7

– 4.3 mm respectively). The overlap in female specimens of both species is greater and hence less useful. In addition, males of *Atopocnema* have a distinctive modification to the hind tibia.

The presence of the diminutive sixth spiracle may suggest that sternite 7 is a fusion between sternites 6 and 7. There is no evidence to suggest that this is spiracle 7, but it is also possible that sternite 6 and spiracle 6 are lost and that this is spiracle 7.

Distribution (Fig. 683). Predominantly West and Central African, with a few outlying specimens from Uganda and Angola.

Key to the species of *Atopocnema*

1 Wing dark brown, incisions along costal margin small (one pre-humeral, two subcostal, one minute spot on each of R_1 and R_{2+3} apices), except spot in bcu and incision into anal lobe conspicuously large (Fig. 78); four pairs of scutellar setae ..... ***A. brunnipennis* Frey, 1932**

– Wing with scattered spots; incisions along costal margin large and more numerous (Figs 70, 82 & 93); three pairs of scutellar setae **2**

2 Fore tibiae completely pale ..... ***A. manicatifrons* Enderlein, 1922**

– Fore tibiae with narrow sub-apical dark brown band **3**

3 Cell dm with single small medial rectangular spot, transverse across cell, approximately level with R-M, plus distinct apical hyaline incision (Fig. 93); ♂ hypoproct short, extending beyond epandrium by equivalent length as epandrium – measured along same axis (inconspicuous in undissected specimens – Fig. 94), fringe of setulae along lateral and apical margins (Figs 94 & 95) ..... ***A. marginepunctata* (Enderlein, 1922)**

– Cell dm with basal and medial hyaline spots, and less distinct apical hyaline spot (Fig. 70); ♂ hypoproct elongate, extending beyond epandrium by 20% more than epandrial length – measured along same axis (evident in undissected specimens – Fig. 72), lateral fringe of setulae sparse, apically toothed (Fig. 73) ..... ***A. binotata* sp. nov.**

Atopocnema binotata sp. nov.

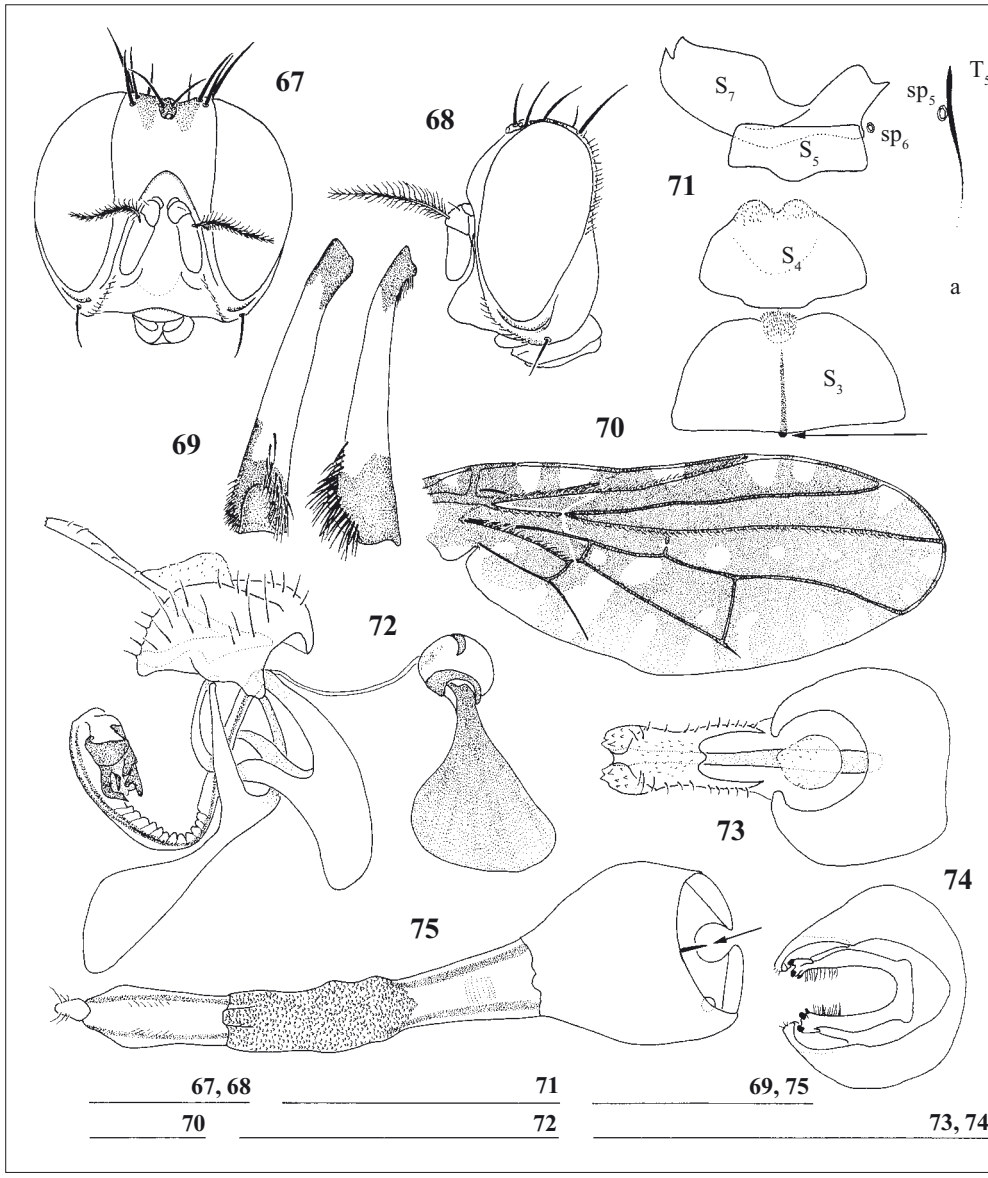
(Figs 67 – 75, 683)

Diagnosis. Fore tibiae with narrow sub-apical dark brown band. Wing with scattered robust spots; incisions along costal margin large and numerous; cell dm with basal and medial hyaline spots and a less distinct apical hyaline spot. Three pairs of scutellar setae. Male hypoproct elongate, extending beyond epandrium by 20 % more than epandrial length along the same axis (evident in undissected specimens), lateral fringe of setulae sparse, apically toothed.

Etymology. *bi* – L. = two and *notata* L. f. – marked; referring to the presence on the wing membrane of two distinct hyaline spots in cell dm.

Description

Dimensions: ♂ Holotype body length 4.4 mm; wing length 4.7 mm. **Colour/Vestiture**: ground-colour yellow-cream; ocellar triangle dark brown; dark brown band along lower facial margin and genal groove. Dorsal half of occiput black. Medial occipital sclerite, lower half of occiput and postgena pale cream. Thorax dark brown, except for band of ground-colour across anterior third of katepisternum, anterior half of anepisternum, and notum anterior to transverse suture. Postpronotal lobe, notopleuron and scutellum coloured pale cream. Abdomen and genitalia dark brown except for T_{1+2} of which all is pale except dark brown posterolateral margin. Apex of mid and hind femora and bases of mid and hind tibiae dark brown. Subapical band of dark brown on fore tibia and a small subapical brown spot on mid tibia. Apex of hind tibia dark brown. Apical two tarsomeres of each leg brown. Wing dark brown, speckled with large hyaline spots along wing margin and on wing membrane (Fig. 70). Veins brown, except along costa where there



Figs 67–75: *Atopocnema binotata* sp. nov. ♂ Holotype and ♀ Paratype. – **67**: Male head, frontal view; – **68**: Male head, profile; – **69**: Male, left hind tibia; left = dorsal view, right =outside lateral view; – **70**: Right wing, dorsal view; – **71**: Male abdominal sternites 3–7; a = internal sternal apodeme, sp_5 = spiracle 5, sp_6 = spiracle 6, S_3-$_7$ = sternites 3-7, T_5 = tergite 5; – **72**: Male genitalia, right lateral view; – **73**: Male genitalia, dorsal view; – **74**: Male genitalia, dorsal view with proctiger and hypoproct removed; – **75**: Female ovipositor, dorsal view; a = internal apodeme.

are hyaline incisions. Silver microtrichia conspicuous along eye margins and in antennal sockets, sparse on postgena, notum, pleurites and on scutellum; dense on mediotergite.

Head: frons elongate, two-fifths width of head (Fig. 67). Face protruding as a broad scoop at lower facial margin (Fig. 68). Genal groove distinct (Figs 67 & 68). Setulae silver; long on ventral margin of gena; interspersed with a few black setulae on gena.

Thorax: setulae moderately long and sparse throughout, silver interspersed with black setulae on dark coloured body parts; longest at ventral apex of katepisternum and mid-coxa. Legs: – Hind tibia apically

scooped, densely fringed on exterior margin (Fig. 69). **Wing**: Flexion line distinctly present (Fig. 70). **Abdomen**: As for generic description. Genitalia (♂) – Epandrium subsquare (Fig. 72). Proctiger small, subtriangular and finely setose (Figs 72 & 73). Hypoproct elongate (one and quarter length of epandrium), fused into undersurface of membranous proctiger, laterally setose and apically finely spinose (Figs 72 & 73). Lateral surstylus diminutive, tightly wrapped around apex of medial surstylus, apically setulose (Fig. 74). Medial surstylus apically lobed, setulose on inner surface and armed with stout pegs apically (Fig. 74). Phallapodeme and hypandrium robust (Fig. 72). Distiphallus of moderate length, deeply annulate (Fig. 72). Glans smaller than proctiger, one lateral filament claw-like, one straight, acrophallus visible (Fig. 72). Base of ejaculatory apodeme membranous and strongly bulbous (Fig. 72).

Variation: ♂ known only from holotype. ♀ Body length: 3.3–4.4 mm; wing length: 4.0–4.7 mm. In some specimens, intensity of brown colour is lighter than described for holotype. Some females have a pair of small brown spots on notum anterior to transverse suture. Small brown spot on mid tibia may be indistinct or absent altogether and may be marked by presence of a few black setulae. Ovipositor (♀) – tergite 7 bearing an internal spike-like apodeme. Taeniae long, reaching medial folds, apical portion of membrane densely ornamented with rugose wrinkles. Aculeus transversely marked by a few fine wrinkles; apex armed with two long apical setulae ventrally and dorsally positioned and one fine dorsal setula.

Material examined: **Holotype**: ANGOLA: ♂ (BMNH) "Angola (A26) Salazar [09°18'S; 14°55'E], I.I.A.A / 9–15.iii.1972" [printed on white card with fine blue stripe under first line]. "Southern / African Exp.[edition] / B.M.1972 – 1" [printed on white card]. "HOLOTYPE / *Atopocnema* / *binotata* / sp.nov. ♂ / Det WHITTINGTON" [rectangular red label, first and last lines printed, middle three hand-written]. In good condition, double mounted, left arista missing. Genitalia dissected and stored in glycerine in microcapsule on same pin.
Other Material: **Paratypes** — ZAÏRE: 1♀ Mayumbe [02°30'N; 27°37'E], xi.1915, R. MAYNÉ, H.17 (MRAC); 2♀♀ 9.6km (6mi) E. of Tshela [04°57'S; 12°57'E, ca. 200–500 m], 26.vii.1957, E.S. ROSS & R.E. LEECH (CASC); 1♀ 56km N. Matadi [05°50'S; 13°32'E, ca. 200 m], 28.vii.1957, E.S. ROSS & R.E. LEECH (CASC); 1♀ Mayidi [05°11'S; 15°09'E], 1943, P. VAN EYEN (MRAC); 1♀ Mayumbe Yanga [conflicting co-ordinates], 6.vii.1924, A. COLLART (MRAC); 1♀ Congo da Lemba [conflicting co-ordinates], iv.1913, R. MAYNÉ (MRAC).
Excluded from the paratype series: ZAÏRE 1 headless ♀ Djoumouna [unknown latitude and longitude], 7.x.1975, L. MATILE, gallery forest (MNHN);

Discussion. The form of the blunt peg-like spines on the apex of the medial surstylus are strongly reminiscent of prensisetae found in Tephritidae. This is one of the few instances in Plastotephritinae in which this character occurs, but the homology of these structures is uncertain.

Distribution. *Atopocnema binotata* is known from Angola and Zaïre (Fig. 683).

Atopocnema brunnipennis FREY, 1932

(Figs 76–79, 683)

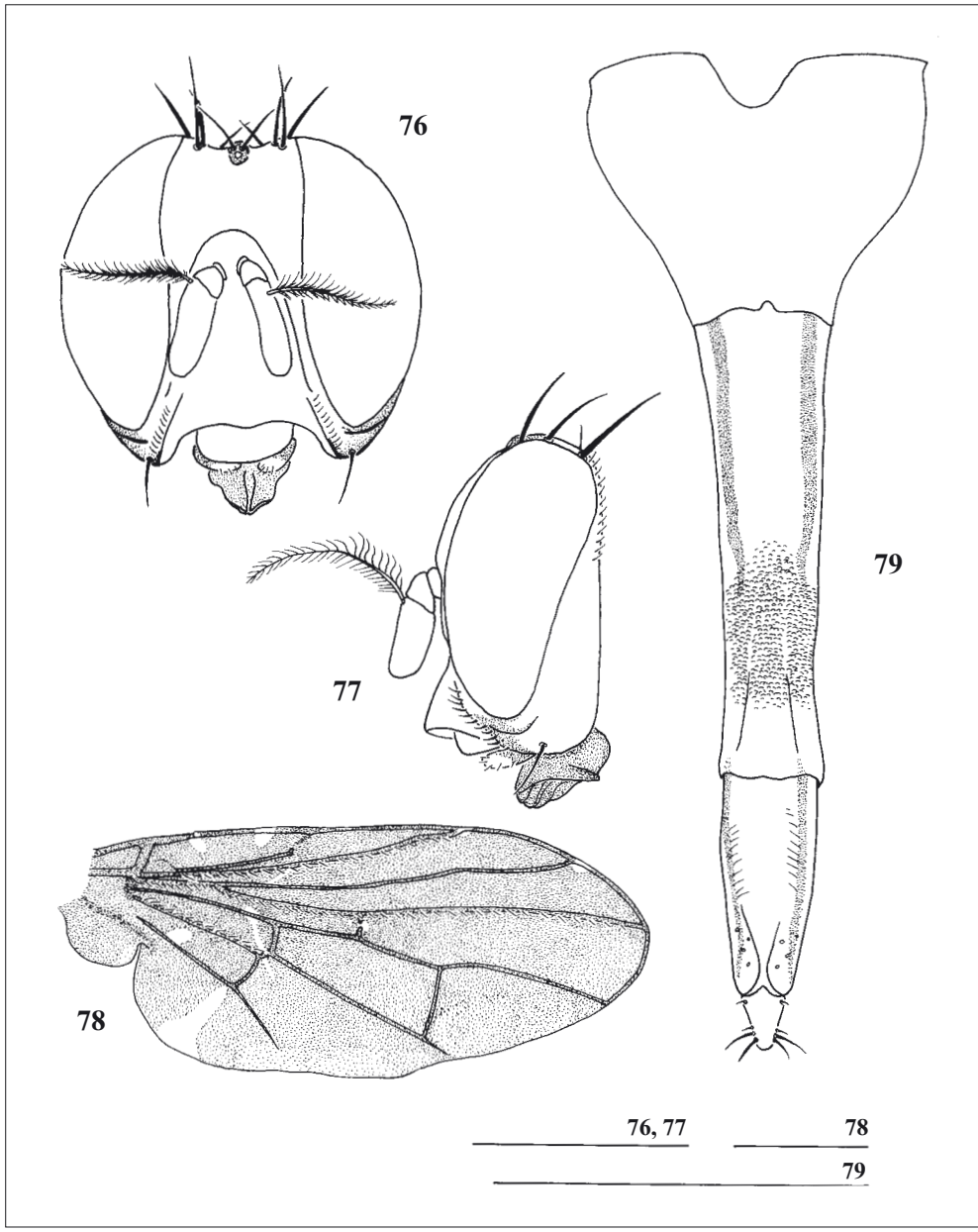
***Atopocnema brunnipennis* FREY, 1932** – FREY (1932: 263) [description & key], pl VIII, fig. 42 (wing); STEYSKAL (1980: 564) [catalogue].

Diagnosis. Wing dark brown, incisions along costal margin small (one pre-humeral, two subcostal, one minute spot on each of R_1 and R_{2+3} junctions); only conspicuously large spots in bcu and incision into anal lobe. Four pairs of scutellar setae.

Etymology. *brunneus* ML. – brown and *penna* L. f. – feather or wing; referring to the almost completely brown wing of this species.

Description

Dimensions: ♀ Holotype body length 4.5 mm; wing length 4.4 mm. **Colour/Vestiture**: ground-colour yellow-cream; ocellar triangle brown; brown band from ventral margin of eye, across gena, base of palp and mouthparts, giving lower face (particularly mouthparts) a striped appearance, most intense along lower facial margin and genal groove, where it is almost black (Figs 76 & 77). Dorsal half of occiput dark brown. Thorax dark brown, except for band of ground-colour across anterior third of katepisternum, anterior half of anepisternum, postpronotal lobe, notopleuron and notum anterior to transverse suture. Scutellum coloured pale cream. Abdomen and genitalia dark brown except for T_{1+2} (excepting posterolateral margin), centre third of T_3, and two small semicircular dots at base of T_5, all of which are



Figs 76–79: *Atopocnema brunnipennis* FREY, 1932. ♀ Holotype. – **76**: Head, frontal view; – **77**: Head, profile; – **78**: Right wing, dorsal view; – **79**: Female ovipositor, ventral view.

yellow-cream. Tibiae pale cream. Apex of mid and hind femora and bases of mid and hind tibiae dark brown. Apex of hind tibia dark brown. Wing dark brown, speckled with small hyaline spots along costal margin (one pre-humeral, two subcostal, one minute spot on each of R_1 and R_{2+3} junctions), large conspicuous spot in bcu and distinct incision into anal lobe (Fig. 78). Veins brown, except along costa where there are hyaline incisions. Silver microtrichose along eye margins, on postgena and on scutellum, mostly obscured on rest of body by surface grease.

Head: Frons elongate, a little more than one third width of head (Figs 76 & 77). Genal groove distinct (Figs 76 & 77). Postgena not expanded (Fig. 77). Setulae silver; long on ventral margin of gena; interspersed with few black setulae on gena.
Thorax: Setulae moderately long and sparse throughout, silver, interspersed with dark brown on dark coloured body parts; longest at ventral apex of katepisternum and mid-coxa. **Wing**: R_{2+3} kinked subapically, flexion line distinctly present (Fig. 78).
Abdomen: As for generic description. Ovipositor (♀) – middle portion of membrane finely ornamented with parallel transverse lines of rugose wrinkles. Taeniae long, reaching beyond midway. Aculeus also transversely marked by a few fine wrinkles and lightly setose toward apex; tip armed with two long apical setulae ventrally and dorsally positioned and one fine dorsal setula in addition to a pair of fine basal setulae on ventral surface.

Variation: Known only from the female holotype.

Material examined: **Holotype**: GHANA: ♀ (BMNH) "Type" [printed round label with red border]. "GOLD COAST [precise locality unknown] / 1913 / A.E. EVANS" [printed on off-white card]. "Pres. by / Imp. Inst. / Brit. Mus. / 1931.56" [printed on off-white card]. "Atopocnema / brunnipennis / n.sp. FREY det." [hand written on off-white card, but "FREY det." pre-printed]. "Spec. typ." [printed on pink paper with a dotted line across centre and previously folded]. "HOLOTYPE / *Atopocnema* / *brunnipenis* / FREY, 1932 ♀ / Det WHITTINGTON" [rectangular red label, first and last lines printed, middle three hand-written]. In poor condition, double mounted, greasy and dirty; setae of head mostly broken, aristae bedraggled, right fore leg broken off beyond tibia and left fore leg missing. Genitalia dissected and stored in glycerine in microcapsule on same pin as specimen.

Discussion. The presence of four pairs of scutellar setae (i.e. 8 setae) is unusual in Platystomatidae and may be an aberration in this specimen. WHITTINGTON (2000b) noted the variable number of scutellar setae in *Neoardelio* HENDEL, 1914 (Platystomatinae) and similar unpublished data for *Mezona* SPEISER, 1910 (Platystomatinae), indicates that such homoplasy may be widespread in this family. Based on the balance of other key characters and despite this unusual number of scutellar setae, the placement of *brunnipennis* in this genus remains the best option.

Distribution. *Atopocnema brunnipenis* is known only from this unique female holotype from Ghana (Fig. 683).

Atopocnema manicatifrons ENDERLEIN, 1922

(Figs 80 – 88, 683)

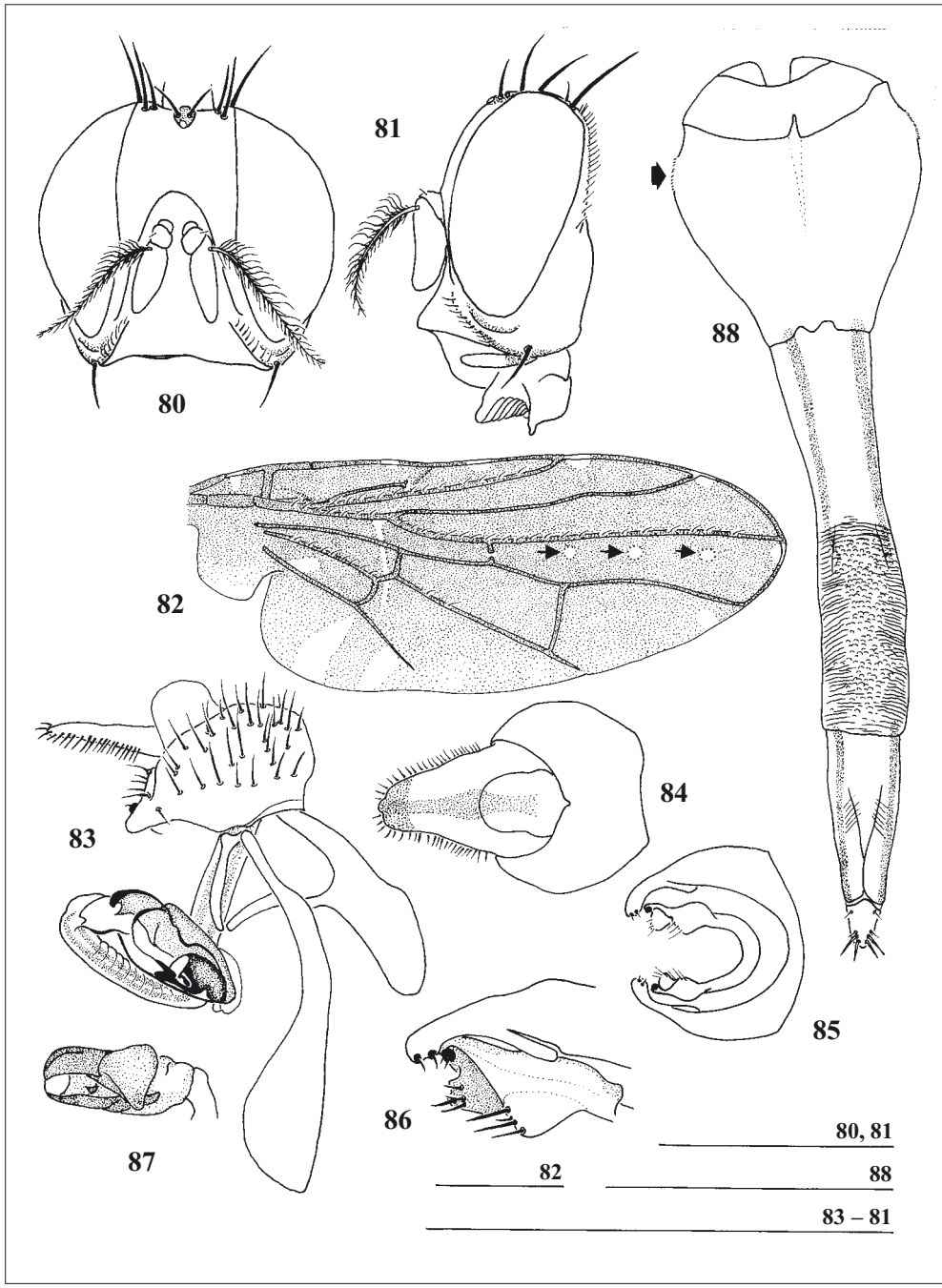
***Atopocnema manicatifrons* ENDERLEIN, 1922** – ENDERLEIN (1922: 11) [description]. FREY (1932: 263, pl. VIII, fig. 41); STEYSKAL (1980: 564) [catalogue].

Diagnosis. Fore tibiae completely pale. Wing with scattered spots; incisions along costal margin large, positioned at apex of veins. Three pairs of scutellar setae

Etymology. *manicatus* L. = with sleeves and *frons* L. f. = brow or forehead; perhaps referring to the elongate band of microtrichia on the frons adjacent to the eye margin.

Description

Dimensions: ♂ Holotype body length 3.2 mm; wing length 3.8 mm. **Colour/Vestiture**: ground-colour pale-cream; ocellar triangle brown; dark brown band along lower facial margin and genal groove (Figs 80 & 81); black along base of parafrontal suture. Dorsal half of occiput brown. Thorax dark brown, except for bands of ground-colour across anterior margin of katepisternum, anterior half of anepisternum, postpronotal lobe, notopleuron, notum anterior to transverse suture and scutellum. Anterior notum marked by a broad brown longitudinal band along midline. Abdomen and genitalia dark brown except for T_{1+2} of which all but the dark brown posterolateral margin is pale. Fore legs pale cream throughout. Apex of mid and hind femora and bases of mid and hind tibiae dark brown. Apex of hind tibia dark brown. Apical two tarsomeres of each leg brown. Wing dark brown, speckled with large hyaline spots along wing margin and small hyaline spots on wing membrane (Fig. 82). Veins brown, except along costa where there are hyaline incisions. Silver microtrichia conspicuous along eye margins; dense on most of body.



Figs 80–88: *Atopocnema manicatifrons* ENDERLEIN, 1922. ♂ Holotype and ♀ specimen. – **80**: Male head, frontal view; – **81**: Male head, profile; – **82**: Right wing, dorsal view; arrows = variable hyaline spots; – **83**: Male genitalia, right lateral view; – **84**: Male genitalia, dorsal view; – **85**: Male genitalia, dorsal view with proctiger and hypoproct removed; – **86**: Male genitalia, detail of apex of surstyli; – **87**: Male genitalia, detail of glans, left side; – **88**: Female ovipositor, dorsal view; arrow = setulose tuft around spiracle 7.

Head: Frons elongate, three-sevenths width of head (Fig. 80). Face protruding as a slightly tuberculate bulge at lower facial margin (Fig. 81). Genal groove distinct (Figs 80 & 81) and almost continuous with ptilinal fissure. Setulae silver; long on ventral margin of gena; interspersed with a few black setulae on gena.
Thorax: Setulae moderately long and sparse throughout, silver interspersed with black setulae on dark coloured body parts; longest at ventral apex of katepisternum and mid-coxa. **Wing**: R_{2+3} with a subapical kink; flexion line distinctly present (Fig. 82).
Abdomen: As for generic description. Genitalia (♂) – Epandrium subsquare (Fig. 83). Hypoproct elongate, but a little shorter than length of epandrium, fused into undersurface of dome-shaped membranous proctiger, apically slightly trilobate, ventrally and apically setose (Figs 83 & 84). Lateral surstylus short and club-shaped, wrapped around apex of medial surstylus and setulose on inner surface of apex (Figs 85 & 86), each setula with a basal sclerotised spot. Medial surstylus complexly lobed and setulose on inner surface at apex (Figs 85 & 86). Phallapodeme and hypandrium robust. Distiphallus of moderate length, annulate. Glans elongate, equal to length of epandrium (Figs 83 & 87).

Variation: ♂ Body length: 3.2–4.3 mm; wing length: 3.7–4.8 mm. ♀ Body length: 3.4–4.4 mm; wing length: 3.7–4.7 mm. Tuberculate facial bulge ranges from strongly formed in most males to absent in most females where face is concave and slopes to lower facial margin in a broad scoop. Longitudinal band on the notum anterior to transverse suture is absent on all female specimens except one from Uganda and all males except specimen from Mariga River (Nigeria). Furthermore, anterior notum is tinged orange in all these specimens, contrasting strongly with the dark brown posterior notum and pale cream scutellum. Hyaline spots on wing membrane (especially those in r_{4+5}) vary from distinct and large to small and faint (Fig. 82). Ovipositor (♀) – tergite 7 bearing an internal spike-like apodeme; tuft of fine setulae laterally, marking position of spiracle seven (Fig. 88). Taeniae long, reaching midway along eversible membrane. Apical portion of membrane densely ornamented with rugose wrinkles. Aculeus transversely marked by a few fine wrinkles; apex armed with two long apical setulae ventrally and dorsally positioned and one fine dorsal setula, in addition to a fine basal setula.

Material examined: **Holotype**: TOGO: ♂ (ZMHB) "A. manicatifrons / Type / left wing ♂" [hand written in my own hand adjacent to wing adhered to white card]; "TOGO / Bismarckburg [08°12'N; 00°47'E 710 m] / 27.VII–10.VIII.[18]93. / L. Conradt S." [printed on blue card]; "TYPE" [printed on dusky orange card]; "*Atopocnema* / *manicatifrons* / Type ENDERL. ♂ / Dr. ENDERLEIN det.1920" [hand written except for last line, all of which is printed except for the "20" of the year, on off-white card]; 2 labels "Zool. Mus. / Berlin" [printed on off-white and yellow card]; "HOLOTYPE / *Atopocnema* / *manicatifrons* / ENDERLEIN, 1922 ♂ / Det. WHITTINGTON" [first and last lines printed, middle three hand written on red card]. In poor condition, right antenna, legs and wing missing, left hind leg missing and left wing adhered to card; post-abdomen in glycerine, in microvial on same pin as specimen.
Other Material — GAMBIA: 1♂ 1♀ Outside Abuko Nature Reserve at Waterworks, in and at Lamin Stream [13°23'N; 16°39'W], 25–26.ii.1977, CEDERHOLM, DANIELSSON, LARSSON, MIRESTRÖM, NORLING & SAMUELSSON, Loc. No. 6 UTM 28PCK215812 (MZLU). IVORY COAST: 2♂♂ 1♀ Bouaké, [07°42'N; 05°00'W, ca. 200–500 m], F [Foro [=forest] ca. 0–100 m], 20.i.[19]75, G. COUTURIER, PIÈGE coloré transect E (MNHN); 2♀♀ Taí region [05°15'–06°07'N; 07°25'–07°54'W, 80–623m], vicinity of Gouleako & environs Station d'Ecologie Tropicale, 18.i.1985 & 19.i.1985, G. COUTURIER & V. VAN ZEIJST, ORSTOM–Paris Mission UNESCO, Biotype 21 & 23, secondary & dense humid forests (TAUI). GHANA: 1♀ Aburi [05°53'N; 00°09'W, ca. 200–500 m], 1912–13, W.H. PATTERSON, (BMNH). TOGO: 1♂ Kpalimod [=Kpalimé? 06°55'N; 00°44'W, ca. 200–500 m], 5.ii.[19]83, G.J. STECK, sweep Acanthaceae along stream (TAUI). NIGERIA: 1♀ Zaria, Dumbi Wood [10°54'N; 07°36'E, ca. 500–1000 m], 25.x.1979, J.C. DEEMING (NMWC); 1♂ Niger State, Mariga River [ca. 09°48'N; 06°03'E, ca. 100–200 m], 80km NW Minna, 11.xii.1987, A. FREIDBERG (TAUI); 1♂ Mokwa [09°19'N; 05°00'E] – Zugurma [09°27'N; 04°52'E], 23.vii.1971, S.S. Chandha, [ca. 100–200 m] (USNM); 1♀ Ibadan [07°23'N; 03°56'E, ca. 200 m], IITA, 14.xii.1987, A. FREIDBERG (TAUI); 1♀ Lagos, Isheri [ca. 06°27'N; 03°28'E, ca. 0–100 m], 24.iii.1975, M.A. Cornes (BMNH); 1♂ West State, Owerra [unknown latitude and longitude], 15.ii.1970, J.T. MEDLER (USNM). CAMEROUN: 3♂♂ 1♀ 50km E. Bamenda [05°55'N; 10°09'E, ca. 1000–1500 m], off Rt.N11, Bambalang area, 21.xi.1987, A. FREIDBERG & (♀) F. KAPLAN (TAUI; 1♂ NMSE). ZAÏRE: 1♂ Eala [00°02'N; 18°22'E, ca. 200–500 m], 7.iii,1935, J. GHESQUIÈRE 347, "Dans les fourrés épais roses a la fau inférieure des feuiller" (KBIN); 1♀ Bikoro [00°45'S; 18°09'E], 2.iii.1921, H. SCHOUTEDEN (MRAC); 1♀ Albertville [=Kalémié 05°57'S; 29°10'E], xii.1918, R. MAYNÉ (MRAC); 1♂ 1♀ Equateur, Bokuma [conflicting co-ordinates], xi.1936, R.P. HULSTAERT, 210 (MRAC); 1♀ Tshuapa [=river or region], Bokuma [00°40'S; 20°59'E] 1954, R.P. LOOTENS (MRAC); 1♂ Kuzu District, Bangala [conflicting co-ordinates], 18.vi,1935, G. SETTEMBRINO (KBIN). UGANDA: 1♂ 1♀ Bulago [01°15'N; 34°21'E], 18.6.[19]14, H. HARGREAVES (BMNH).

Discussion. Even although there is considerable variation in body and wing patterning, the general characterisation of this species appears to be stable. There is no variation in genital structure.

Two specimens have biological information on the labels: one male from Togo was swept from among Acanthaceae and another male from Eala (Zaïre) was collected from "in the thick pink bushes on the underside of the leaves". It cannot be assumed that these are host plants, thus, little can be deduced from these data, other than confirmation of my own experience in the field that some Platystomatidae are to be found on the undersurface of foliage, frequently in dense vegetation.

Distribution. *Atopocnema manicatifrons* is the most widespread species in this genus, having been collected from West Africa (Ivory Coast, Ghana, Togo, Nigeria and Cameroun), Central Africa (Zaïre) and East Africa (Uganda) (Fig. 683).

Atopocnema marginepunctata (ENDERLEIN, 1922)

(Figs 89–98, 683)

***Oeciotypa marginepunctata* ENDERLEIN, 1922** – ENDERLEIN (1922: 10) [description]. FREY (1932: 258) [discussion].
***Atopocnema marginepunctata* (ENDERLEIN, 1922)** FREY (1932: 263) [new comb. & key], pl. VIII, fig. 40; STEYSKAL (1965: 171) [list], fig.5 [wing]; STEYSKAL (1980: 564) [catalogue; stated as Comb. n. in error, preceded by FREY 1932: 263].

Diagnosis. Fore tibiae with narrow sub-apical dark brown band. Wing with scattered hyaline spots; incisions along costal margin large and numerous; cell dm with single medial rectangular spot, transverse across cell, approximately level with R-M. Three pairs of scutellar setae. Male hypoproct short, extending beyond epandrium by equivalent length as epandrium along same axis, with fringe of setulae along lateral and apical margins.

Etymology. *marginis* L. = border, edge and *punctatum* L. n. = dot, spot; referring to the row of hyaline marks along the wing margin.

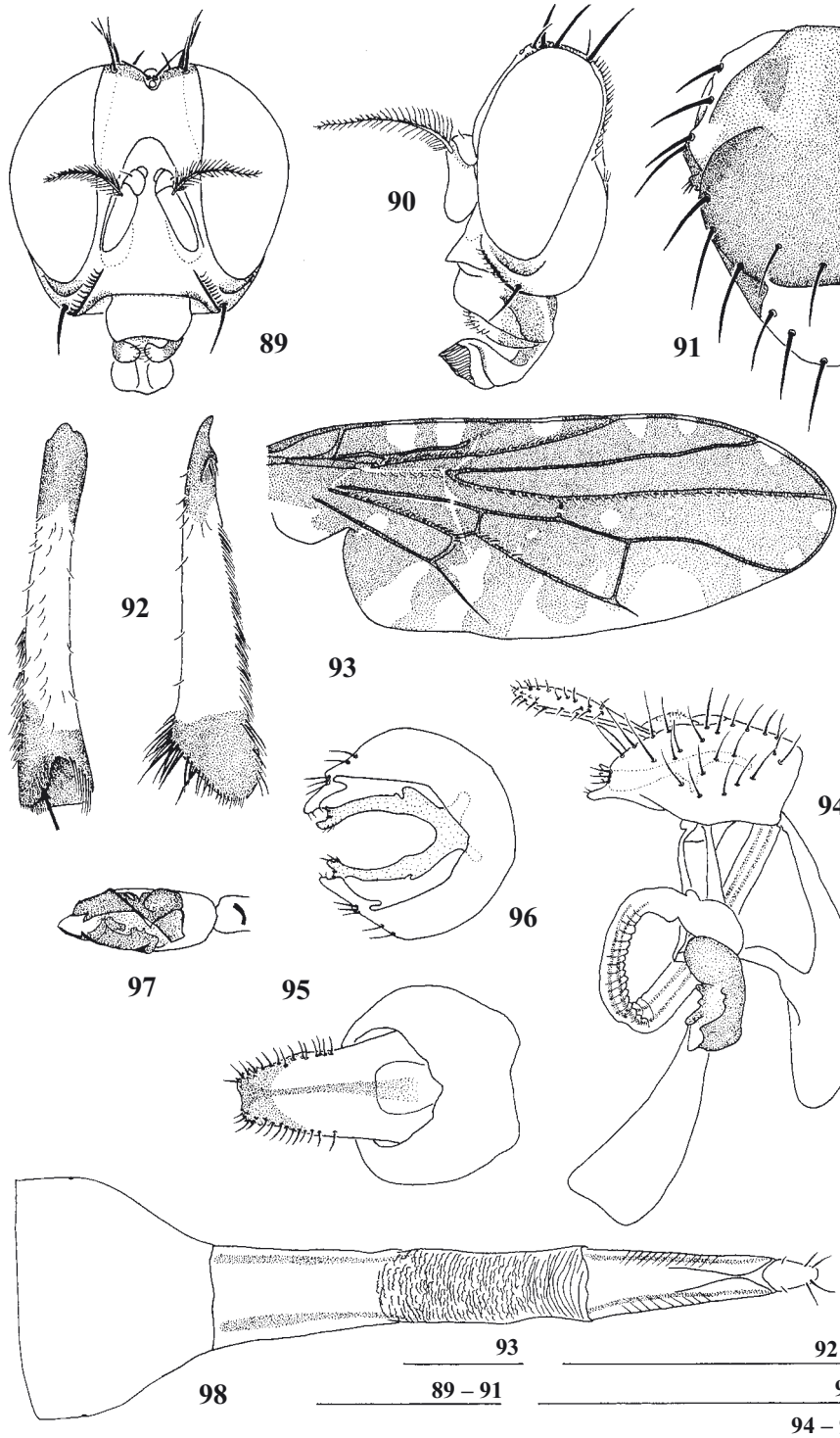
Description

Dimensions: ♀ Holotype body length 4.1 mm; wing length 4.7 mm. **Colour/Vestiture**: Ground-colour pale-cream; ocellar triangle dark brown; dark brown band along lower facial margin and genal groove. Dorsal half of occiput black. Thorax dark brown, except for band of ground-colour across anterior third of katepisternum, anterior half of anepisternum, postpronotal lobe, notopleuron and notum anterior to transverse suture (except for medial brown band). Scutellum coloured pale cream. Abdomen and genitalia dark brown except for T_{1+2} of which all but dark brown posterolateral margin is pale. Apex of mid and hind femora and bases of mid and hind tibiae dark brown. A subapical band of dark brown on fore tibia and a small subapical brown spot on mid tibia. Apex of hind tibia dark brown. Apical two tarsomeres of each leg brown. Wing dark brown, speckled with large hyaline spots along wing margin and on wing membrane (Fig. 93). Veins brown, except along costa where there are hyaline incisions. Silver microtrichia obscured on type specimen.
Head: Frons elongate, two-fifths width of head (Figs 89 & 90). Face protruding as broad scoop at lower facial margin (Fig. 90). Genal groove distinct (Figs 89 & 90). Setulae silver; long on ventral margin of gena; interspersed with a few black setulae on gena.
Thorax: Setulae moderately long and sparse throughout, silver interspersed with black setulae on dark coloured body parts; longest at ventral apex of katepisternum and mid-coxa. **Wing**: Flexion line distinctly present (Fig. 93).
Abdomen: as for generic description. Ovipositor damaged in type.

Variation: ♂ Body length: 4.0–4.1 mm; wing length: 4.4–4.7 mm. ♀ Body length: 3.0–4.1 mm; wing length: 3.1–4.7 mm. Silver microtrichia present densely along margins of eyes, on post-occipital scler-

Caption to the figures on next page

Figs 89–98: *Atopocnema marginepunctata* (ENDERLEIN, 1922). ♂ & ♀ specimens. – **89**: Male head, frontal view; – **90**: Male head, profile; – **91**: Thorax, dorsal half view; – **92**: Male, left hind tibia; left = dorsal view, right =outside lateral view; arrow = silver setulae; – **93**: Right wing, dorsal view; – **94**: Male genitalia, right lateral view; – **95**: Male genitalia, dorsal view; – **96**: Male genitalia, dorsal view with proctiger and hypoproct removed; – **97**: Male genitalia, detail of glans, left side; – **98**: Female ovipositor, dorsal view.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ites, post notum and subscutellum; sparse on remainder of body. Some specimens have a band and two lateral spots of silver microtrichia on notum anterior to transverse suture. Occasional specimens have few spots on wing membrane, but marginal incisions and hyaline mark in dm always present. Mid tarsal pre-apical spots may be absent. ♂ Hind tibia – apex acutely angled, densely setulose at angle with mixture of long and short setulae; margin of scoop toward inner side of leg fringed with silver setulae (Fig. 92). Ventral margin of hind tibia setulose (Fig. 92). Ovipositor (♀) – Taenia reaching midway along eversible ovipositor membrane (Fig. 98). Medial and apical portions of eversible ovipositor membrane densely ornamented with rugose wrinkles, fading toward apex into feint transverse wrinkles (Fig. 98). Aculeus transversely marked by a few fine wrinkles laterally (Fig. 98). Aculeus tip armed with two long apical setulae (ventrally and dorsally) positioned and one fine basal setula (Fig. 98). Genitalia (♂) — Epandrium subrectangular, compressed (Fig. 94). Proctiger small, subrectangular and finely setulose (Fig. 94). Hypoproct elongate but equal to length of epandrium, fused into undersurface of membranous proctiger, laterally and ventrally setose (Figs 94 & 95). Lateral surstylus diminutive, wrapped around apex of lateral surstylus, setulose basally on outer margin and at apex (Figs 94 & 96). Medial surstylus lobed at apex, setulose apically on dorsal and ventral lobes (Figs 94 & 96). Phallapodeme and hypandrium robust (Fig. 94). Distiphallus of moderate length, annulated (Fig. 94). Glans smaller than epandrium, lateral filaments plate-like (Figs 94 & 97).

Material examined: **Holotype**: EQUATORIAL GUINEA: ♀ (ZMBH) "Span. Guinea / Alcu Benitogbt [=Benito – gebiet (= district or region) [01°34'N; 10°24'E]], / 16 – 30.IX: 06 / G. TEß MANN S. G." [printed on blue label]; "359" [inverted hand-written label on off-white card]; "Type" [printed on orange label]; "*Oeciotypa* / *marginepunctata* / Type ENDERL. ♀ / Dr.ENDERLEIN det 1920" [rectangular label, hand-written, but last line (except "20") printed, stained by orange label above]; "Zool. Mus. / Berlin." [printed on yellow label]; "HOLOTYPE / *Atopocnema* / *marginepunctata* / (ENDERLEIN, 1922) ♀ / Det WHITTINGTON" [rectangular red label, first and last lines printed, middle three hand-written]. In poor condition; with setae broken or missing, eyes crumpled, tip of ovipositor missing and an extensive growth of fungus.
Other Material — CAMEROUN: 2♂♂ 50km E. Bamenda [05°55'N; 10°09'E, ca. 1000 – 1500 m], off Rt.N11, Bambalang area, 21.xi.1987, F. KAPLAN & A. FREIDBERG (one each) (TAUI); 2♂♂ 1♀ Bambalang 35km E. Bamenda [05°55'N; 10°09'E], off Rt.N11, 18,21.xi.1987, A. FREIDBERG 1200 m (TAUI; 1♂ NMSE); 1♀ Rt.N4, 120Km NW Yaounde [04°38'N; 11°15'E, ca. 500 m], 5.xi.1987, A. FREIDBERG (TAUI). ZAÏRE: 1♀ Basongo [04°23'S; 20°23'E, ca. 200 – 500 m], vii.1921, H. SCHOUTEDEN (MRAC); 1♀ Kisantu [conflicting co-ordinates – either 04°36'S;15°06'E or – 05°07'S;15°05'E], 12.i.1924, M. BEQUAERT (MRAC); 1♀ Mayumbe Lemba [conflicting co-ordinates], 1 – 10.xii.1915, R. MAYNÉ, H.17 (MRAC).

Discussion. In STEYSKAL (1965), 2 specimens are listed from French Equatorial Africa [= Central African Republic]: [near] Zemio 05°45'N; 25°15'E [ca. 500 – 1000 m] and Bangassou [04°41'N; 22°48'E; ca.500 m] [neither date, nor collector are given] (AMNH). I have not examined these specimens.

Distribution. *Atopocnema marginepunctata* has a central African distribution, known from Equatorial Guinea, Cameroun, Central African Republic and Zaïre (Fig. 683).

Cladoderris BEZZI, 1914

***Cladoderris* BEZZI, 1914**: **304, Fig. III. Type species**: ***Cladoderris silvestrii* BEZZI, 1914, by original designation** [name first mentioned in list of species in BEZZI 1914: 280]. BEZZI 1918: 218 [key] & 246 [discussion placing the genus in Ortalidae]; STEYSKAL 1980: 564 [catalogue].

Diagnosis. Head strongly compressed anteroposteriorly. Eyes bare. Arista pubescent. Black setae on top of head compressed – broader in lateral view than in frontal view. Postpronotal seta present. Setulae on scutellum and abdomen short. Wings with radiate brown pattern. Hind trochanter of male with long curved, posteriorly directed, spur on ventral surface and compact knob on inner dorsal surface.

Etymology. *klados* Gr. m. – branch, twig or stem; *derris* Gr. f. – leather coat; possibly referring to the brown branching pattern on the wings. *Derris* Lour. is also a genus of Leguminosae, but there is no indication that BEZZI suspected this to be a host plant, although other Platystomatidae are known to feed on root nodules of Leguminosae (SEEGER & MALDAGUE 1960; WHITTINGTON 2000b). Gender feminine.

Description

Dimensions: ♂ Body length 2.6 – 4.0 mm; wing length 2.9 – 4.4 mm; ♀ Body length 2.9 – 3.4mm; wing length 3.1 – 4.2 mm. **Colour/Vestiture**: Ground colour predominantly pale creamy-white to white with grey-brown to dark brown markings as follows – 4 incomplete and broken stripes on notum; paired spots on ventral surface of scutellum, on mediotergite and on post-alar wall; rings on legs; and as markings covering entire abdominal tergites (T_{3-5}). Ptilinal hemisphere and antennae slightly darkened yellow; ocellar triangle brown; occiput brown; arista brown, basal third pale buff. Oval, pale brown patch dorsally on apex of mid and hind femora; fore and mid tibiae with pre-apical rings of brown; hind tibiae with apical bands of brown. Tarsi buff, tinged orange toward apex. Wings hyaline; marked with dark brown radiating lines generally following (but not necessarily corresponding to) pattern of long veins, branching from these to wing margin, with a paler suffusion of brown across posterior cells; veins dark brown, except pale brown to buff on costa where membrane is hyaline. Upper calypter basally white, but mostly brown with dark brown margin; calypteral fringe (i.e. lower calypter) grey. Halter pale creamy-white. T_4 glossy in contrast to dull textured surface of rest of abdomen. Abdominal sternites more yellow than tergites. Male genitalia glossy buff-brown. Vestiture silver-grey, but difficult to distinguish against pale body; absent from face (but present in antennal grooves) and outer surface of fore-coxae; dense on frons, occiput, post notum and subscutellum.

Head: Ocellar triangle positioned forward of orbitals and raised above level of upper margin of eye, with vertex between ocellar triangle and eye sunken into a trough. Eye elongate. Vertex one third to one quarter head width; head equal to or exceeding thorax width. Antennal grooves shallow. Setal fringe on ventral surface of pedicel strongly developed. Flagellomere 1 oval, pendulous. Arista pubescent. Face concave; small tubercle present below antennal groove; lower facial margin not extending beyond level of apex of pedicel. Gena expanded laterally in some male specimens; in frontal view variable from curved to straight margin between gena and subcranial cavity. Palp elongate, many times longer than wide, with some scattered black setulae dorsally. Postgena not bulging posterior to eye. Setulae white and erect; intermingled with stout black setulae behind eyes across gena and extending in an arc dorsally to form subvibrissal row (in male specimens where gena is distended, this row is absent or sometimes replaced by small clump of stout black setulae in middle of frontogenal sclerite). Vertex sparsely setose. Setae – 1 ocellar, 2 reclinate orbitals, 2 verticals (lateral = reclinate; medial = cruciate, finer and shorter than lateral verticals), post ocellar white, divergent and fine, genal fine and poorly developed (usually white, but then poorly differentiated from surrounding setulae), seta on pedicel variable in length and colour. Postocular row black, well developed, mingling with setulae on gena.

Thorax: Setulae short, fine and white, intermingled with sparse black setulae on notum; setulae absent on posterior half of katatergite, meron, anatergite, mediotergite and subscutellum; pleurites also covered by a thick pile of shorter white setulae and microtrichia. Scutellum convex and strongly rounded at margin; medial furrow shallow, poorly developed. Setae – 1 postpronotal, 2 notopleural (posterior one raised on a callus), 1 anepisternal, 1 supra-alar, 1 postalar, 1 intra-alar, 1 posterior acrostichal and 1 posterior dorsocentral; scutellum with 1 basal, 1 lateral and 1 apical; tegula with two short setae and several strong setulae along margin. **Legs**: Setulae short on anterior and dorsal surfaces, long on ventral and posterior surfaces, mostly white, but interspersed with black on areas of dark-brown background colouring and on tibiae, tending to be more seta-like on ventral and posterior surfaces of fore-femora; thickened on ventral surfaces of tibiae. Mid coxa elongate, vertically orientated; prong indistinct, pale, short, slightly curved and apically pointed. Fore femur aspinose. Apex of fore tibia with a distinct comb of orange setulae. Midtibia with ventral pre-apical seta (longer than width of tibia). Hind trochanter of male with long curved, ventral spur and short projection on inner-dorsal surface. Mid and hind legs with

anterior margin of tarsomeres having short, thick, black pre-apical setulae, most conspicuous on mid leg. First three tarsomeres of each leg with slightly thickened ventral setulae. Setulae long and conspicuous dorsally on apex of final tarsomere, curving over apex in front of claws. Empodium small, setiform. Pulvilli rounded and densely setose. Claws sharp, smooth and narrow; evenly curved. **Wing**: Costa with two weakenings (costagial and humeral), no distinct breaks. Costa ending at apex of M, having progressively shorter setulae toward wing apex. Costal cell broad (one and a half times as wide as length of R-M). Subcosta incomplete and bent at acute angle toward costa. Fine setulae along posterior wing margin brown. Black setulae on entire R_1, and R_{4+5}; on R_1, and base of R_{4+5} greater than or equal to length of ½ R-M getting shorter distally on R_{4+5}. Wing flexion poorly defined. Crossvein R-M beyond midway on dm (at about two-thirds mark). Cell bm longer than cell bcu; Cu_2 straight. Anal vein reaching wing margin, somewhat evanescent at apex. Lower calypter reduced to setose ridge, upper calypter well developed, with undulating margin densely setose.

Abdomen: Ovate, widest across of T_3. Sternites reduced to less than one-quarter width of abdomen. Setulae a mixture of black and white according to background colouring. S_4 reduced and narrow. Male genitalia – S_5 reduced to two small elliptical sclerites, tucked under S_7. Epandrium rounded, dorsally setose. Proctiger membranous. Hypoproct fused with cerci, forming a cercal plate above surstyli, strongly setose dorsally at apex. Lateral surstylus moderate and stout to short and narrow. Medial surstylus elaborate – outer arms strongly sclerotised at apex with a complexly lobed basal apodeme, basal raised into a dorsally directed lobe; inner arms dorsal to outer arms, apically weakly sclerotised and laterally scoop-shaped. Distiphallus narrow, with annular impressions on dorsal surface, broadening dorsally into an oval apical-sac (preglans – *sensu* D. K. MCALPINE 1973a), at apex of which is a terminal process or caeca. Glans elongate, with short lateral filaments. Ejaculatory apodeme sclerotised, broadly spatulate, basal sac membranous. Vanes of phallapodeme and hypandrium broad; apices elongate and spatulate. Ovipositor – oviscape conical, slightly shorter dorsally than ventrally, T_7 with an internal apodeme. Eversible ovipositor membrane finely (almost imperceptibly) ornamented on apical half with minute wrinkles. Aculeus narrow and blunt ended to broadly blade-like and sharp at apex, setulose at apex with four distinct apical setulae and paired rows of basal setulae. Three rounded or cup shaped spermathecae; ovaries not observed.

Included species: *Cladoderris cnephosa* **sp. nov**.
Cladoderris convexa **sp. nov**.
Cladoderris ornata **sp. nov**.
Cladoderris silvestrii BEZZI, 1914

Discussion. As with many members of this subfamily, some of the male specimens in this genus have the head distinctively shaped. The head is compressed, so that in lateral view it is narrow. The gena (and sometimes other parts of the lower facial area – see discussion of *C. silvestrii*) are broadened and, in the case of the gena, apically pointed, resulting in the extension of the lower face and causing the head to be triangular in frontal view. The broadening of the face varies between males in a similar fashion to the variation seen in eye stalk length and in the shape of the face in other genera. For example, eye-stalks in *Agrochira* ENDERLEIN, 1911 (see above) or *Achias* FABRICIUS, 1805 (D. K. MCALPINE 1979) and facial modification in *Pogonortalis doclea* (WALKER, 1849) (D. K. MCALPINE 1975).

Differentiation of the four species is based on few consistent characters. Other features such as colour pattern on the notum and abdomen are misleading, being inconsistent between specimens from West, Central and East Africa and showing considerable variation across the geo-

graphical range. The lack of consistency between specimens of any one geographical area, the level of shared character states and the scarcity of material, makes the use of colour and pattern for the differentiation of species practically useless. There is also a marked variability in the length and colour of the seta on the pedicel, with some specimens within a given species, having long pale setae, while others have them short and dark brown. Structures of both male and female genitalia are more useful and certainly diagnostic.

Distribution (Fig. 684). An African genus with species known from West, and East Africa converging in Central Africa. The distribution of *Cladoderris cnephosa* represents an outlier in southern Africa.

Key to the species of *Cladoderris*

1 Brown pattern on wing comprised of narrow lines along and at 45° to veins, leaving broad spaces of hyaline membrane between the brown lines (Figs 113 & 134); lateral surstylus slender and weakly formed (Figs 115 & 135) **2**

– Brown pattern on wing comprised of broad bars across and between veins, leaving restricted spaces of hyaline membrane between the brown bands (Figs 102 & 123); lateral surstylus broad and stout (Figs 104, 125 & 127) **3**

2 Clypeus pointed at apex (i.e. conical) (Figs 130 & 131); proctiger inconspicuous (Fig. 135); hypoproct elongate, setulose along lateral margin (Fig. 135); lateral surstylus with dorsal, triangular, basal lobe (Fig. 135) ..... ***C. silvestrii* Bezzi, 1914**

– Clypeus rounded, sometimes with slight apical notch (Figs 106 & 108); proctiger conspicuous, subsquare (Fig. 115); hypoproct stout and apically setulose (Fig. 115); lateral surstylus lacking basal lobe (Fig. 115) ..... ***C. convexa* sp. nov.**

3 Palp broader at apex than at base, pale creamy brown at base, dark brown at apex (Figs 99 & 100); face dark brown (Figs 99 & 100); thoracic pleurites largely dark brown; lateral surstylus broad and strongly protruding beyond epandrium (Fig. 104); aculeus narrow and tip of aculeus blunt (Fig. 105) ..... ***C. cnephosa* sp. nov.**

– Palp narrow and parallel for full length completely pale cream throughout (Fig. 120); face pale cream (Figs 119 & 121); thoracic pleurites pale cream; lateral surstylus broad but not protruding beyond epandrium (Figs 125 – 127); aculeus broad and tip of aculeus pointed (Fig. 128) ..... ***C. ornata* sp. nov.**

Cladoderris cnephosa sp. nov.

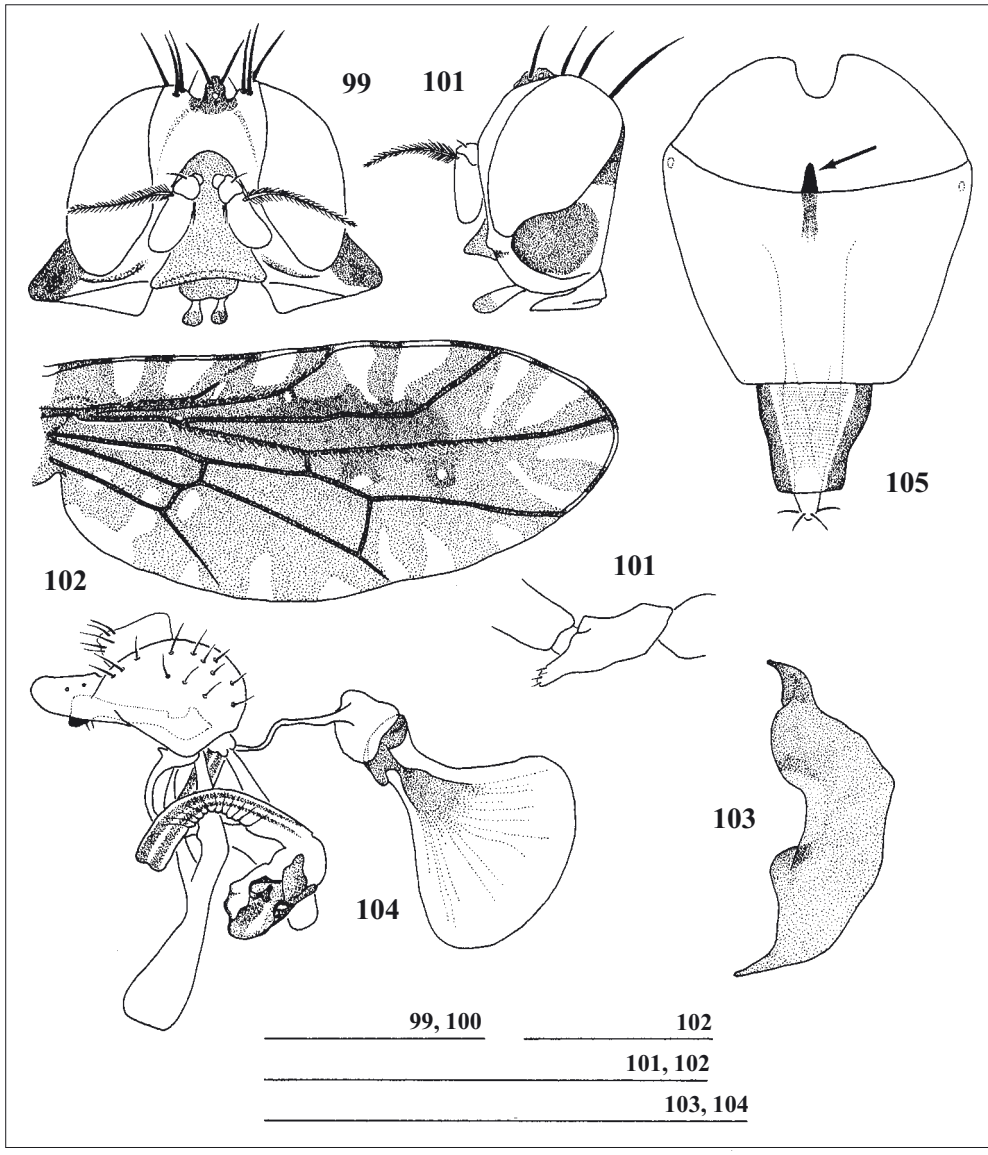
(Figs 99 – 105, 684)

Diagnosis. Face dark brown. Palp broader at apex than at base, pale creamy brown at base, dark brown at apex. Thoracic pleurites largely dark brown. Brown pattern on wing comprised of broad bars across and between veins. Lateral surstylus broad and strongly protruding beyond epandrium. Aculeus narrow. Tip of aculeus blunt.

Etymology. *cnephosa* L. f. = dark, derived from Gr. *κνεπηασ – knephas* n. = darkness, twilight; referring the brown thoracic pleurites of this species.

Description

Dimensions: ♂ Holotype. Body length 3.0 mm; wing length 3.2 mm. **Colour/Vestiture**: Ground colour predominantly dark brown, paler brown face and horizontal bar across parafacial sclerite (Figs 99 & 100). Pale creamy-white to white markings as follows – frons, antennae (except first flagellomere tinged brown), basal third of arista, vertex, medial occipital sclerite, postgena, notopleuron, postpronotal lobe, proepisternum, oblique band across anepisternum, katepisternum, legs (except brown apical half of mid and hind femora and narrow subapical band on mid tibia), band across centre of scutellum, halter, two



Figs 99–105: *Cladoderris cnephosa* sp. nov. ♂ Holotype and ♀ Paratype. – **99**: Male head, frontal view; – **100**: Male head, profile; – **101**: Male left hind trochanter, inner surface; – **102**: Right wing, dorsal view; – **103**: Male abdominal sternite 7, ventral view; – **104**: Male genitalia, right lateral view; – **105**: Female ovipositor, dorsal view; arrow = internal apodeme.

hemispherical marks on posterior margin of T_{1+2} and T_3. Ptilinal hemisphere darker than background and yellowish. Wings hyaline; marked with dark brown radiating bands generally following (but not necessarily corresponding to) pattern of long veins and branching from these to wing margin, with paler suffusion of brown across the posterior cells (Fig. 102); veins dark brown, except pale brown to buff on costa where membrane is hyaline. Calypter brown, calypteral fringe dark brown. Abdominal sternites and pleural membrane pale brown. ♂ Genitalia glossy buff-brown. Vestiture silver-grey, on orbital plate, postgena and thoracic pleurites.

Head: Clypeus rounded (Fig. 99), slightly cleft. Facial tubercle small and positioned on lower facial margin. Gena laterally expanded in males (Figs 99 & 100). Palp spoon shaped (Figs 99 & 100). Setae – as for generic description, but medial vertical white and poorly developed, genal absent and seta on pedicel almost as long as pedicel and black.
Thorax: Scutellum without medial furrow. Spur of hind trochanter stout, straight and setulose at apex; dorsal knob small (Fig. 101). Subcostal fold strongly developed and vein-like (Fig. 102). R_{2+3} sinuous (Fig. 102) and angled acutely forward at a point level with DM-Cu.
Abdomen: As in generic description. Genitalia (♂) – Sternite 7 robust, pointed at both ends (Fig. 103). Epandrium globose (Fig. 104). Proctiger subsquare, finely microtrichose (Fig. 104). Hypoproct fused with proctiger, apically setulose (Fig. 104). Lateral surstylus broad and strongly protruding beyond epandrium (Fig. 104). Medial surstylus short, apically hatchet-shaped, setose ventrally at apex; basal structures pointed and long (reaching more than half way up to proctiger). Apical-sac of distiphallus small.

Variation: ♂ Body length 2.6–3.0 mm, wing length 2.9–3.2 mm. ♀ Body length 3.4 mm, wing length 3.6 mm. ♂ Paratype with head smaller and genal extensions less well developed than in Holotype. T_{1+2} has broad medial band of pale cream rather than two hemispheres on posterior margin found in Holotype and ♀ paratype. ♀ Paratype lacks expanded genal lobes and has a subvibrissal row black continuous with genal setulae.

Material examined: **Holotype**: MOÇAMBIQUE: ♂ (NMSA) "GORONGOZA MOUNTAIN [18°30'S; 34°03'E] / MANICA-SOFALA DIST. / PORT. EAST AFRICA / 840 M. GALLERY FOREST / SEPT 1957. STUCKENBERG", [printed on white card]; "HOLOTYPE / [thick horizontal line] / *Gorongosia angulata* / STEYSKAL" [hand written on dark red card; manuscript name not previously published (**nomen nudum**)]; "HOLOTYPE / *Cladoderris cnephosa* / sp. nov. ♂ / Det. WHITTINGTON" [first and last lines printed, middle two hand written on red card]. Double mounted and in good condition; genitalia dissected and stored in glycerine, in a microvial pinned with the specimen.
Other material — **Paratypes**: MOÇAMBIQUE: 1♂ 1♀ same data as holotype (♂ NMSE; ♀ NMSA).

Discussion. Clearly distinguished from the other three species by the shape of the palp, colour of the face and form of the male genitalia.

The manuscript name "*Gorongosia angulata* / STEYSKAL" has not been previously published. Unfortunately, it has had to be quoted here from the label data thus creating a nomen nudum. DR STEYSKAL evidently believed these specimens to represent a new genus, based on the curvature of R_{2+3} (STEYSKAL unpublished manuscript). His unpublished key to Platystomatidae placed this genus near to *Plastotephritis* and *Conopariella*. Now that new material is available for *Cladoderris*, however, it is clear that the three specimens from Gorongoza Mountain belong to *Cladoderris* and in any case belong to Agrochirini, not Plastotephritini.

Distribution. *Cladoderris cnephosa* is known only from the type locality in Moçambique. This is the southern most point of distribution in this genus (Fig. 684).

Cladoderris convexa sp. nov.

(Figs 106–118, 684)

Diagnosis. Clypeus rounded, sometimes with slight apical notch. Palp parallel for full length. Thoracic pleurites pale. Brown pattern on wing comprised of narrow lines along and at 45° to veins, leaving broad spaces of hyaline membrane between the brown lines. Proctiger conspicuous, subsquare. Hypoproct stout and apically setulose. Lateral surstylus slender and weakly formed, lacking basal lobe

Etymology. *Convexa* L. f. = convex; referring to the distinctly rounded clypeus.

Description
Dimensions: ♂ Holotype. Body length 3.5 mm; wing length 4.2 mm. **Colour/Vestiture**: As for generic description. Wing pattern as in Fig. 113.
Head: As for generic description, but clypeus rounded (Figs 106–110). Gena not laterally expanded in Holotype (Fig. 106); gena depth twice width of flagellomere 1 (Figs 106–109). Setae – as for generic description; seta on pedicel inserted basally, long, reaching beyond base of arista (Figs 106–109). Palp narrow, noticeably long and apically rounded (Figs 106–109).

Thorax (Fig. 111): As for generic description. Setae as for generic description. Hind trochanter rectangular, spur curved, dorsal knob subsquare and basally positioned on trochanter (Fig. 112). R_{2+3} evenly curved and R-M distally positioned on dm (Fig. 113).
Abdomen: As in generic description. Genitalia (♂) – Sternite 5 fragmented into two, S_7 narrow medially (Fig. 114). Epandrium trapezoid (Fig. 115). Proctiger conspicuous, subsquare, covered with microtrichia (Fig. 115). Hypoproct stout and apically setulose (Fig. 115). Lateral surstylus short and slender, without a dorsal spur, setose apically. Medial surstylus complex – apex of outer arm strongly bilobed, enlarged and sclerotised, inner arm curved upwards apically (hatchet shaped), basal structures pointed and long (reaching more than half way up to proctiger) (Figs 115 & 116). Apical-sac of distiphallus finely marked with concentric furrows, caeca small (Fig. 117). Glans with a basal caeca opposite position of caeca on apical sac (Fig. 117).

Variation: ♂ Body length 3.5–4.0 mm, wing length 3.7–4.4 mm. ♀ Body length 2.9–3.4 mm, wing length 3.1–3.6 mm. Seta on pedicel variable – in some specimens it is short and dark brown. Extent of brown stripes and marks on thorax (Fig. 111), legs and abdomen varies considerably. Lateral elongation of gena in male specimens is also variable (Figs 106 & 108). There are small variations in the distribution of brown colour comprising the wing pattern.

Material examined: **Holotype**: KENYA: ♂ (TAUI) "KENYA / Kakamega / Forest [00°16'N; 34°53'E], 11.V.1991, A. FREIDBERG & FINI KAPLAN" [printed on white card]; "HOLOTYPE / *Cladoderris convexa* / sp. nov. ♂ / Det. WHITTINGTON" [first and last lines printed, middle two hand written on red card]. Double mounted on small plastic cube. In good condition. Genitalia dissected and stored in glycerine, in a microvial pinned with the specimen.
Other material — **Paratypes**: UGANDA: 1♀ Namanve [00°21'N; 32°40'E; ca. 1000–1500 m], 4.x.1934, J.FORD, N.126 (BMNH). CONGO: 2♂♂ 1♀ Brazzaville [04°14'S; 15°14'E; ca. 200–500 m], 6.iii.1986, A. DELOBEL (TAUI) [1♂ and the ♀ also have "ORSTOM" on the label].

Discussion. *Cladoderris convexa* is clearly distinguished from *C. silvestrii* by the rounded clypeus, enlarged hypoproct and shape of the lateral surstylus and basal processes of medial surstylus. Both species are distinct from the other two species by the wing pattern and male genitalia.
Namanve is a swamp situated in Mengo district of central Uganda, west of Kampala (EGGLING 1935).

Distribution. *Cladoderris convexa* is Central and East African, having been collected in Congo, Uganda and Kenya (Fig. 684).

Cladoderris ornata sp. nov.

(Figs 119–129, 684)

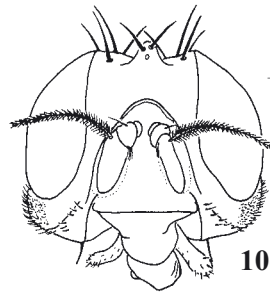
Diagnosis. Face pale cream. Clypeus pointed. Palp narrow and parallel for full length, completely pale cream throughout. Thoracic pleurites pale cream. Brown pattern on wing comprised of broad bars across and between veins, leaving restricted spaces of hyaline membrane between the brown bands resulting in a broadly brown effect. Lateral surstylus broad and stout, not protruding beyond epandrium. Aculeus broad and tip of aculeus broad and blade like, not fully retracted into sheath.

Etymology. *Ornatus* L. a. – equipped, embellished; referring to the elaborate patterns on the wing and notum.

Description
Dimensions: ♂ Holotype. Body length 2.7 mm; wing length 3.8 mm. **Colour/Vestiture**: as for generic description. Most of mediotergite immediately below scutellum is brown. Brown markings of wings

Caption to the figures on next page

Figs 106–118: *Cladoderris convexa* sp. nov. ♂ Holotype and ♂ & ♀ Paratypes. – **106**: Male holotype head, frontal view; – **107**: Male holotype head, profile; – **108**: Male head, variation, frontal view; – **109**: Male head, variation, profile; – **110**: Male head, variation, dorsal view; – **111**: Thorax, dorsal view; left = holotype, right = variation, ♀ paratype; – **112**: Male right hind trochanter, inner surface; – **113**: Right wing, dorsal view; – **114**: Male abdominal sternites 4, 5 & 7, ventral view; arrow = dissociated fragments of S_5, S_4 = Sternite 4, T_4 = Tergite 4; – **115**: Male genitalia, left lateral view; – **116**: Male genitalia, apical view; – **117**: Male genitalia, detail of glans, left side; – **118**: Female ovipositor.



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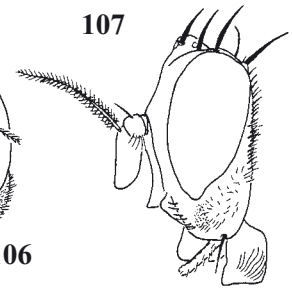

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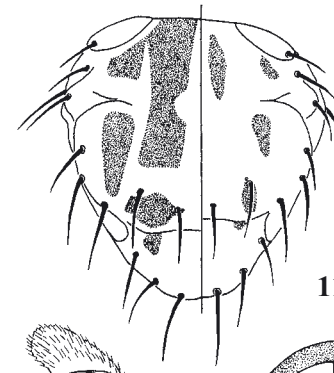

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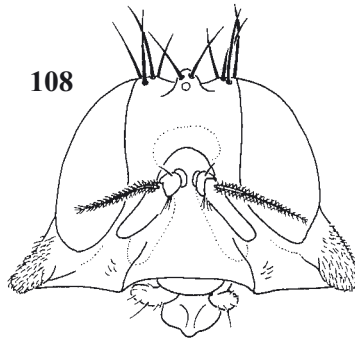

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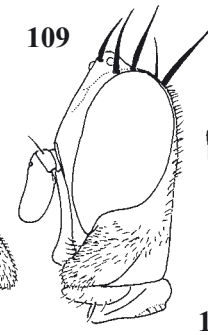

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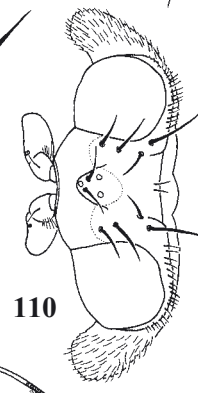

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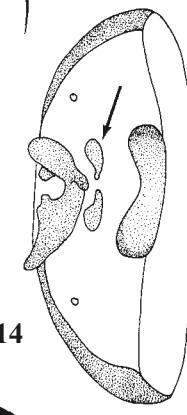

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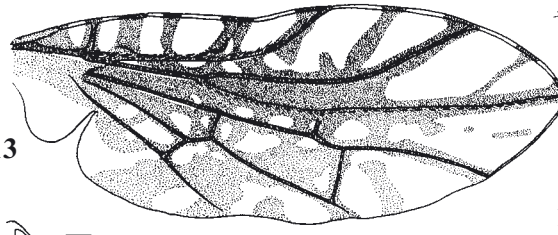

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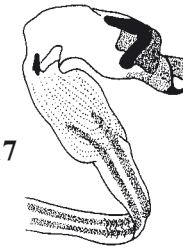

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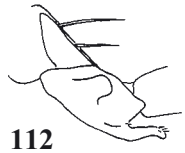

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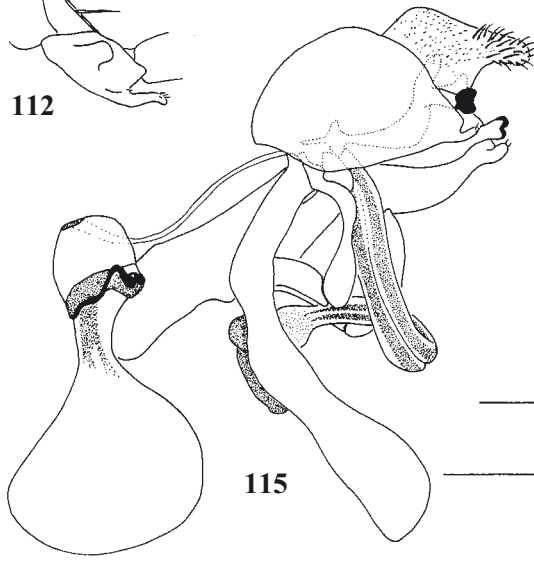

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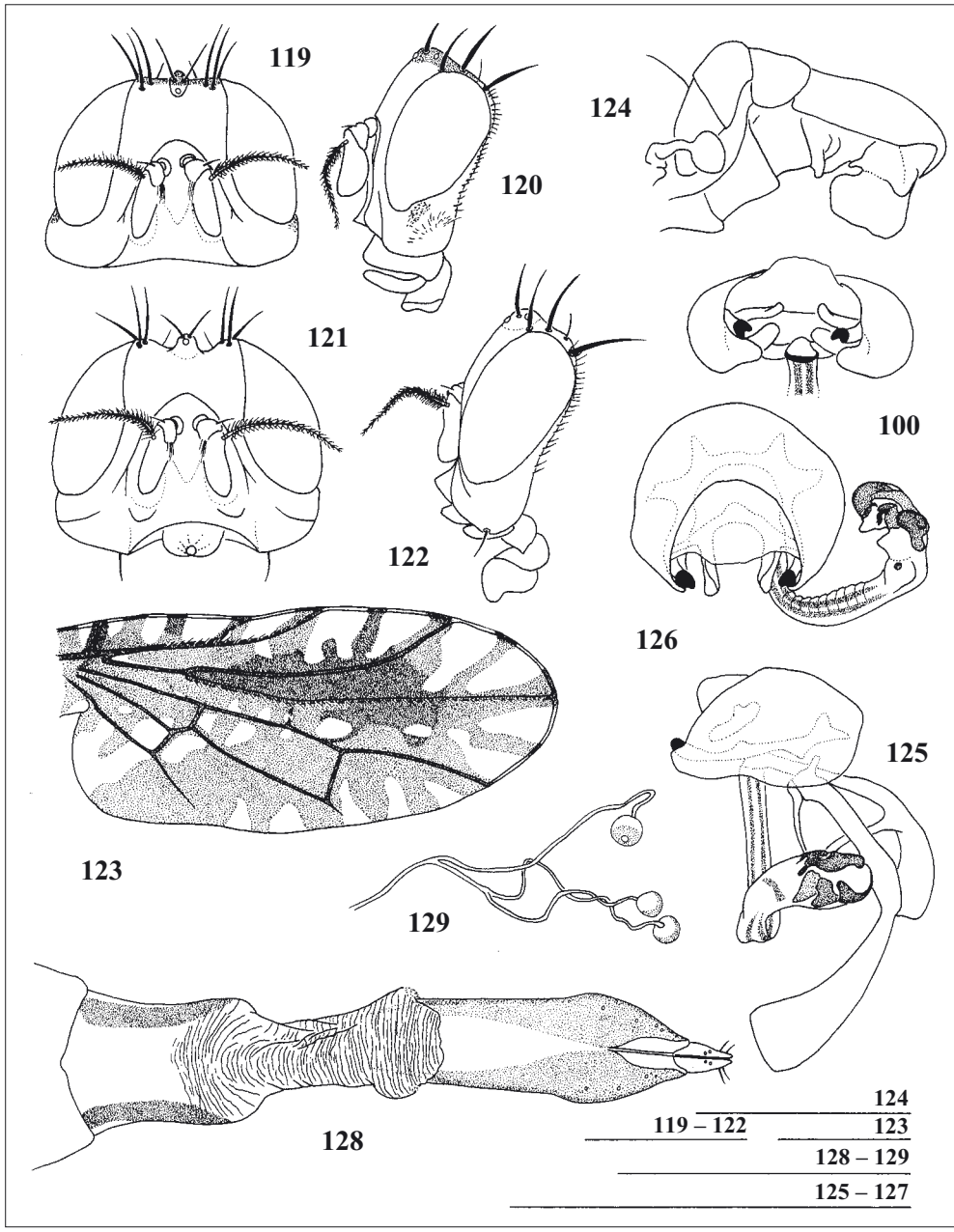


Figs 119–129: *Cladoderris ornata* sp. nov. ♂ Holotype and ♀ Paratype. – **119**: Male head, frontal view; – **120**: Male head, profile; – **121**: Female head, frontal view; – **122**: Female head, profile; – **123**: Right wing, dorsal view; – **124**: Male abdomen, left lateral view; – **125**: Male genitalia, right lateral view; – **126**: Male genitalia, dorsal view; – **127**: Male genitalia, apical view; – **128**: Female ovipositor; – **129**: Spermathecae.

bold, filling much of the wing (hyaline spaces reduced) (Fig. 123). Silvery vestiture obvious adjacent to inner margin of eye and in middle of face immediately below antennae.

Head: As for generic description. Subsquare (gena not extended) (Fig. 119). Lateral ocellus in line with first orbital seta (Figs 120 & 122). Clypeus pointed (Fig. 121). Depth of gena twice width of flagellom-

ere 1 (Figs 119–122). Setae ö as for generic description, but medial verticals distinctly weak; genal seta indistinct (distinguished from surrounding hair because it curves toward lower facial margin, while surrounding setulae curve away from lower facial margin).
Thorax: As for generic description. Setae as for generic description, but having two anepisternal setae. R_{2+3} evenly curved and R-M approximately midway along dm (Fig. 123).
Abdomen: As in generic description. Genitalia (♂) – Epandrium trapezoid, protruding pendulously ventral to T_4 (Figs 124 & 125). Proctiger small, triangular (Fig. 125). Hypoproct weak. Lateral surstylus short but stout, but not protruding beyond epandrium (Fig. 125). Medial surstylus complex – apex of outer arm strongly bilobed and sclerotised, inner arm curved upwards apically, square, but laterally scooped, basal structures pointed and short (reaching less than half way up to proctiger) (Figs 125–127). Apical-sac of distiphallus small, caeca reduced (Fig. 126).

Variation: ♀ Body length 3.2 mm; wing length 4.2 mm. Ovipositor having wrinkles on apical half of eversible ovipositor membrane more distinctly defined than in other species of this genus and with aculeus broadly blade-like and sharp at apex (Fig. 128). Aculeus tip with four distinct apical setulae (Fig. 128). Three rounded spermathecae (Fig. 129).

Material examined: **Holotype**: CAMEROUN: ♂ (TAUI) "CAMEROON / Bambalang, 1200 m / Off Rt. N11 / 35 Km E. Bamenda [05°55'N; 10°09'E] / 18, 21.xi.1987 / Amnon FREIDBERG"; "HOLOTYPE / *Cladoderris ornata* / sp. nov. ♂ / Det. WHITTINGTON" [first and last lines printed, middle two hand written on red card]. Double mounted. Genitalia dissected and stored in glycerine, in a microvial pinned with the specimen.
Other Material — **Paratype**: CONGO: ♀ (MNHN) "MUSEUM PARIS / Rep. Pop. Congo / L. Matile" [printed on pale blue card]; "POOL FORÊT DE / MANDIÉLÉ [near Brazzaville 04°14'S; 15°14'E; dense humid forest (Dr L. MATILE *in litt.* 26 March 1998)] 600 m / 6.x.1975" [printed on pale blue card].
Excluded from paratype series – ZAÏRE: 1♀ Eala [00°02'N; 18°22'E; ca. 200–500 m], vii.1936, J. GHESQUIÈRE (KBIN); 2♂♂ 1♀ (all teneral) Sankuru [=river] Kondue [04°57'S; 23°21'E], [no date], ED. LUJA (MRAC).

Discussion. Clearly distinguished from the other species in this genus by the male and female genitalia. The presence of a second anepisternal seta is unusual, but occasionally occurs in Plastotephritinae and may only be an aberration.

The vastly different shape of the aculeus of *C. ornata* compared to that of the other three species is an indication of the different ovipositional régimes operating in these species.

Distribution. *Cladoderris ornata* is known only from Cameroun and Congo (Fig. 684).

Cladoderris silvestrii BEZZI, 1914

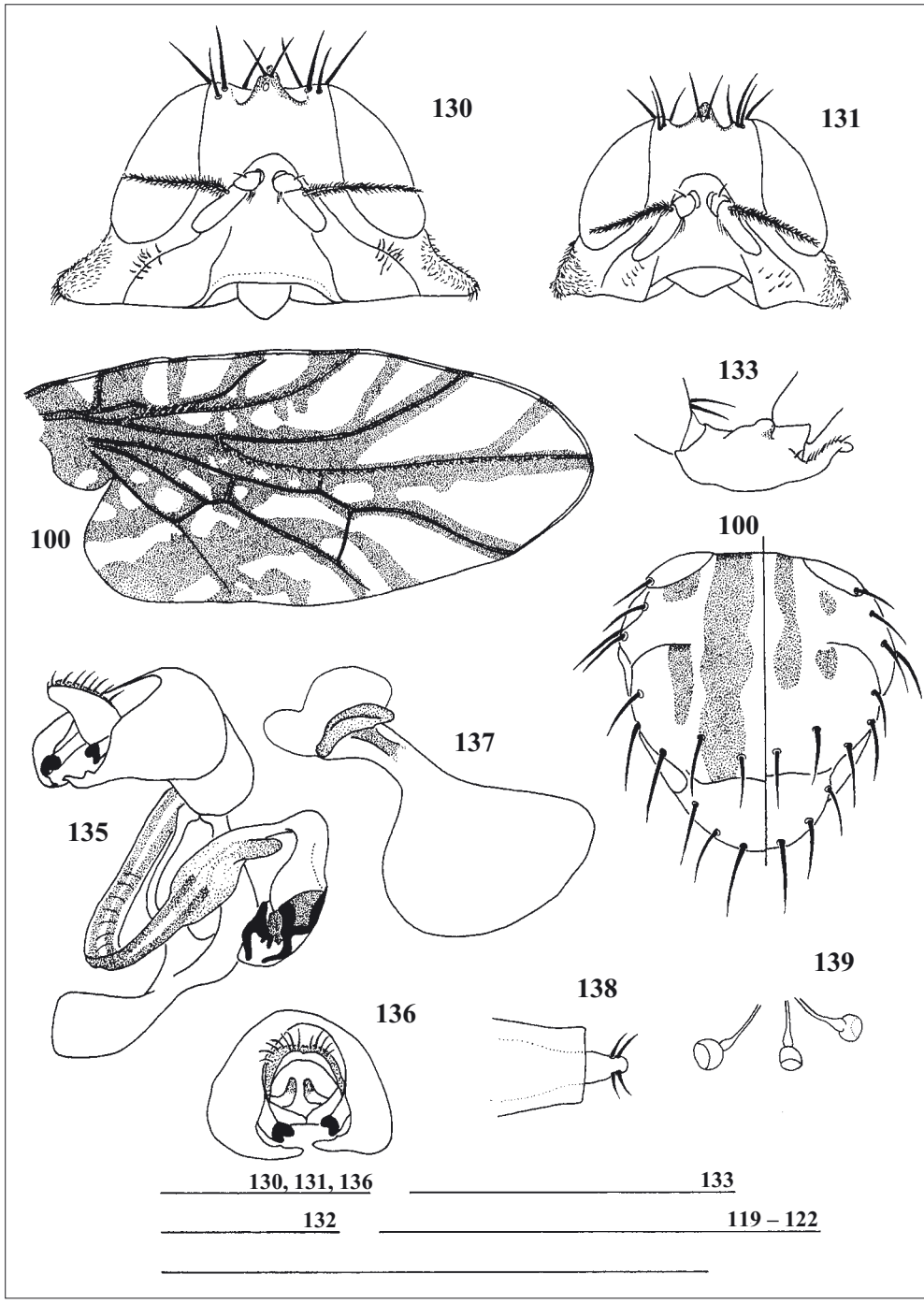
(Figs 130–139, 684)

***Cladoderris silvestrii* BEZZI, 1914** – BEZZI (1914: 305, Fig. III.) [description]. STEYSKAL 1980: 564 [catalogue].

Diagnosis. Clypeus pointed. Palp parallel for full length. Thoracic pleurites pale. Brown pattern on wing comprised of narrow lines along and at 45° to veins, leaving broad spaces of hyaline membrane between the brown lines. Proctiger inconspicuous, hypoproct elongate, setulose along lateral margin. Lateral surstylus slender with a dorsal, triangular, basal lobe.

Etymology. *Silvestrii* – named by BEZZI after PROFESSOR F. SILVESTRI.

Description
Dimensions: Type not examined, description based on Nigerian ♂. Body length 3.4 mm; wing length 3.7 mm. **Colour/Vestiture**: As for generic description. Wing pattern narrow radiate (Fig. 134).
Head: As for generic description, but clypeus pointed (Figs 130 & 131). Gena depth twice width of flagellomere 1 (Fig. 130). Setae as for generic description; seta on pedicel inserted basally and long, reaching to base of arista.
Thorax (Fig. 132): As for generic description. Setae as for generic description. Hind trochanter rectangular, spur curved, dorsal knob subsquare and apically positioned on trochanter (Fig. 133). R_{2+3} evenly curved and R-M distally positioned on dm (Fig. 134).
Abdomen: As in generic description. Genitalia (♂) – Epandrium trapezoid (Fig. 135). Proctiger reduced, not visible above sides of epandrium (Fig. 135). Hypoproct elongate and curved, apically setulose (Fig. 135). Lateral surstylus slender, triangular dorsal spur at mid-point, asetose apically (Figs 135



Figs 130–139: *Cladoderris silvestrii* BEZZI, 1914. ♂ & ♀ specimens. – **130**: Male head, frontal view; – **131**: Male head, variation, frontal view; – **132**: Thorax, dorsal view, range of variation shown on two halves; – **133**: Male right hind trochanter, inner surface; – **134**: Right wing, dorsal view; – **135**: Male genitalia, right lateral view; – **136**: Male genitalia, apical view; – **137**: Ejaculatory apodeme, lateral view; – **138**: Female genitalia, tip of aculeus *in situ*; – **139**: Spermathecae.

& 136). Medial surstylus complex – outer arm apically bilobed and strongly sclerotised, inner arms linear, almost meeting medially below basal structures; basal structures stout (reaching about one third way up proctiger) (Figs 135 & 136). Apical-sac of distiphallus finely marked with concentric rows of fine punctures, apical caeca elongate (Fig. 135).

Variation: ♂ Body length 3.4–3.5 mm, wing length 3.5–3.7 mm. ♀ Body length 3.1–3.2 mm, wing length 3.4–4.0 mm. Seta on pedicel variable – in some male specimens it is short and dark brown. Colour of notum and extent of brown stripes and marks on thorax (Fig. 132), legs and abdomen varies considerably. In some specimens notum is silver grey and covered with silver vestiture. Lateral elongation of gena in male specimens is also variable (Figs 130 & 131).

Material examined: **Syntypes**: Not examined. GHANA: ♂ and ♀ Aburi [05°53'N; 00°09'W; ca. 200–500 m], 17.I.1913, F. Silvestri (Bezzi, 1914).
Other material – GHANA: 1♀ Tafo [06°15'N; 00°20'E; ca. 200–500 m], 10.vi.1943, H.E. Box (bmnh). NIGERIA: 1♂ 4m[iles] NW of Agege [06°14'N; 03°39'E, ca. < 100 m], Lagos State, 11.iii.1973, M.A. Cornes, nmw.z 1981–001, specimen number 1061 (nmwc) [used for description in place of type]; 1♂ Ibadan [07°23'N; 03°56'E; ca. 100–200 m], 11ta, 14.xii.1987, A. Freidberg (taui).

Discussion. *C. silvestrii* is clearly distinguished from the other species in this genus by the combination of the shape of the clypeus, pattern of wing membrane and by the form of the male and female genitalia. The original Bezzi type specimens could not be located – they are not among the Bezzi Diptera in Museo Civico di Storia Naturale di Milano (*in litt.* Dr C. Leonardi, 23 November 1998), nor are they in the Silvestri collection in the Instituto di Entomologia Agraria di Portici (*in litt.* Prof E. Tremblay, 17 April 1998). I have no evidence to suggest that the types are actually destroyed and assume them to be merely mislaid or not located. Thus, in agreement with the restraints of Article 75 (International Commission on Zoological Nomenclature 1999) I refrain from designating a Neotype for the time being. In the absence of the syntypes, the identity of the specimens from Ghana and Nigeria are based the description and illustrations given by Bezzi (1914). He clearly indicated the clypeus as pointed and the wing pattern of the narrow radiate form, thus confirming the diagnosis for West African specimens.

In *Cladoderris*, the genal width reaches its maximum in *C. silvestrii*. This is the result of the expansion of the area of the face which is between the extended ptilinal fissure (which continues to the lower facial margin) and the facial suture (Figs 130 & 131). There is a resultant compression of the parafacial area between this new sclerite (the frontogenal sclerite) and the eye margin. The face itself seems to remain relatively unchanged.

Distribution. *Cladoderris silvestrii* is a West African species known from Ghana and Nigeria (Fig. 684).

Conopariella Enderlein, 1922.

***Conopariella* Enderlein, 1922–** Enderlein (1922: 12) [description]. **Type species**: *Conopariella acutigena* Enderlein, 1922, by original designation. Frey (1932: 257) [key], 260 [discussion + key to species]; Steyskal (1980: 564) [catalogue].

= ***Anaphalantias* Enderlein, 1922 –** Enderlein (1922: 14) [description]. **Type species**: *Anaphalantias picipennis* Enderlein, 1922, by original designation. Frey (1932: 260) [synonymy]; Steyskal (1980: 564) [catalogue].

Diagnosis[1] : Arista plumose. Gena in males laterally expanded. Medial vertical setae reduced and hair-like, often indistinguishable from post-ocellar row. Postpronotal seta absent, notum with postsutural acrostichals present. Two pairs of scutellar setae. Setulae present ventrally on R_{2+3} and/or on M, in addition to setulae dorsally along length of R_1 and R_{4+5}; row of setulae sometimes (seldom) present dorsally along Cu. Wing membrane generally dark brown with hyaline spots and incisions. Medial surstylus of ♂ genitalia, hooked and sickle shaped or with an extended apical lobe. Stem of medial surstylus without outward projecting hook; [♂ Body length 3.0–5.6 mm; wing length 3.0–6.3 mm; ♀ body length 2.9–6.1 mm; wing length 2.9–6.3 mm].

Etymology. *cono* – derived from *κονοσ – konos* Gr. m. = cone, and *παριο – pario* (from *pareion*) Gr. neuter = cheek and the diminutive suffix *-ellus* in the feminine form of endearment, hence -ella; i.e. "little cone cheek" compared to the "larger cone cheek" (*Pterogenomyia* Hendel, 1914). Gender feminine.

Description

Dimensions: ♂ Body length 3.0 – 5.6 mm; wing length 3.0 – 6.3 mm; ♀ body length 2.9 – 6.1 mm; wing length 2.9 – 6.3 mm. **Colour/Vestiture**: Body colour almost completely brown or generally pale yellow-ochre with dark brown markings; wings completely brown or wing membrane mostly dark brown with hyaline spots and incisions. Eyes reddish-brown. Antennae buff to yellowish-brown. Frons frequently tinted with orange of buff adjacent to ptilinal fissure. Setulae on extended male gena dense, brown and a mixture of two distinct lengths (very short and long). Subvibrissal setulae black, brown or pale yellow; sometimes a mixture of dark setulae on ventral portions and pale setulae dorsally. Tibiae brown to dark brown; tarsi orange-brown. Subalar sclerite dark brown and densely covered with velvet-like pubescence. Calypter smoky grey with dark brown margin and marginal fringe of long, black setulae. Abdomen pale on T_{1+2}, black or dark brown beyond. Pleurites of abdomen concolourous with sternites. Female oviscape concolourous with distal segments of abdomen, thus contrasting ventrally with pale sternites and pleurites. Silver microtrichia weak and difficult to discern; most noticeable on thoracic pleurites (view from and acute angle from below) and over dark coloured areas.

Head: Elongate and anteroposteriorly compressed (slightly more so in males than in females), vertex much narrower than thorax. Face indented slightly under antennae, but lower facial margin projecting only a little at margin. Low, poorly developed tubercle present below antennal grooves, which are shallow. Eyes elongate, oval. Frontogenal and ptilinal fissures not meeting, usually separated by distance equal to approximately half width of flagellomere 1. Frons narrowing dorsally. Ocellar triangle elongate, positioned forward of orbitals. Lunule equal to vertical dimension of scape. Antennae pendulous, scape set dorsal to midway down length of head; arista long plumose – longest setulae as long as flagellomere 1 is wide and arranged in five series, with dorsal and ventral series longest, the others protruding at equal angles in between (two on inner surface and one on outer surface). Pedicel with a latero-ventral fringe of long brown to yellowish setulae. Middle of vertex slightly sunken below level of top margin of eye. Gena shallower than distance between apex of antenna and lower facial margin. Postgena slightly swollen, roughly equal to width across the lower quarter of eye. Palp flattened, strongly setose. Supracervical setulae evenly spaced, silver in colour. Setae: 1 pedicel, 1 divergent (slightly reclinate) ocellar, 1 parallel – to – divergent post-ocellar, 2 reclinate orbitals (anterior one slightly more robust), 1 vertical, 1 strong genal (present in ♀ only). Postocular row distinct, merging distally with background setation on gena and continuing dorsally adjacent to post-ocellars.

Thorax: Setulae short, recumbent, and quite dense, generally silver-white, but black over dark body parts; strongly developed on posterior margin of mesonotum, centre of anepimeron, ventral parts of katepisternum and coxae. Notum longer than broad, broadest across anepisternum. Anepisternal phragma evident in some species. Katatergite slightly bulging. Margin between katatergite and anatergite usually defined by broad but shallow furrow. Posterior spiracle close to base of halter. Setae strong and well developed: 2 notopleural (posterior one raised on callus), 1 supra-alar, 1 postalar, 1 intra-alar, 1 postsutural dorsocentral, 1 postsutural acrostichal, (both latter along posterior margin of scutum), 1 lateral and 1 apical scutellar; 1 tegular (plus some smaller strong, black setulae). Scutellum asetulose. **Legs**: Fore coxa with 2 long pale apical setae; mid coxae with single long dorsal setae. Mid coxal prong pointed at apex, curved throughout length. Mid coxa developed into a flat fringe, which curves ventrally under trochanter a short way and is strongly setose at apex. Mid tibia with strong ventral pre-apical seta longer than width of apex of tibia. Setulae of legs pale (sometimes black on tibiae), conspicuous and long baso-laterally on fore femur and dorsally on apex of

final tarsomere, curving over apex in front of the claws. Ventral setulae of tarsomeres slightly stouter and denser than other setulae on legs, apical two or three tarsomeres of fore and mid legs with short black preapical setulae across latero-ventral margins, most strongly developed on middle leg. Empodium setiform, small and inconspicuously situated between large, pale pulvilli. Claws strongly developed, setose on basal half. **Wing**: Costa with pre-humeral, humeral and subcostal weakenings (but no distinct breaks); pre-humeral weakening marked by stronger setulae basad and weaker setulae apicad. Subcosta sinuous, ending in swelling, evanescent beyond swelling and toward costa (occasional specimens have an entire subcosta); Sc-R spur often partially present. R_{2+3} slightly sinuous; and M arcing forward slightly after dm, before curving to posterior to terminate at wing margin. Setulae dorsally on entire length of R_1 and R_{4+5}; ventrally on basal three quarters of R_{2+3} (if present) and middle portion of M from just before R-M to just beyond end of dm; some species with setulae dorsally on all or part of Cu. First basal cell (br) narrowed slightly at midpoint by in-curving R_{4+5}. Discal cell (dm) broader distally than basally, slightly curved along anterior margin at junction with R-M.
Abdomen: Ovate, broadest across margin between T_{1+2} and T_3. Sternites narrow, about one third width of tergites. Pleurites membranous. Male genitalia – Short dorsal spur midway along S_7. Epandrium rounded to subsquare; proctiger membranous, having many short setulae. Medial surstylus apically hooked and sickle-shape, usually fused to lateral surstylus on outer bend of "sickle". Base of ejaculatory apodeme membranous, large and bulbous. Distiphallus, phallapodeme and hypandrium strongly sclerotised; distiphallus short and stout. Glans encapsulated by two interlocking lateral sclerites, with basal caeca and apical visica. Ovipositor – T_6 reduced to a narrow slightly sclerotised strip or completely absent. T_6 and oviscape tucked under T_5. Oviscape conical, shorter dorsally than ventrally; ovipositor short; eversible membrane ornamented on apical half with fine, parallel but curved wrinkles; aculeus blade-like; aculeus tip pointed apically, finely ornamented with setulae on main body and 2 – 5 long apical setulae on each side. Three rounded spermathecae; spermathecal ducts arranged in a 2+1 sequence.

Included species:
Conopariella acutigena Enderlein, 1922
Conopariella albitarsis (Enderlein, 1922)
Conopariella cidara **sp. nov.**
Conopariella conspicua Frey, 1932
Conopariella crenata Enderlein, 1922
Conopariella exigua **sp. nov.**
Conopariella paucifenestrata (Steyskal, 1963) **comb. nov.**
Conopariella picipennis (Enderlein, 1922)
Conopariella steyskali **sp. nov.**
Conopariella tibialis (Hendel, 1914)
Conopariella togoensis Enderlein, 1922
Conopariella ustulata **sp. nov.**

Discussion. Generic diagnosis – The *Conopariella–Federleyella* generic group is easily distinguished from other genera in the Plastotephritinae, by the following subset of characters:

Arista plumose; medial vertical setae reduced and hair-like, often indistinguishable from post-ocellars; postpronotal seta absent; 2 pairs of scutellar setae; setulae present ventrally on R_{2+3} and/or on M, in addition to setulae dorsally along length of R_1 and R_{4+5}; wing membrane generally dark brown with hyaline spots and incisions.

Although this diagnosis is straight forward, caution is required in the separation of the two genera. FREY (1932) used the dilation of the gena to differentiate the genera, but this has proven to be difficult to evaluate, since this character occurs in varying degrees in both genera. He does note, however, that the use of the position of the R-M crossvein by ENDERLEIN (1922) is also unreliable, an opinion agreed with here, since this crossvein may be positioned either side of the midpoint of cell dm. These misleading characters are not used for diagnosis in this revision.

Diagnostic characters in the male genitalia clearly distinguish *Conopariella* from *Federleyella*. Males of *Conopariella* have the lateral surstylus elongate and narrower than in *Federleyella*, while only in the latter genus, is the epandrial-surstylar suture distinct. In *Conopariella* the medial surstylus is apically hooked, resulting in a sickle or zigzag shaped structure. This structure is completely absent in the medial surstylus of *Federleyella*, in which the apex is bifid. Furthermore, in males of *Federleyella* there is an outward and slightly basally projecting hook midway along the stem of the medial surstylus, that interlocks with a notch in the opposing wall of the lateral surstylus. This is absent in *Conopariella*, but there are sometimes small inward facing hooks, basally on the stem of the medial surstylus, which possibly articulate muscles for the distiphallus.

A further guide to some extent, but not completely satisfactory, is the status of setulae along Cu. In *Conopariella*, all but two species (i.e. *C. exigua* sp.nov. and *C. paucifenestrata* (STEYSKAL, 1963)) lack small setulae along all or part of Cu, while all species of *Federleyella* have them. These setulae are easily broken off, so care must be taken, in the absence of setulae, to evaluate the presence or absence of sockets along the wing vein.

Species diagnosis – Some species in *Conopariella* are sympatric in distribution and differences between species are frequently small, with a tendency for characters to merge from one species to another. Indeed, there are specimens, which are difficult to place in any one particular species, having character states from more than one species. A confusing array of morphological plasticity of this nature can only be resolved by taking the overall balance of characters into account.

Previous keys (FREY 1932) relied heavily on wing colour patterns and width of the male gena. Even though ENDERLEIN (1922) provided no key to species, he clearly used wing colour patterns to distinguish his species. With the inclusion of new material and new species, use of wing patterns has been found to be generally misleading, because of the greater range of variation observed across a larger accumulation of material. Nevertheless, it does remain useful in certain cases (e.g. *C. exigua* sp. nov. and *C. picipennis* (ENDERLEIN, 1922) both have the membrane densely brown with few hyaline marks). FREY (1932) used the presence or absence of a hyaline spot beyond R-M in r_{4+5} to distinguish between two major groups within the genus. Although this character is useful to some extent, I have limited its use in the key below because it is highly variable in some species, to the extent that, for individual specimens the spot may be present on one wing, but absent on the other. Furthermore, teneral specimens with vague coloration or elongate hyaline marks (steaks along the wing) are difficult to place if wing pattern alone is relied upon.

The keys and diagnoses presented below attempt to overcome these shortfalls, but nevertheless have to make use of wing patterns in some instances, because of the scarcity and plasticity of remaining characters. For specimens of *C. picipennis*, the wing is always entirely brown beyond the apex of the subcostal vein and for specimens of *C. acutigena*, *C. crenata* and *C. togoensis* the wing membrane is always brown beyond R-M. Wings of *C. conspicua*, and *C. tibialis* all have spots within the membrane and/or incisions at the margins beyond the apex of Sc and beyond R-M.

The width of the gena in males is also variable. As has been clearly shown for other dimensions of the head, in other genera such as *Pogonortalis* DE MEIJERE, 1911 and *Achias* FABRICIUS, 1805 (D. K. MCALPINE 1975, 1979 & 1994), *Agrochira* ENDERLEIN, 1911 (this revision) and for *Clitodoca* LOEW, 1873 and *Phytalmodes* BEZZI, 1908 (*personal observation*). Although no behaviour traits are known for *Agrochira* and *Conopariella*, the character states show similar variation as those mentioned by D. K. MCALPINE (1975, 1979 & 1994) and suggest that agonistic behaviour may be present in these genera. Irrespective of behaviour, there is considerable variation within *C. tibialis* (for example), between the extremes of this character, thus rendering this character unsuitable for species diagnosis if taken in isolation. All males of *C. acutigena*, *C. conspicua*, *C. crenata*, *C. togoensis* and *C. ustulata* have extended genae, while no specimens of *C. exigua* and C. *picipennis* are modified in this way.

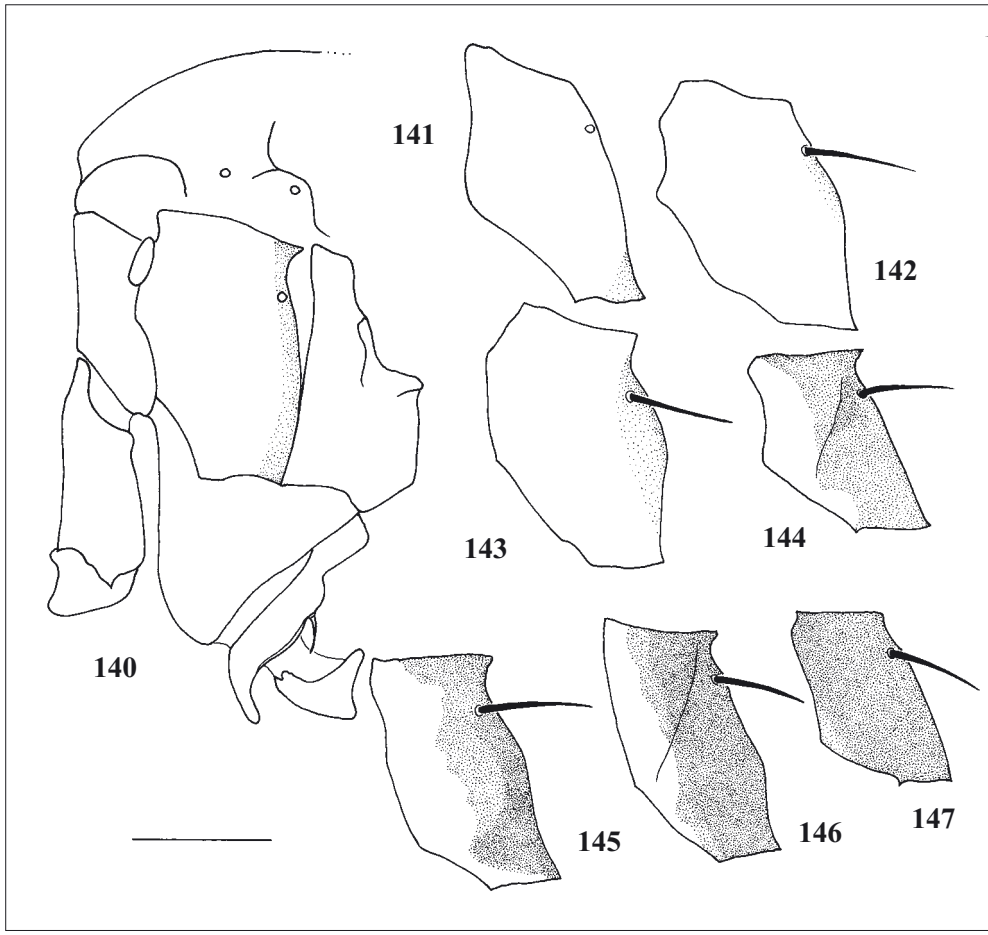
Neither ENDERLEIN (1922), nor FREY (1932) examined male genitalia, but even male genitalic character states are confusingly similar in some species. That said, these structures do have useful characters in this genus. The most diagnostic structures found in *Conopariella*, are those of the medial surstylus. *C. crenata* has the most remarkable medial surstylus, the apex of which is sharply pointed and extended beyond the apex of the lateral surstylus and can be clearly seen in undissected specimens. *C. exigua* has a similar, but more reduced and blunt apical extension, slightly dorsally positioned. In the remaining species, the apex of the surstyli is quite different, falling into two broad groups. The *tibialis*-group clearly exhibits the sickle shaped medial surstylus, with the inner portion double lobed ventral to the base of the sickle-shaped apex and variously setose. This group includes most of the species in this genus, namely: *C. acutigena*, *C. cidara*, *C. conspicua*, *C. paucifenestrata, C. picipennis*, *C. tibialis* and *C. togoensis*. The other, smaller, group includes *C. albitarsis* and *C. ustulata*, which has the apex of the inner portion folded over dorsally, giving the appearance of a lobe either side of the point of fusion between the sickle apex and basal parts.

The glans of many male specimens has an apical visica. This is frequently a lobe-like membranous sac, but there are specimens in which it is undeveloped or indistinguishable from the surrounding structures. The type specimen of *C. conspicua* and some males of *C. tibialis*, have a distinctly hooked visica. It is not clear whether these hooked visica are artefacts, being lobes which have been damaged during dissection and clearing; whether lobe like visica are really hooked in shape, but the tip has been caught up in the apex of the glans; or whether in fact, both conditions do occur. Furthermore, the visica can either be collapsed, ill formed or not clearly visible, because it is thin, membranous and unsclerotised. Since there are no supporting morphological characters to support a species concept based on these vesicular structures, I consider them to be too unreliable as a species diagnostic character.

The female genital apparatus are less distinctive in different species. One is therefore forced to fall back on gross morphology for species separation if only females are available, sometimes using characters, which at times seem flimsy or even trivial. The key needs to be carefully followed and used in combination with the diagnoses, descriptions of the species and illustrations. Attention should also be paid to the comments on variation for each species.

Further useful characters are present in the colour patterns on the anepisternum (Figs 140–147) and the shape of the scutellum. On the scutellum, the position of insertion of the setae is significant. The apical setae are closer together that the distance between them and the basal setae in *C. picipennis*, while in *C. conspicua* the basal setae are closer to the apical setae than to the base of the scutellum and might be better referred to as lateral setae.

Setulae and microtrichia are largely unhelpful in *Conopariella*. The colour of the subvibrissal row in any one of the species included here may be brown, black or pale coloured, or a combi-



Figs 140–147: Anepisternal patterns in *Conopariella* ENDERLEIN, 1922. – **140**: *C. crenata* ENDERLEIN, 1922, anterior thoracic pleurites showing relative size of anepisternum; – **141**: *C. exigua* sp. nov.; – **142**: *C. acutigena* ENDERLEIN, 1922, *C. picipennis* (ENDERLEIN, 1922) & *C. steyskali* sp. nov.; – **143**: *C. cidara* sp. nov.; – **144**: *C. togoensis* ENDERLEIN, 1922; – **145**: *C. conspicua* FREY, 1932; – **146**: *C. paucifenestrata* (STEYSKAL, 1963) & *C. tibialis* (HENDEL, 1914); – **147**: *C. albitarsis* (ENDERLEIN, 1922) & *C. ustulata* sp. nov.

nation of the lower setulae dark brown to black and the upper setulae pale. It must also be noted that *C. crenata* always has a black fringe to the apex of the pedicel as well as distinctive male genitalia. Based on the antennal fringe, females of *C. crenata* can thus be separated from those of other species.

Most species within *Conopariella* are not geographically isolated. Whereas *C. tibialis* is broadly distributed across most of the range of this Afrotropical genus, many species distributions are sympatric or overlapping. Thus geographic isolation is not a useful criterion here.

These unsatisfactory limitations to species identification in *Conopariella* cannot be further resolved until more collecting leads to a better understanding of the geographical limits and until information becomes known about the breeding biology, mating behaviour and feeding régimes of these species.

Distribution (Fig. 685): *Conopariella* is distributed widely across the Afrotropical Region, but with predominance in Central and West Africa.

Key to the species of *Conopariella*

1 Wing membrane dense brown without hyaline spots (except occasional faint costal marks and indefinite incisions on posterior margin, or streaks in cell m), wing membrane entirely brown in cell r_{4+5} beyond crossvein R-M **2**

– Wing membrane with distinct hyaline incisions and spots in various places along margin and/or across membrane, ranging from few spots (Fig. 163) to many spots (Fig. 234) ... **3**

2 Cu with no setulae; apical scutellar setae close together (distance between apical setae much less than distance between basals and apicals (Fig. 217)); anepisternum (Fig. 142) and katepisternum pale buff ..... ***C. picipennis* (Enderlein, 1922)**

– Dorsal surface of Cu with setulae; apical scutellar setae wide apart (distance between apical setae approximately equal to distance between basals and apicals (Fig. 202)); anepisternum (Fig. 141) and/or katepisternum with brown posterior margin .... ***C. exigua* sp. nov.**

3 Anepisternum entirely yellow (Fig. 142) **4**
Anepisternum at least partially brown along posterior margin (in some cases indistinct and restricted to small patch) (Figs 143) or more broadly brown (Figs 140 & 144) **5**

4 Large hyaline spot on wing membrane in cell r_{2+3}, in line with and touching spot in r_1 and r_{4+5} (Fig. 225) in addition to other spots on wing membrane and incisions along wing margin; ovipositor stout, taenia moderately stout and wrinkles on eversible membrane fine and indistinct (Fig. 226); tip of aculeus with three strong lateral setulae (Fig. 226) ..... ***C. steyskali* sp. nov.**

– No spots in r_{2+3}, nor r_{4+5} (Fig. 151); ovipositor elongate, taenia short, wrinkles on eversible membrane fine and dense, becoming finer distally (Figs 158 & 159); aculeus broad and blade-like, finely ornamented with setulae ventrally and aculeus tip with brush of four lateral setulae (Figs 158 & 159) ..... ***C. acutigena* Enderlein, 1922**

5 Basal scutellar seta closer to apical seta than to base of scutellum (i.e. laterally positioned) (Fig. 184) ..... ***C. conspicua* Frey, 1932**

– Basal scutellar seta closer to base of scutellum than to apical seta (Fig. 192) **6**

6 Anepisternum with isolated and poorly defined brown spot or mark centrally on posterior margin (Fig. 143); anepimeron mostly pale yellow-buff, occasionally an indistinct brown smudge present ..... ***C. cidara* sp. nov.**

– Anepisternum brown along full length of posterior margin (Figs 140), or more broadly brown (Figs 144 – 147); anepimeron mostly brown **7**

7 Black fringe of setulae at apex of pedicel; anepisternum weakly and indistinctly brown along posterior margin (Fig. 140); male surstyli with filamentous protrusions at apex (visible in unprepared specimens as spikes extended beyond apex of lateral surstylus) (Figs 196 & 197) ..... ***C. crenata* Enderlein, 1922**

– Pale yellow fringe of setulae at apex of pedicel; anepisternum distinctly brown along posterior half (Figs 144 – 147); male surstyli without filamentous protrusions at apex **8**

8 Dorsal surface of Cu with row of setulae along basal and distal portions (adjacent to bcu and dm respectively) (Fig. 210) [occasional specimens are found with setulae only along basal portion (adjacent to bcu)] ..... ***C. paucifenestrata* (Steyskal, 1963)**

– Dorsal surface of Cu without a row of setulae (Fig. 163) **9**

9 Ground-colour brown; only tarsi pale cream **10**

– Ground-colour pale yellow-ochre or dusty creamy-white to white with various brown marks **11**

10 Fore femur sparsely setose ventrally, with long setulae in a single series; wing membrane brown with basal hyaline spots in costal and subcostal cells and on posterior mar-

gin in anal cell, across bcu and bm into br (Fig. 163) ... ***C. albitarsis*** (ENDERLEIN, 1922)

– Fore femur densely setose ventrally, with long setulae in many series; wing membrane brown with hyaline spots basally as above, but also at apex of R_1, in r_{2+3} and r_{4+5} beyond R-M, in dm and cu_1 (Fig. 251) ..... ***C. ustulata* sp. nov.**

11 Ground-colour dusty creamy-white; hyaline incision at apex of R_1 small; wing membrane brown beyond R-M (Fig. 244); apex of glans with a medial carina-like visica (Fig. 247) ..... ***C. togoensis* ENDERLEIN, 1922**

– Ground-colour pale yellow-ochre; incision at apex of R_1 large, spot (variable in size) present in r_{4+5} beyond R-M (Fig. 234); apex of glans with rounded visica (Fig. 237) ..... ***C. tibialis* (HENDEL, 1914)**

Conopariella acutigena ENDERLEIN, 1922

(Figs 148 – 160, 685)

***Conopariella acutigena* ENDERLEIN, 1922** – ENDERLEIN (1922: 12) [description]. FREY (1932: 261) [key], pl. VII, fig. 28; STEYSKAL (1963: 133) [list]; STEYSKAL (1980: 564) [catalogue].

Diagnosis. Males with gena expanded, head triangular. Anepisternum entirely yellow. Basal scutellar seta closer to base of scutellum than to apical setae; apical seta closer to each other than to basal setae. Wing membrane entirely brown in cells r_{2+3} and r_{4+5}, marked with hyaline spots and incisions only along anterior and posterior margins basad of apex of Sc and at apex of R_1. Ovipositor elongate, taenia short, wrinkles on eversible membrane fine and dense, becoming finer distally. Aculeus broad and blade-like, finely ornamented with setulae ventrally and aculeus tip with brush of four lateral setulae.

Etymology. *Acutus* L. = sharp, pointed, *gena* L. f. = cheek; referring to the shape of the gena in males.

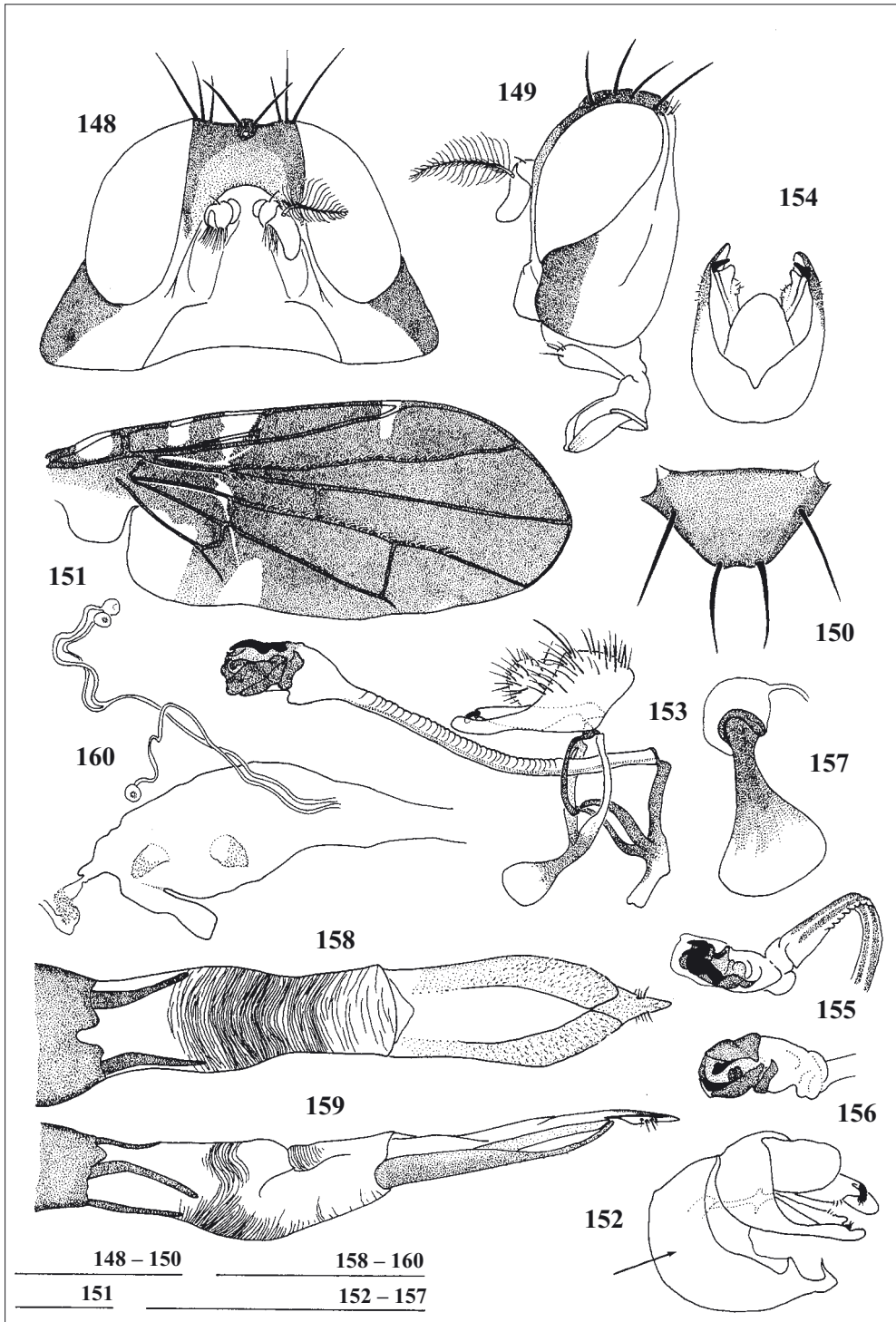
Description

Dimensions: ♂ Lectotype. Body length 5.7 mm; wing length 5.3 mm. **Colour/Vestiture**: Ground-colour pale yellow; frons pale brown, dark brown over ocellar triangle and gena, most of central notum, mediotergite, subscutellum, scutellum and distal three abdominal tergites. Notum pale yellow along lateral and posterolateral margins and in sutural cleft; anatergite pale yellow except brown along ventral margin and adjacent to mediotergite. Anepisternum entirely yellow (Fig. 142). Black setulae: at apex of palp and postocular row; brown setulae: on frons, postgena and gena (those on apex of gena dense and long); other setulae pale and inconspicuous; fringe of setulae on pedicel and subvibrissal setulae pale. Three pairs of postocellar setae. Pleurites, including postpronotum and notopleural callus pale yellow. Apex of femora and all tibiae dark brown; tarsi orange-brown, darker on distal tarsomeres. Wing membrane dark brown, with distinct hyaline incisions as follows: 1 pre-humeral and 2 post-humeral costal incisions; 1 incision at apex of R_1; 1 in each of anal and Cu cells; a vague incision at margin in m (Fig. 151). Veins mostly brown, pale in areas corresponding to pale membrane. Calypter smoky grey; margin brown. Silver microtrichia dense on thoracic pleurites and scutellum; present, but less obvious on face vertex, postgena and most of thorax. Bronze microtrichia on frons.

Head: Widest ventral to eyes, gena expanded laterally – dimension across gena more than three times width of frons – and curving forwards (Figs 148 & 149). Facial tubercles below antennae not pronounced. [Lectotype lacks flagellomere 1. and arista].

Caption to the figures on next page

Figs 148–160: *Conopariella acutigena* ENDERLEIN, 1922. ♂ Lectotype and ♂ & ♀ specimens. – **148**: Male head, frontal view; – **149**: Male head, profile; – **150**: Scutellum, dorsal view; – **151**: Right wing, ventral view; – **152**: Male genitalia, left lateral view; arrow = S_7 & S_8; – **153**: Male genitalia, right lateral view; – **154**: Male genitalia, dorsal view; – **155**: Male genitalia, detail of glans, left side; – **156**: Male genitalia, detail of glans, ventral view; – **157**: Male genitalia, ejaculatory apodeme, right lateral view; – **158**: Female ovipositor, ventral view; – **159**: Female ovipositor, lateral view; – **160**: Female, internal genitalic organs.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Thorax: Scutellum subtriangular, basal setae closer to base than to apical setae; apical setae closer to each other than to basal setae (Fig. 150). **Legs**: Mid tibial pre-apical seta as long as trochanter plus width of mid-coxa. Mid-coxal seta as long as mid-tibial spur. Wing (Fig. 151) — Pre-humeral and humeral weakenings distinct, subcostal weakening absent. Subcosta evanescent at angle, continued beyond angle to costa as a darkened band and slight fold in membrane. Sc-R spur short, not joining R_1. Flexion line cutting across apex of Sc and distinct throughout wing to cu, where it runs closely adjacent to Cu_2, which is evenly curved. Crossvein R-M slightly basad of middle of dm, evanescent in middle; crossvein BM-Cu evanescent basally; crossvein Cu-bm short (less than half the length of BM-Cu).
Abdomen: Genitalia (♂) — Sternites 7 and 8 fused (Fig. 152 – arrow). Epandrium subsquare (Figs 152 & 153). Proctiger broadly setulose. Lateral surstylus elongate, blunt at apex (Figs 153 & 154). Apex of medial surstylus finely setose ventrally; apex of sickle-shaped dorsal lobe sclerotised and with paired apical setulae (Figs 152–154). Distiphallus strongly annulated (Fig. 153). Basal caeca on glans small (Figs 155 & 156); apical visica weakly developed, with small knob-like apical lobe (Fig. 155). Ejaculatory apodeme, strongly sclerotised basally, basal lobe large and bulbous (Fig. 157).

Variation: ♂ Body length 3.5–5.6 mm, wing length 3.9–5.7 mm. ♀ Body length 4.3–5.2 mm, wing length 4.2–5.6 mm. In some specimens ground-colour may be almost white. Yellowish ground-colour may be suffused with magenta, especially on parafacials. In all male specimens examined, gena are laterally extended to beyond outer eye margin, (width up to twice subcranial cavity width). Arista length greater than width of frons; plumosity equal to width of flagellomere 1. Notum sometimes banded with brown, rather than completely dark brown and then centre of scutellum pale buff-brown. In darker specimens, anepimeron and anatergite are also dark brown. Subvibrissal setulae sometimes black on the lower portion and pale dorsally. Ovipositor — Elongate, taenia short (Figs 158 & 159). Wrinkles on eversible membrane fine and dense, becoming finer distally; aculeus broad and blade-like, finely ornamented with setulae ventrally (Figs 158 & 159). Aculeus tip pointed, with a brush of four laterally setulae (Figs 158 & 159). Spermathecae with apical invagenations (Fig. 160). Vagina with finger-like vesicle protruding from ventral surface and covered with fine microtrichia; ventral receptacle tube-shaped (Fig. 160).

Material examined: **Lectotype**: EQUATORIAL GUINEA: ♂ (ZMBH) "Span. Guinea / Alcu Benitogbt [=Benito – gebiet = district or region [01°34'N; 10°24'E]], / 16–31.VIII: 06 / G. Teß MANN S. G." [printed on blue label]; "Type" [printed on orange label]; "*Conopariella* / *acutigena* / Type ENDERL. ♂ / Dr.ENDERLEIN det 1920" [rectangular label, handwritten, but last line (except "20") printed]; "Zool. Mus. / Berlin." [printed on off-white label]; "Zool. Mus. / Berlin." [printed on yellow label]; "LECTOTYPE / *Conopariella* / *acutigena* ♂ / ENDERLEIN, 1922 / Det WHITTINGTON" [rectangular red label, first and last lines printed, middle three handwritten]. In poor condition; flagellomere 1 and vertical setae missing and wings torn, some fungus developing; genitalia dissected and stored in glycerine, in a microvial on the same pin.
Other Material — NIGERIA: 1♂ 1♀ Kagoro Forest [09°36'N; 08°23'E], 15–17.x.1971, J.C. DEEMING (NMWC). 1♂ Sarduana Prov., Gangume Forest Reserve [ca. 08°06'N; 12°00'E, 1000 m], 10.vii.1970 H. ROBERTS (NMWC). CAMEROUN: 1♂ Rt. N11, Bafut [06°06'N; 10°07'E, 1000 m], 20 km North of Bamenda [05°55'N; 10°09'E, 1000 m], 17, 24.xi.1987, F. KAPLAN (TAUI); 4♂♂ 1♀ Bambalang, off Rt. N11, 35km East of Bamenda [05°55'N; 10°09'E], 18.xi.1987, F. KAPLAN, 1200 m (TAUI; 1♂ NMSE); 1♂ Bambalang, off Rt. N11, 35km East of Bamenda [05°55'N; 10°09'E], 18,21.xi.1987, A. FREIDBERG, 1200 m (TAUI); 1♂ Lolodorf [03°17'N; 10°50'E; ca. 500 m], 20.xi.1914, A. I. GOOD (CMNH – also listed in STEYSKAL 1963). CENTRAL AFRICAN REPUBLIC: 3♂♂ La Maboké [03°54'N; 17°53'E], 29.ix.1967 & 26.viii.1970, L.MATILE, Forêt Galerie de Bébé (MNHN; 1♂ on 26 August is without habitat label data). ZAÏRE: 2♂♂ 1♀ P.N.G Aka [river, 04°35'N; 29°43'E], 15.v.1952, H. DE SAEGER, 3463 (MRAC); 2♂♂ 1♀ P.N.G Aka/2 [river, dense savannah, 04°35'N; 29°43'E], 22.v.1952, H. DE SAEGER, 3514 (MRAC); 1♂ P.N.G Dedegwa [river, 04°34'N; 29°43'E], 21.v.1952, H. DE SAEGER, 3499 (MRAC); 1♂ P.N.G. I/o/2 [Nagbarama River, savannah 04°21'N; 29°16'E], 13.ix.1950, G. DEMOULIN, 818, + 2♂♂ 2.xi.1950, H. DE SAEGER, 923 (MRAC); 7♂♂ 5♀♀ P.N.G. Makpe/8 [river source, 04°20'N; 29°34'E], 5.ix.1951, H. DE SAEGER, 2718 (MRAC; 1♂ 1♀ NMSE); 2♂♂ 2♀♀ P.N.G. PpK/60/d/8 [river headwaters, 04°10'N; 29°26'E], 18.xii.1951, H. DE SAEGER, 2942 (MRAC); 1♂ 3♀♀ P.N.G. II/fd/16 [confluence of Garamba and Nambirima rivers, 03°58'N; 29°23'E], 28.xi.1951, H. DE SAEGER, 2814 (MRAC); 1♂ P.N.G. II/gd/9 [riparian forest, 03°57'N; 29°23'E], 8.xi.1951 H. DE SAEGER, 2740 (MRAC); 1♀ P.N.G. II/id/8 [Nampume river valley 03°55'N; 29°23'E], 31.x.1951 H. DE SAEGER, 2708 (MRAC); 1♂ 2♀♀ P.N.G. PpK.12/d/9 [riparian forest, 03°47'N; 29°29'E], 2.i.1952, H. DE SAEGER, 2972 (MRAC); 1♂ Bambesa [03°25'N; 25°43'E], xii.1933, H.J. BRÉDO (MRAC); 1♀ Haut Uelé, Moto [ca. Watsa 03°02'N; 29°33'E], 1920, L. BURGEON (MRAC); 1♂ Eala [00°02'N; 18°22'E], ix.1953, J. GHESQUIÈRE I.G. 10.482 (KBIN); 1♂ 1♀ Sankuru [=river; 04°17'S; 20°25'E], iv.1925, J. GHESQUIÈRE, on fruits (MRAC); 7♂♂ 3♀♀ Sankuru [=river], Foret de Lonkala [04°37'S; 23°14'E], iii.1925, J. GHESQUIÈRE, fruits (MRAC; 1♂ 1♀ NMSE); 1♀ Bassin [05°00'S; 14°17'E], 1935,

De Seager (mrac); 1♂ Bassin Lukuga [05°00'S; 14°17'E], 1936, De Seager (mrac); 1♀ Albertville [=Kalémié 05°57'S; 29°10'E], xii.1918, R. Mayné (mrac); 2♂♂ Katanga, Lulua [=river], Kapanga [08°22'S; 22°37'E, ca. 200–500 m], ix.1932, F.G. Overlaet + 3♂♂ ii.1933, 1♂♂ 1♀ iv.1933, 1♂ 15.xi.1933, 4♂♂ 5♀♀ iv.1934 (mrac); 1♂ 1♀ P.N.U. R. Munte [08°40'S; 26°45'E], 16.v.1947, G.F. de Witte, 1480 m, 405a and 406a (mrac); 1♀ P.N.U. Reg. Confl. Mubale-Munte [ca. 08°40'S; 26°45'E], 13–18.v.1947, G.F. de Witte, 1480 m, 361a (mrac); 1♂ 2♀♀ P.N.U. Kabwoe sur Muye [09°00'S; 26°43'E], 26.iv–5.v.1948, G.F. de Witte, 1320 m, 1557a, 1567a (mrac); 1♂ same data 6–12.v.1948, 1577a (mrac); 1♂ 1♀ P.N.U. Kabwe [09°10'S; 22°02'E] s/Muye (affl. dr. Lufira [ca. 09°33'S; 27°02'E]), 16–19.v.1948 and 20–25.v.1948, G.F. de Witte, 1320 m, 1619a and 1639a (mrac); 1♂ P.N.U. Kabwe [09°10'S;22°02'E] s/Muye 16–25.v.1948, G.F. de Witte, 1320 m, 1628a (mrac); 1♀ P.N.U. Munoi bif. Lupiala (affl. dr. Lufira [ca. 09°33'S; 27°02'E]), 6–15.vi.1948, G.F. de Witte, 890 m, 1681a (mrac); 1♀ P.N.U. Kaziba affl. G. Senze s. (affl. dr. Lufira [ca. 09°33'S; 27°02'E]), 8–14.ii.1948, G.F. de Witte, 1140 m, 1274a (mrac); 1♀ Katanga, Lulua [=river], Sandoa [09°41'S; 22°56'E], 8.iv.1931, F.G. Overlaet + 3♀♀ 14.ii.1932 (mrac); 2♂♂ P.N.U. Dipidi [unknown co-ordinates, but within 08°–10°S; 27°–28°E], 22.iv.1947, G.F. de Witte, 1700 m, 303a (mrac); 1♂ P.N.U. River Dipidi [unknown co-ordinates, but within 08°–10°S; 27°–28°E], 22.iv.1947, G.F. de Witte, 1700 m, 308 (mrac); 1♀ P.N.U. Lusinga [conflicting co-ordinates, but within 08°–10°S; 27°–28°E], 25.iv.1947, G.F. de Witte, 1760 m, 316a (mrac); 1♀ P.N.U. R. Mubale [unknown co-ordinates, but within 08°–10°S; 27°–28°E], 6.v.1947, G.F. de Witte, 1480 m, 333a (mrac); 1♀ same data 14.v.1947, 366a (mrac); 2♀♀ P.N.U. Gorges de la Pelenge [unknown co-ordinates, but within 08°–10°S; 27°–28°E], 10–14.vi.1947 and 21.vi.1947, G.F. de Witte, 1150 m, 470a and 521a (mrac); 1♀ P.N.U. Munoi bif. Lupiala [unknown co-ordinates, but within 08°–10°S; 27°–28°E], 6–15.vi.1948, G.F. de Witte, 890 m, 1688a (mrac); 1♂ Mayumbe: Kinanga [conflicting co-ordinates], 10.viii.1926, A. Collart + 1♂ 1♀ 11.viii.1926 (mrac). UGANDA: 1♂ 2♀♀ Budongo Forest, Bunyaro Province [01°15'N; 34°21'E], 7–8.ii.1935, F.W. Edwards (bmnh; 1♀ nmse); 1♀ Unyoro Dist. [ca. 01°50'N; 31°50'E] Dr C.H. Marshall, 1922–254 (bmnh). SUDAN: 1♂ Lati [unknown co-ordinates], 19.ii.1933, Miss M. Steale, in Banana clearing near stream (bmnh).

Discussion. Lectotype designation: Of the two syntypes listed by Enderlein (1922), only one represents *Conopariella acutigena* and is hence designated Lectotype. The second specimen was incorrectly identified. Its correct identity is *C. tibialis* (Hendel, 1914).

The Nigerian location Kagoro Forest is a large forested area along the precipitous southern escarpment of the Jos Plateau and between this and the Rivers Niger and Benue with high rainfall. Much of the forest is being replaced with teak plantation (*pers. comm.* J.C. Deeming). Gangume Forest Reserve (also Nigeria) is near to the Mambila plateau at the base of the Cameroun Highlands and consists of mixed montane grassland and tropical rain forest in the gorges (*pers. comm.* J.C. Deeming).

Distribution. *Conopariella acutigena* is a widespread species, known from West, Central and East Africa: Equatorial Guinea, Nigeria, Cameroun, Central African Republic, Zaïre, Uganda and Sudan (Fig. 685).

Conopariella albitarsis (Enderlein, 1922)

(Figs 161–168, 685)

***Anaphalantias albitarsis* Enderlein, 1922** – Enderlein, 1922: 15. [description].
Conopariella albitarsis: Frey (1932: 261) [key, n. comb.], pl. VIII, fig. 31; Steyskal (1980: 564) [catalogue].

Diagnosis. Ground-colour brown; only tarsi pale cream. Pale yellow fringe of setulae at apex of pedicel. Males without expanded gena, but with genal setae. Anepisternum mostly brown, anepimeron dorsally brown. Basal scutellar seta closer to base of scutellum than to apical seta. Fore femur sparsely setose ventrally, with long setulae in a single series. Wing membrane brown with basal hyaline spots in costal and subcostal cells and an incision from posterior margin of anal cell, across bcu and bm into br. Cu without row of setulae. Male medial surstylus without filamentous protrusions at apex.

Etymology. *Albus* L. = white, *tarsus* = fifth part of the leg, referring to the white distal portion of the legs of this species.

Description

Dimensions: ♀ Holotype. Body length 3.4 mm; wing length 3.5 mm. **Colour/Vestiture**: Ground colour brown; faint pale-buff markings on: occiput, postpronotum, notopleural callus, sutural cleft, proepimeron, anepisternum mostly brown (Fig. 147), dorsal part of anepimeron, meron, apex of femora, apex of tibia. Tarsi pale cream and abdominal T_{1+2} yellow-brown. Antennae, arista and plumosity pale brown. Wing membrane brown with distinct hyaline spots in c and sc; a single incision on hind margin through anal cell, bcu and bm into br; veins brown (Fig. 163). Upper calypter pale grey, dark grey-brown along

margin with brown marginal setulae. Setulae generally brown, but pale on tarsi. Silver microtrichia scattered on most of body and not particularly noticeable, but dense on scutellum.

Head: Subsquare (Fig. 161), narrow and elongate (Fig. 162). Face slightly concave below antennal grooves (Fig. 162), which are longer than antennae and terminate in a low, but pronounced tubercle (Fig. 162). Frons narrow toward top and eyes converging dorsally such that vertex is narrower than lower frons (Fig. 161). Arista longer than width of frons; plumosity longer than width of flagellomere 1 (Figs 161 & 162). Pedicel with numerous brown setulae. Palp with numerous long brown setulae, especially at apex (Fig. 162). Postocellar setae small, two pairs, lateral pair parallel, slightly more dorsal than divergent medial pair. Postgena narrow, not bulging (Fig. 162).

Thorax: As for generic description. **Legs**: Coxal setae brown. Fore femur sparsely setose ventrally, with long setulae in a single series. Mid tibial pre-apical seta longer than trochanter. Mid-coxal prong sharply pointed, semi-transparent and difficult to find; mid-coxal fringe well developed and strongly setose. **Wing** (Fig. 163): Humeral weakening distinct; pre-humeral and subcostal weakenings absent. Subcosta evanescent at angle; Sc-R spur partially formed, cut across by flexion line and not joined to R_1. Setulae at base of R_1 long, equal to two-thirds length of R-M. R-M distinctly basad of dm; crossvein Cu-bm short, much shorter than half length of BM-Cu . Margin of upper calypter sinuous.

Abdomen: As for generic description. Ovipositor – Taenia, eversible membrane and aculeus noticeably stout. Wrinkles on eversible membrane distinct, but restricted to small medial area (Fig. 168). Tip of aculeus with four distinct pairs of marginal setulae, apically slightly blunt (Fig. 168).

Variation: ♂ Body length 3.0 mm; wing length 3.0 mm. ♀ Body length 3.0 – 3.4 mm, wing length 2.9 – 3.5 mm. Nigerian specimens smaller than holotype, consistently measuring 3 (± 0,1) mm for both body and wing length; pale brown areas more distinctly contrasting with surrounding brown body colour than in holotype. Male gena not expanded laterally and head only slightly subtriangular, usually more subsquare. Genitalia (♂) – Epandrium subsquare (Fig. 164). Proctiger shallow, finely setulose, hypoproct strongly setulose along lateral margin (Fig. 164). Lateral surstylus narrow and elongate, curved around apex of medial surstylus (Figs 164 & 165). Apex of medial with a dorsal sickle shaped lobe, densely sclerotised at apex (Fig. 165). Stem of medial surstylus concave, resulting in dorsal and ventral lobes (Fig. 165). Distiphallus narrow, not much longer than hypandrium, without annulations (Fig. 164). Glans large (slightly smaller than epandrium), basal caeca small and insignificant (Fig. 166), apex with a pointed medial carina (Figs 166 & 167).

Material examined: **Holotype**: CAMEROUN: ♀ (ZMHB) "S. Kamerun / Lolodorf [03°17'N; 10°50'E; ca. 500 m] / L. CONRADT S." [printed on pale blue card, no date]. "Type" [printed on orange card]. "*Anaphalantias albitarsis* / Type ENDERL. ♂ [sic] / Dr. ENDERLEIN det 1920" [printed on white card, except "Dr. ENDERLEIN det 19" hand written]. "Zool. Mus. / Berlin" [printed on yellow card]. "HOLOTYPE / *Conopariella* / *albitarsis* ♀ / (ENDERLEIN, 1922) / Det. WHITTINGTON" [first and last lines printed, middle three hand written on red card].. In good condition, some setae broken; genitalia dissected, stored in glycerine in microvial on same pin.

Other Material — NIGERIA: 2♂♂ 2♀♀ 4 – M[iles] [6.5 km] NW of Agege [06°40'N; 03°13'E; ca. 0 – 100 m], Lagos State,18.ii.1973 (♀), 22.iv.1973 (♂), 30.xii.1973 (♂), 19.i.1974 (♀), M.A. CORNES, numbered1246, no number, 2679 and 3349 respectively (NMWC).

Discussion. *C. albitarsis* is one of two species (together with *C. ustulata*) that are entirely brown except for pale cream tarsi, being distinguished from it by the ventrally sparsely setose fore femur, with long setulae in a single series; and absence of hyaline spots distal to R-M.

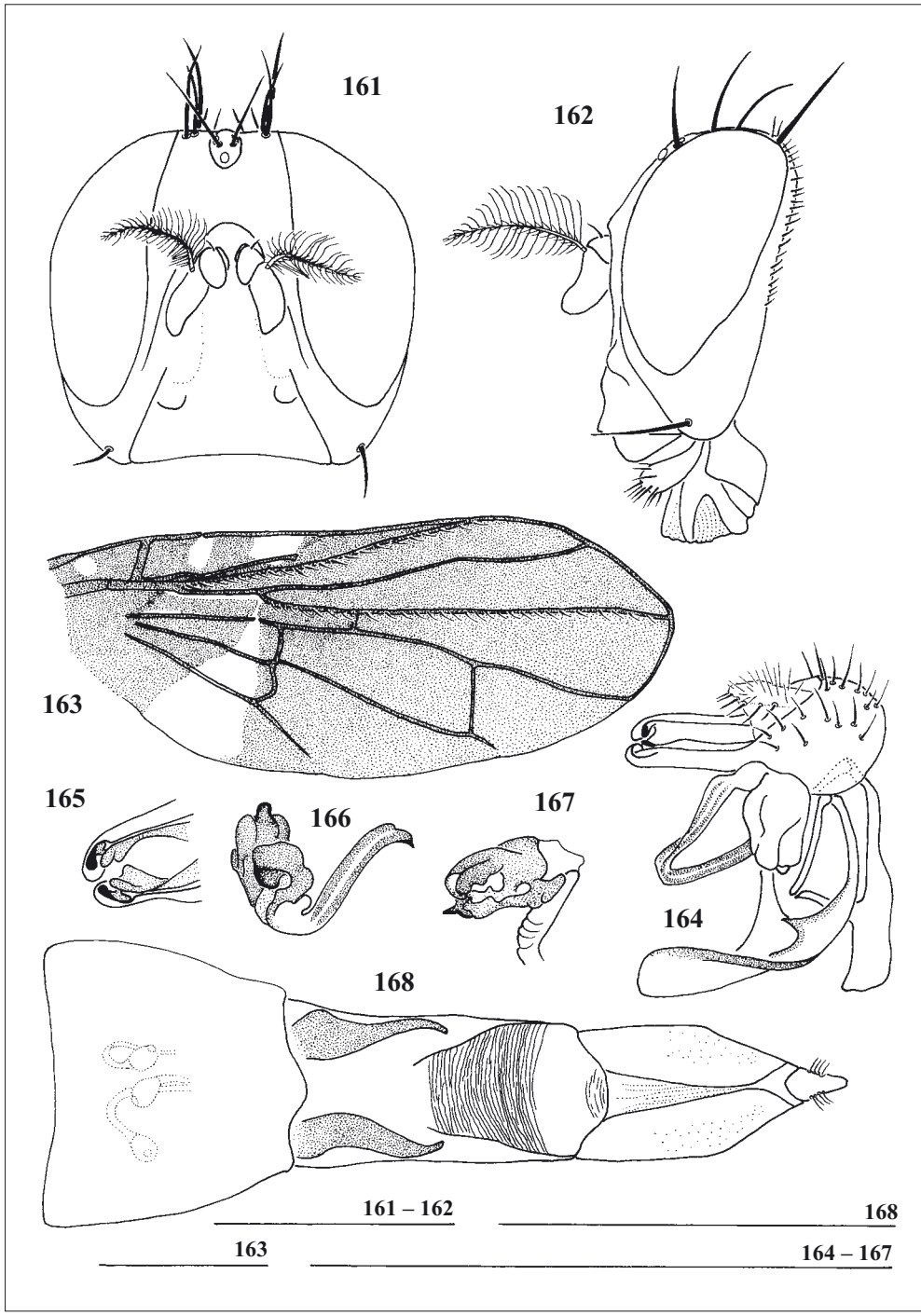
Distribution. *C. albitarsis* is a West African species, known only from Nigeria and Cameroun (Fig. 685).

Conopariella cidara sp. nov.

(Figs 169 – 181, 685)

Diagnosis. Male gena laterally expanded. Anepisternum with isolated and poorly defined brown spot or mark centrally on posterior margin; anepimeron mostly pale yellow-buff, occasionally an indistinct brown smudge present. Basal scutellar seta closer to base of scutellum than to apical seta. Wing membrane with distinct hyaline incisions anal+bcu and cu_1+dm cells and spots along costal margin pre-subcostally and at apex of R_1.

Etymology. *cidara* L. f. = tiara, referring to the golden fringe on the pedicel.



Figs 161–168: *Conopariella albitarsis* (Enderlein, 1922). ♀ Holotype and ♂ specimen. – **161**: Female head, frontal view; – **162**: Female head, profile; – **163**: Right wing, dorsal view; – **164**: Male genitalia, right lateral view; – **165**: Apex of surstyli, dorsal view; – **166**: Male genitalia, detail of glans, ventral view; – **167**: Male genitalia, detail of glans, left side; – **168**: Female ovipositor, ventral view.

Description

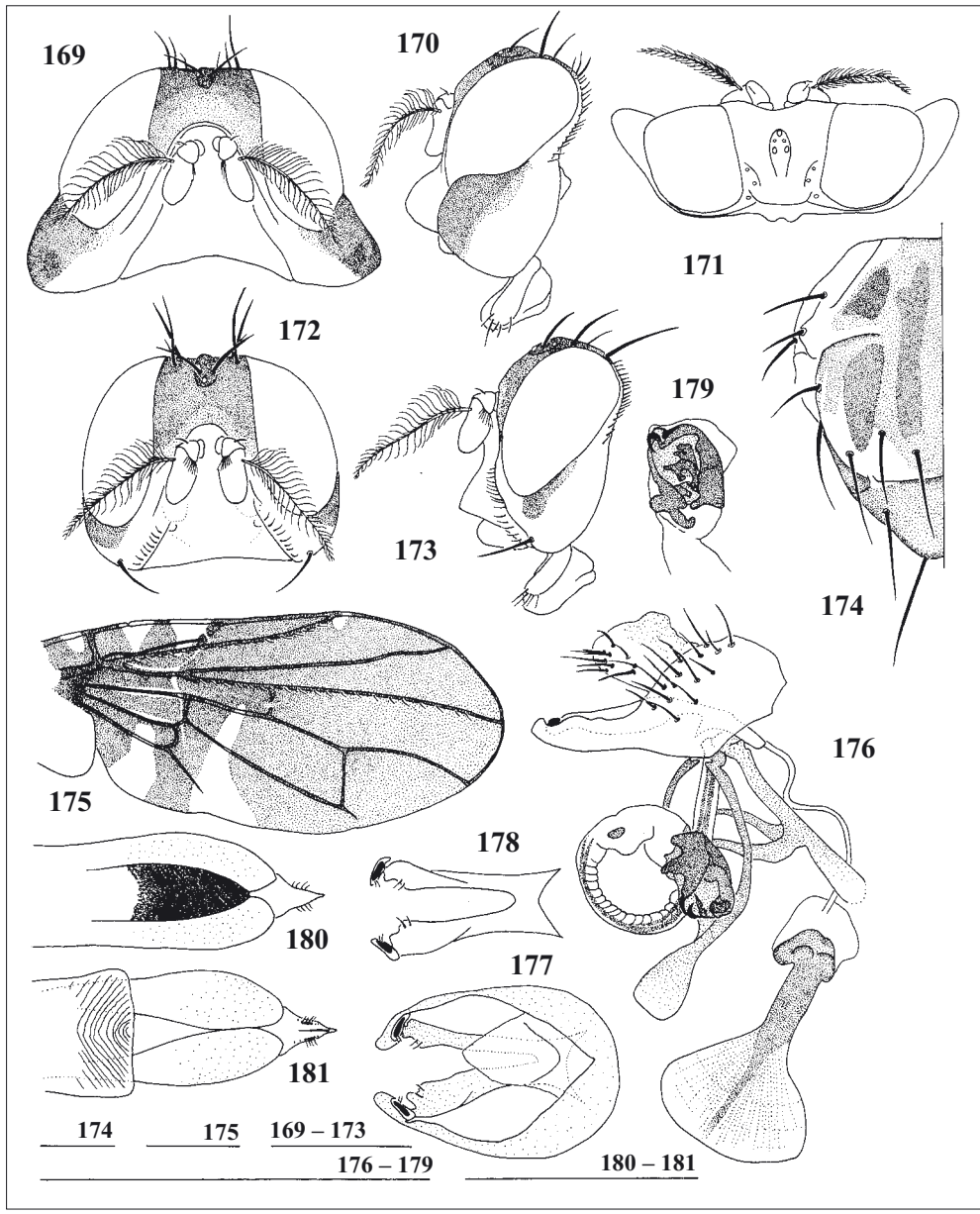
Dimensions: ♂ Holotype. Body length 4.7 mm; wing length 5.3 mm. **Colour/Vestiture**: Ground-colour pale yellowish buff, paler on ventral extremities; frons tinged with brown, darker dorsally; vertex, ocellar triangle and gena dark brown (almost black); most of central notum, subscutellum, scutellum and distal three abdominal tergites dark brown; two darker longitudinal stripes poorly distinguished on notum, lateral one broken by sutural cleft (Fig. 174). Anepisternum with isolated and poorly defined brown spot or mark centrally on posterior margin (Fig. 143); anepimeron mostly pale yellow-buff, occasionally an indistinct brown smudge present. Postpronotum, notopleural callus, sutural cleft and posterolateral margins of notum white. Black setulae at apex of palp, entire postocular row and on brown coloured parts of head, thorax and abdomen; pale yellow setulae for subvibrissal and postgena. Fringe of setulae on pedicel and subvibrissal setulae pale yellow. Two pairs of postocellar setae: medial pair divergent, lateral pair parallel. Coxae and femora pale buff, except for brown apex of femora; all tibiae dark brown (slightly paler on inner side) with short black setulae; tarsi buff. Wing membrane dark brown with hyaline incisions as follows: 1 pre-humeral; 2 post-humeral costal, most distal of these continuing into subcostal cell; small and indistinct pale brown incision at apex of R_1; incision across cu_1, continuing into dm and apex of br; incision in anal cell continuing into bcu (Fig. 175). Veins mostly brown, pale in areas corresponding to pale membrane. Calypter white at base, smoky grey distally; margin brown. Halter pale buff. Male genitalia brown. Silver microtrichia on face, clypeus, notum, pleurites and scutellum, with a slight bronze sheen on scutellum. Bronze microtrichia on frons and vertex.

Head: Much wider across gena than across eyes (dimension across gena three and a half times width of frons), triangular in frontal view (Fig. 169). Gena curved forwards (Figs 170 & 171). No facial tubercles below antennae. Face slightly convex (Figs 170 & 173). Facial carina flat and broad. Antennal pits distinct and smooth. Middle section of lower facial margin curved upwards in centre (Fig. 169). Apical black setulae of palp long (Figs 170 & 173). Postgena moderately wide (Figs 170 & 173). Setulae of arista longer than width of flagellomere 1. Frons around ocellar triangle, and gena with some quite strong scattered setulae, denser at apex of gena. Subvibrissal setulae inconspicuous.

Thorax: Margin between katatergite and anatergite defined by a deep, narrow furrow. Scutellum subtriangular; basal scutellar setae closer to base of scutellum than to apical setae, apical setae close together (Fig. 174). **Legs**: Mid tibial pre-apical seta as long as trochanter is long. Coxal setae pale and distinctively thicker than setulae. Mid-coxal prong sharply curved. **Wing** (Fig. 175): Pre-humeral and humeral weakenings indistinct, subcostal weakening absent. Subcosta cut off at angle by flexion line, developed beyond as a fold. Setulae of R_1 long, about half length of R-M; setulae present dorsally on R_1, base of R_{2+3}, R_{4+5} and ventrally on R_{2+3} and M. Sc-R obliterated by flexion line, which is distinct across base of r_1, r_{2+3} and br, thickened over bm, bcu and base of Cu, stopping before level with middle of Cu_2. Crossvein R-M at of middle of dm, slightly evanescent over middle; crossvein BM-Cu slightly evanescent at anterior end; crossvein Cu-bm shorter than BM-Cu , but more than half its length. Cu_2 distinctly curved.

Abdomen: As for generic description. Genitalia (♂) – Epandrium rectangular, strongly setose (Fig. 176). Proctiger protruding, finely covered with microtrichia, hypoproct strongly setose ventrally (Fig. 176). Lateral surstylus elongate, dorsal margin sinuous, apex curved around apex of medial surstylus (Figs 176 & 177). Apex of medial surstylus strongly sickle shaped, with dorsal patch of dense sclerotisation and setulose on inner surface (Figs 177 & 178). Stem of medial surstylus ventrally lobed and setulose (Figs 177 & 178). Distiphallus annulated toward apex only (Fig. 176). Basal caeca of glans with a small patch of sclerotisation, apex with a flattened apical visica (Figs 176 & 179).

Variation: ♂ Body length 4.7 mm; wing length 5.3 mm. ♀ Body length 4.7–5.1 mm, wing length 5.0 –5.5 mm. A single male, from Watsa à Niangara (Zaïre), has ground colour whitish. Some specimens have an additional hyaline spot in r_{4+5} and also have R_1 incision much larger than in holotype. Females: lack expanded gena, but strong genal setae present, anteriorly orientated (Figs 172 & 173); subvibrissal setulae sometimes black; slight notch in centre of lower facial margin less pronounced and low facial tubercles below the antennal grooves may be present. In some females there is a distinct hyaline spot in r_{4+5} in line with R_1 mark. Coxal seta black in one female from Lulua River (Zaïre). Furrow between katatergite and anatergite not always as deep as in holotype and mediotergite may be tinged brown. Ovipositor – Eversible membrane finely wrinkled (Fig. 181), becoming finer distally. Aculeus broad and blade-like finely ornamented with setulae dorsally and ventrally on main body; dorsal medial area



Figs 169–181: *Conopariella cidara* sp. nov. ♂ Holotype and ♀ Paratype. – **169**: Male head, frontal view; – **170**: Male head, profile; – **171**: Male head, dorsal view; – **172**: Female head, frontal view; – **173**: Female head, profile; – **174**: Thorax, dorsal half view; – **175**: Right wing, dorsal view; – **176**: Male genitalia, right lateral view; – **177**: Male genitalia, dorsal view; – **178**: Medial surstylus, dorsal view; – **179**: Male genitalia, detail of glans, left side; – **180**: Female ovipositor, dorsal view; – **181**: Female ovipositor, ventral view.

finely scaled (Fig. 180). Tip of aculeus pointed, with lateral brush of setulae, apex abruptly narrowed (Figs 180 & 181).

Material examined: **Holotype**: ♂ CAMEROUN (MNHN) "Sud Cameroun / Yaoundé-Nkolbisson [ca. 03°52'N; 11°31'E] / 17 Octobre 1967 / Leg. L. Tsacas" [printed on pale blue label, but "17" of date hand-written]; "MUSEUM PARIS" [printed on pale blue label]; "HOLOTYPE / *Conopariella* / *cidara* ♂ / sp. nov./ Det WHITTINGTON" [rectangular red

label, first and last lines printed, middle three hand-written]. Some setae missing from Head; left mid leg stretched out at vulnerable angle and left hind leg beyond femur broken off; wings bent; genitalia dissected and stored in glycerine, in a microvial on the same pin.
Other Material — **Paratypes**: SIERRA LEONE: 1♂ Njala [conflicting co-ordinates], x.1934, E. HARGREAVES (BMNH). GHANA: 1♂ Akumadan [07°24'N; 01°57'W, ca. 200–500 m], 2.ix.1966, E.S. ROSS & K. LORENZEN, 350 m. (CASC). CAMEROUN: 1♀ Bambalang, off Rt. N11, 35km East of Bamenda [05°55'N; 10°09'E, ca. 1000 m], 18, 21.xi.1987, A. FREIDBERG (TAUI). ZAÏRE: 1♂ Watsa à Niangara [ca. 03°02'N; 29°33'E–03°45'N; 27°54'E], vii.1920, L. BURGEON (MRAC); 1♀ Bambesa [03°25'N; 25°43'E], 15.ix.1933, H.J. BRÉDO (MRAC); 1♀ Odzala [00°37'N; 14°37'E], x.1963, A. DESCARPENTRIES et A. VILLIERS 1963–1964 (MNHN); 1♀ Eala [00°02'N; 18°22'E], iv.1932, H.J. BRÉDO (MRAC); 5♀♀ Eala [00°02'N; 18°22'E], 14.iv., vii, 25.vii and xii.1935 and i.1936, J. GHESQUIÈRE (10.482) (KBIN; 1♀ dated vii.1935 NMSE); 1♀ Bassin Lukuga [05°00'S; 14°17'E], 1936, DE SAEGER (MRAC); 1♀ Lulua [= river], Kapanga [08°22'S; 22°37'E, ca. 200–500 m], iv.1932, F.G. OVERLAET (MRAC); 1♀ Lulua [= river], Sandoa [09°14'S; 22°56'E], 14.ii.1932, F.G. OVERLAET (MRAC).

Discussion. In terms of general morphology *C. cidara* is similar to the other species in the *C. tibialis*-group.

Distribution. *C. cidara* is a West-Central African species, from Sierra Leone, Ghana, Cameroun and Zaïre (Fig. 685).

Conopariella conspicua FREY, 1932

(Figs 182–189, 685)

***Conopariella conspicua* FREY, 1932** – FREY (1932: 261, pl. VII, fig. 27) [description] FREY (1932: 260) [key]. STEYSKAL (1980: 564) [catalogue].

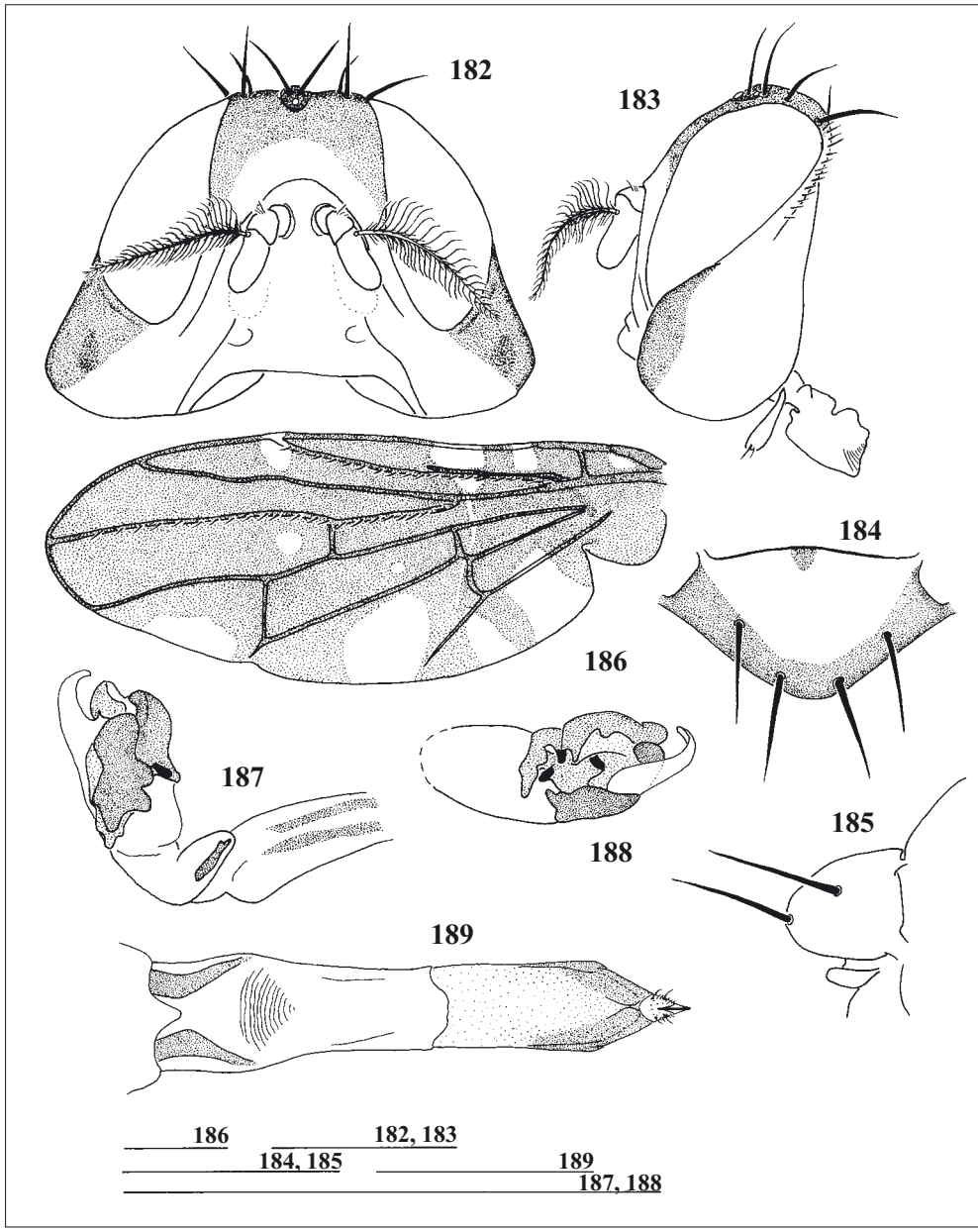
Diagnosis. Posterior half of anepisternum brown. Basal scutellar seta closer to apical seta than to base of scutellum (i.e. laterally positioned). Wings with distinct hyaline spots or incisions in costal cell and posterior margin of wing; clear incisions or spots at or beyond apex of R_1, beyond crossvein R-M and posterior margin of m. Male medial surstylus with two blunt, sclerotised claws at apex; apical visica of glans pointed and protruding.

Etymology. *conspicuus* L. = prominent. FREY (1932) possibly referred to the protruding surstylus.

Description

Dimensions: ♂ Holotype. Body length 4.9 mm; wing length 5.8 mm. **Colour/Vestiture**: Face and postgena pale yellow; remainder of head darker yellow; frons orange near to ptilinal fissure, progressively more brown dorsally and dorsolaterally until dark brown over vertex and adjacent to eye margin; dark brown stripe on gena from lower margin of eye to distal extent of gena. Arista pale yellow in basal half, brown beyond; plumosity brown. Mouthparts (greasy) pale orange-brown. A small patch of black setulae dorsally on pedicel. Black setulae on frons, as a subvibrissal row (except upper most setulae which are pale), postocular row and on postgena; otherwise pale; long posterior to subcranial cavity. Notum dark brown, with a narrow pale yellow pre-sutural medial stripe; yellowish around margins and in sutural cleft. Posterior margin of anepisternum tinged brown (Fig. 145); small brown patches on notopleural callus and anepimeron; lateral part of mediotergite, subscutellum and margin of scutellum brown. Apex of mid and hind femora and mid and hind tibiae suffused with brown. Base of calypter pale grey; margin brown, with a brown spot situated midway along upper calypter. Wing membrane dark brown with distinct hyaline spots or incisions in the costal cell and posterior margin of wing; clear incisions or spots at or beyond apex of R_1 and beyond crossvein R-M; posterior margin of m with distinct hyaline marks (Fig. 186). Veins mostly brown, pale in areas of pale membrane. Setulae on thorax and abdomen silver-white, short and generally reclinate; black on posterior margin of anepisternum, centre of anepimeron and dark-brown coloured body parts. Scutellum asetose (but having setae and microtrichia). Silver microtrichia dense on face (absent from antennal grooves and tubercles); present on vertex, postgena, most of thorax and abdomen.

Head: Subtriangular, gena strongly developed and projecting one eighth of head width either side of outer eye margin (Fig. 182). Arista as long as frons is wide; plumosity longer than width of flagellomere 1 (Fig. 182). Tubercles ventral to antennal pits well-developed and close to lower facial margin (Fig. 182). Frontogenal and ptilinal fissures not meeting, separated by distance equal to full width of flagello-



Figs 182–189: *Conopariella conspicua* Frey, 1932. ♂ Holotype and ♀ specimen. – **182**: Head, frontal view; – **183**: Head, profile; – **184**: Scutellum, dorsal view; – **185**: Scutellum, lateral view; – **186**: Left wing, dorsal view; – **187**: Male genitalia, detail of glans, right side; – **188**: Male genitalia, detail of glans, left side; – **189**: Female ovipositor, ventral view.

mere 1 (Fig. 182). Postgena prominently developed (Fig. 183). Genal seta present, but short and fine. **Thorax**: As for generic description. Basal scutellar setae closer to apical setae than to base of scutellum (i.e. laterally positioned) (Fig. 184). Scutellum rounded in profile, basal seta inserted dorsal to apical seta insertion (Fig. 185). **Legs**: Mid tibial pre-apical seta as long as trochanter. Mid-coxal prong sharp and almost straight, mid-coxal fringe well developed and heavily setose. **Wing** (Fig. 186): Pre-humeral

and humeral weakenings indistinct, but visible with high power at an oblique angle; subcostal break absent. Subcosta evanescent, continued as a fold to costa. R_{2+3} sinuous, bulged out toward apex of R_1. R-M beyond middle of dm. Crossvein Cu-bm short (equal to or less than half length of BM-Cu). Upper calypter emarginate, having three distinct lobes (middle one largest).

Abdomen: As for generic description. Genitalia (♂) – Similar to *C. acutigena* (Figs 152–154). Epandrium rounded, longer than high. Apex of medial surstylar hook strongly sclerotised. Basal caeca of glans small, with an elongate sclerotised bar; glans with apical visica pointed and protruding (Figs 187 & 188). Base of ejaculatory apodeme membranous and large, bulbous.

Variation: ♂ Body length 4.0–4.9 mm, wing length 4.8–5.8 mm. ♀ Body length 4.9 mm, wing length 5.5 mm. Costal spot between the apex of R_1 and R_{2+3}, hyaline incision in m and size of the spot in r_{4+5} beyond R-M vary throughout material examined. Tibiae of male from Zaïre darker than in Holotype. Ovipositor (Fig. 189) – Eversible membrane long, finely wrinkled, becoming finer distally, wrinkles almost invisible. Aculeus broad and blade-like, finely ornamented with setulae dorsally and ventrally on main body. Aculeus tip sharply pointed, with two main lateral setulae on each side and numerous fine setulae.

Material examined: **Holotype**: MALAWI: ♂ (BMNH) "Type" [round, printed label with red margin]; "26.ii.18 / Cholo [16°05'S; 35°03'E] / Nyassaland / 3000' (R.C.W) / on maize / R.C. WOOD" [round, handwritten label with last line in a different hand writing]; "Nyassaland / Cholo [16°05'S; 35°03'E] / 26.ii.1918 / 3000' / R.C. WOOD" [rectangular, handwritten label]; "Pres. by / Imp.Inst.Ent. / Brit.Mus. / 1931–56." [rectangular, printed label]; "Spec.typ." [pink, rectangular, printed label, with dotted line below words; face down]; "*Conopariella* / *conspicua* n.sp. / FREY det." [rectangular label, first two lines handwritten, last line printed]. In good condition; double mounted on celluloid strip; right wing removed (photographed by FREY 1932, Pl.VII. fig.27.) and genitalia dissected and stored in glycerine, in a microvial on the same pin, below round type label.
Other Material – ZAÏRE: 1♂ P.N.G. II/gd/8 [ca. 03°57'N; 29°23'E], 6.viii.1951, H. DE SAEGER, 2211 (MRAC). ZIMBABWE: 1♀ Mt. Selinda [20°24'S; 32°43'E], 3.ii.1954, N.J. MEYERS (NMSA).

Discussion. *C. conspicua* is easily confused with *C. tibialis*. Males can be distinguished after dissection, by the visica on the distiphallus. Otherwise the shape of the scutellum and position of the scutellar setae is the only non-variable diagnostic character of any reliability.

Distribution. *C. conspicua* has a middle African distribution, known from Zaïre, Malawi and Zimbabwe (Fig. 685).

Conopariella crenata ENDERLEIN, 1922

(Figs 190–198, 685)

***Conopariella crenata* ENDERLEIN, 1922** – ENDERLEIN (1922: 13) [description]. FREY (1932: 261) [key], (pl. VII, fig. 29); STEYSKAL (1980: 564) [catalogue].

Diagnosis. Males with expanded gena. Black fringe of setulae at apex of pedicel. Anepisternum weakly and indistinctly brown along posterior margin. Basal scutellar seta closer to base of scutellum than to apical seta. Wing membrane with wedge-shaped hyaline incisions at apex of R_1 and in cu_1. Male medial surstylus with filamentous protrusions at the apex (these are visible in undissected specimens).

Etymology. *crena* L. f. = notch; perhaps referring to the hyaline incisions in the wing, giving it a notched appearance.

Description

Dimensions: ♂ Lectotype. Body length 4.5 mm; wing length 5.5 mm. **Colour/Vestiture**: Groundcolour pale yellowish buff, paler on ventral extremities. Lower frons (ptilinal hemisphere) tinged orange, frons brown dorsally; vertex, ocellar triangle and gena dark brown (almost black; but gena paler on outer surface). Most of central notum, notopleural callus, anepimeron, mediotergite, subscutellum, scutellum and distal three abdominal tergites dark brown; two darker longitudinal stripes poorly distinguished on notum, outer one broken by sutural cleft; faint brown mark along full length of anepisternum poorly defined (Fig. 140). Postpronotal lobe, sutural cleft and proepimeron, meron and legs of ground colour (except apex of femora and tibiae, which are pale brown). Distal tarsomeres brown. Black setu-

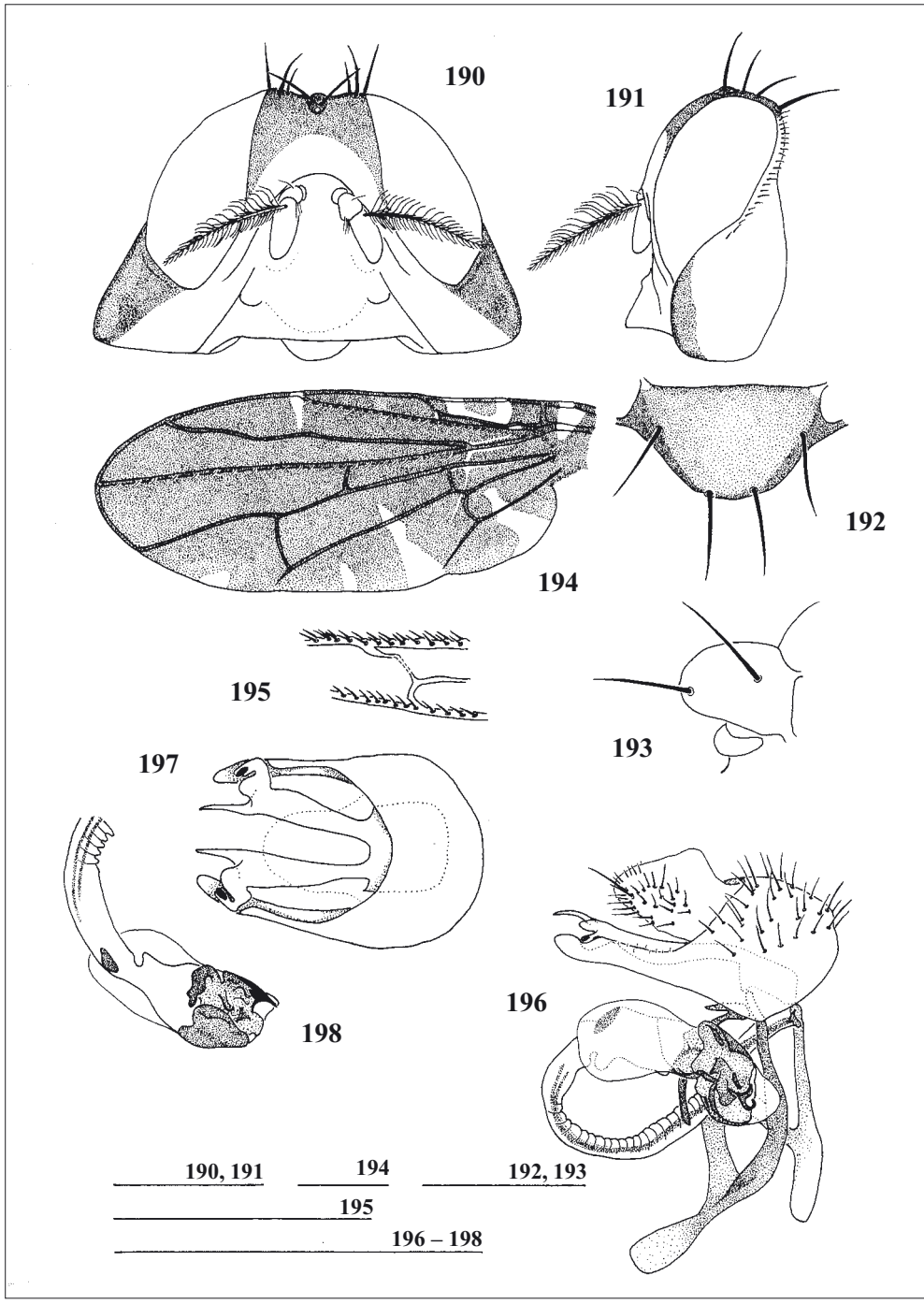
lae at apex of palp, entire postocular row and brown coloured parts of head, thorax (including tibiae) and abdomen; pale yellow setulae for most of subvibrissal row and on postgena. Fringe of setulae on pedicel and subvibrissal setulae pale black. Two pairs of postocellar setae: medial pair divergent, lateral pair convergent. Anepisternum weakly and indistinctly brown along posterior margin. Anepisternum weakly and indistinctly brown along posterior margin. Wing membrane dark brown with hyaline incisions as follows: 1 pre-humeral; 2 post-humeral costal (linked adjacent to Sc); 1 faint post Sc costal; 1 apex of R_1; 1 m; 2 cu_2 (apical one short, basal one continuing into dm); anal cell continuing into bcu – R_1 and basal cu_2 wedge-shaped (Fig. 194). Veins brown, costa pale in areas corresponding to pale membrane. Calypter grey at base, progressively darker brown distally; marginal setulae brown. Halter pale yellowish buff. Male genitalia yellow buff. Silver microtrichia on face, clypeus, notum, pleurites and scutellum, with a slight bronze sheen on notum and scutellum. Bronze microtrichia on frons and vertex.
Head: Wider across gena than across eyes (dimension across gena three times width of frons) (Fig. 190). Facial tubercles below antennae small, these being drawn out in a long line toward lower facial margin (Figs 190 & 191). Face protruding forwards at lower facial margin (Fig. 191). Plumosity of arista longer than width of flagellomere 1 (Fig. 190). Antennal pits distinct and smooth at ventral end. Middle section of lower facial margin slightly indented (Fig. 190). Genal extremities bent forward, postgena not particularly wide (Fig. 191). Facial carina flat and broad. Frontogenal and ptilinal fissures not meeting, but close together, separated by distance equal to half width of flagellomere 1 (Fig. 190). Subvibrissal setulae conspicuous.
Thorax: Margin between katatergite and anatergite deeply indented. Scutellum rounded at apex (Figs 192 & 193). Basal scutellar seta closer to base of scutellum than to apical seta (Fig. 192), inserted slightly dorsal to apical seta (Fig. 193). **Legs**: Mid tibial pre-apical seta a little shorter than length of trochanter. Coxal setae pale and distinctively thicker than setulae. Mid-coxal prong sharply curved, fringe not particularly strong. **Wing** (Fig. 194): Pre-humeral and humeral weakenings distinct, subcostal weakening absent. Subcosta evanescent only in centre of portion beyond angle, present at this point as a clearly defined fold and present as a vein at costal junction (Fig. 195). Sc-R well developed (Fig. 195). Setulae of R_1 short, about half length of R-M. Flexion line fragmented, but distinct across br and bm, base of cu_1, stopping adjacent to middle of Cu_2. Crossvein R-M just beyond middle of dm, slightly curved and evanescent medially; crossvein BM-Cu slightly evanescent at anterior end; crossvein Cu-bm shorter than BM-Cu, but more than half its length.
Abdomen: As for generic description. Genitalia (♂) – Epandrium subsquare, strongly setose dorsally (Fig. 196). Proctiger raised in dome-like fashion, hypoproct strongly setulose laterally and ventrally with a single dominant ventral setula at apex (Fig. 196). Medial surstylus with two lobes, ventral lobe extended into an elongate filamentous protrusion (Figs 196 & 197), dorsal lobe curved back on itself to form sickle shape, strongly sclerotised at apex (Fig. 197). Distiphallus short, not reaching further than apex of lateral surstylus, annulated toward middle and apex only (Fig. 196) with small patch of sclerotisation at base of glans (Fig. 198). Basal caeca of glans large, sac-like (Figs 196 & 198). Glans with sac-like apical visica (Fig. 196).

Variation: ♂ Body length 4.5 – 5.3 mm, wing length 5.5 mm. ♀ unknown.

Material examined: **Lectotype**: ♂ EQUATORIAL GUINEA (ZMHB) "Westafrika / Uelleburg [co-ordinates unknown] / VI. – VII. [19]08. / Teßmann S.G." [printed, pale blue label, number handwritten]; "Type" [printed on orange card]; "*Conopariella* / *crenata* / Type Enderl. ♂ / Dr.Enderlein det 1920" [handwritten on white card; last line printed up to and including "19"]; "Zool.Mus. / Berlin" [printed yellow label]; "lectotype / *Conopariella* / *crenata* ♂ / Enderlein, 1922 / Det. A.E.Whittingon / 1998" [red label, first and last lines printed, middle three line hand written]. Setae and antennae damaged, thorax dirty, double mounted on card, right wing twisted and left wing torn, some tarsi and setae broken off; abdomen dissected and placed in glycerine in a microvial on same pin.
Other Material — **Paralectotype** EQUATORIAL GUINEA: ♂ same label data as Lectotype (ZMHB).

Discussion. Lectotype designation: Of the two male syntypes (with the same data labels), the one chosen for the Lectotype is in slightly better condition, than the one designated paralectotype.
Although *C. crenata* is similar morphologically to other species in the *C. tibialis* – group, the male genitalia are distinctive in the undissected state and leave no doubt to identity

Distribution. *C. crenata* is known only from the type locality in Equatorial Guinea (Fig. 685).



Figs 190–198: *Conopariella crenata* ENDERLEIN, 1922. ♂ Lectotype and ♂ Paralectotype. – **190**: Male head, frontal view; – **191**: Male head, profile; – **192**: Scutellum, dorsal view; – **193**: Scutellum, lateral view; – **194**: Left wing, dorsal view; – **195**: Detail of apex of subcosta; arrow = Sc-R spur; – **196**: Male genitalia, right lateral view; – **197**: Male genitalia, dorsal view; – **198**: Male genitalia, detail of glans, left side.

Conopariella exigua sp. nov.

(Figs 199 – 207, 685)

Diagnosis. Gena of male head not laterally expanded. Anepisternum slightly brown on ventral posterior edge and katepisternum with brown mark on posterior apical corner. Scutellum rounded at apex (dorsal view). Apical scutellar setae wide apart (distance between apical setae approximately equal to distance between basal and apical setae). Wing membrane dense brown without hyaline spots (except occasional faint costal marks and indefinite incisions on posterior margin, or streaks in cell m), always entirely brown in cell r_{4+5} beyond crossvein R-M. dorsal surface of Cu with setulae. Apex of medial surstylus with a dorsally protruding blunt lobe.

Etymology. *Exiguus* L. a. = scanty, poor, small, referring to the minimal difference between the wing pattern of this species and *C. picipennis* (Enderlein, 1922).

Description

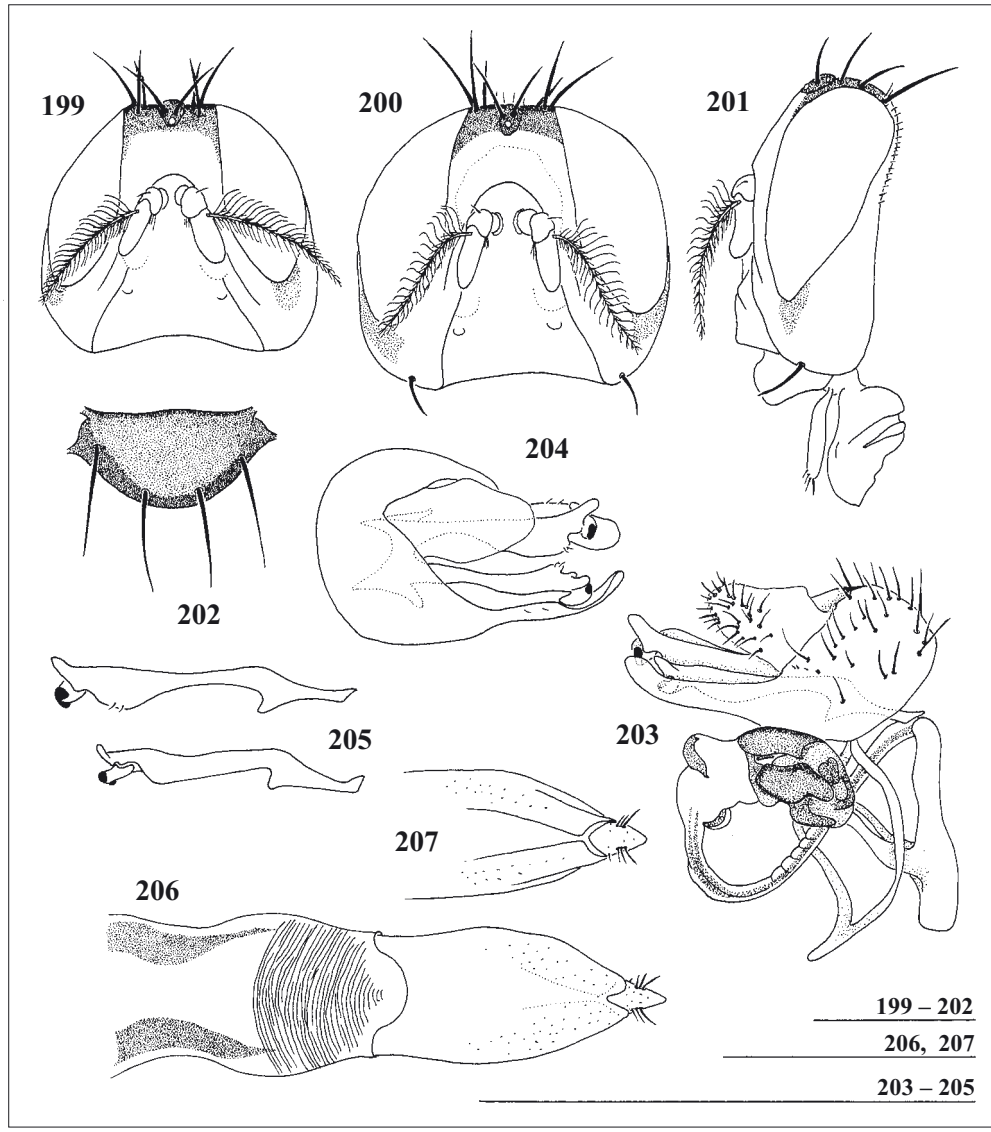
Dimensions: ♀ Holotype. Body length 4.7 mm; wing length 5.3 mm. **Colour/Vestiture**: Ground colour yellow-buff; gena slightly darkened by fine and short grey-brown setulae adjacent to lower margin of eye. Dorsal part of frons, vertex and ocellar triangle dark brown. Mouthparts tinged orange-brown. Arista pale yellow; plumosity fair. Pedicel seta pale. Notum, scutellum, mediotergite and subscutellum dark, glossy brown, postpronotal lobe of ground colour, but pale brown at apex of notopleural callus, on ventral posterior edge of anepisternum (Fig. 141), on anterior half of anepimeron and katepisternum ventral to these marks. Proepimeron slightly paler than other areas coloured as ground colour. Distal tarsomeres of legs suffused with brown. Wing membrane dark brown without distinct hyaline spots or incisions, a pale suffusion along hind margin; veins brown. Upper calypter dark grey (almost black at edge) with brown basal band and brown marginal setulae. Distal three segments of abdomen dark brown. Setulae generally pale, but black on dorsal frons, gena, apex of palp, darkly coloured body areas, ventral edge of katepisternum and apex of femora. Dorsal few subvibrissal setulae pale, remainder black. Postocular row pale, except for 4 or 5 black setulae near vertex. Silver microtrichia dense on most pale body parts.

Head: Subsquare, narrow and elongate (Figs 199 – 201). Face convex below antennal grooves, which terminate in a low, but pronounced tubercle (Fig. 201). Frons vertical and slightly convex (Fig. 201). Arista longer than width of frons; plumosity longer than width of flagellomere 1 (Figs 199 & 200). One pair of postocellar setae, small and parallel. Postgena not bulging (Fig. 201).

Thorax: As for generic description. Scutellum rounded at apex (dorsal view); apical scutellar setae wide apart (distance between apical setae approximately equal to distance between basal and apical setae) (Fig. 202). **Legs**: Mid coxa narrow and elongate, fringe strongly developed; mid tibial pre-apical seta longer than trochanter. Setulae on dorsal surfaces of tarsomeres long and darker than surrounding setulae. **Wing**: Pre-humeral and humeral weakenings distinct; subcostal weakening absent. Subcosta continued as a fold to costa; Sc-R spur present. Flexion line poorly developed, but apparent at apex of Sc and across Sc-R spur and just visible across basal cells. R-M at middle of dm, slightly angled forward at distal end; Cu-bm about half length of BM-Cu . Upper calypter having a sinuous margin.

Abdomen: As for generic description. Ovipositor – Taenia, eversible membrane and aculeus noticeably stout; apex of eversible membrane markedly wrinkled (Figs 206 & 207). Tip of aculeus conical, with three distinct marginal setulae and numerous alveoli medially (Figs 206 & 207).

Variation: ♂ Body length 3.5 mm; wing length 4.9 mm. ♀ Body length 4.7 – 5.5 mm, wing length 5.3 – 5.5 mm. All other material examined has anepisternum completely yellow-buff, lacking brown posterior margin and katepisternal setulae pale. Male specimen with only tiny brown spot on katepisternum, whereas in female paratypes spot is distinct. Female from Idiofa has second pair of postocellar setae parallel and thin. Male gena not laterally expanded and head only slightly subtriangular. In male paratype, apical scutellar setae are strikingly wide apart, but two female paratypes have these setae less clearly separated. Genitalia (♂) – Epandrium subsquare to rectangular (Fig. 203). Proctiger a shallow sack-like dorsal lobe; hypoproct setulose (Fig. 203). Lateral surstylus longer than height of epandrium (Fig. 203). Apex of medial surstylus with dorsally protruding blunt lobe and ventral tooth-like appendage, strongly sclerotised apically (Figs 203 – 205). Ventral margin of medial surstylus with a pair of setulae (Fig. 205). Distiphallus no longer than hypandrium; weakly annulated (Fig. 203). Basal caeca of glans projecting



Figs 199–207: *Conopariella exigua* sp. nov. ♂ & ♀ Paratypes. – **199**: Male head, frontal view; – **200**: Female head, frontal view; – **201**: Female head, profile; – **202**: Scutellum, dorsal view; – **203**: Male genitalia, right lateral view; – **204**: Male genitalia, oblique dorsal view; – **205**: Medial surstylus; top = left outer surface, bottom = right inner surface; – **206**: Female ovipositor, ventral view; – **207**: Female ovipositor, dorsal view.

either side of distiphallus (Fig. 203) partially sclerotised. Glans large (with caeca approximately same dimensions as epandrium); no apical visica apparent.

Material examined: **Holotype**: ZAÏRE: ♀ (MRAC) "MUSÉE DU CONGO / Bambesa [03°25'N; 25°43'E] / ix.1933 / J.V. LEROY" [printed on off-white card]. "HOLOTYPE / *Conopariella* / *exigua* ♀ / sp.nov. / Det WHITTINGTON" [rectangular red label, first and last lines printed, middle three handwritten]. In good condition, but eyes and thorax slightly collapsed; double mounted.

Other Material — **Paratypes**: ZAÏRE: 2♂♂ P.N.G. I/o/2 [= Nagbarama River; ca. 04°21'N; 29°16'E], 2.xi.1950, H. DE SAEGER, 923 [dense forest of *Ficus congensis* ENGL. (= *Ficus trichopoda* BAKER; S. VAN NOORT *in litt*. 12 June 2000)] (MRAC). 1♀ 74 km ["46 mi."] W[est] of Idiofa [05°00'S; 19°38'E, ca. 500 – 1000 m], 7.viii.1957, E.S. ROSS & R.E. LEECH (CASC); 1♂ 1♀ Kunungu [unknown co-ordinates], 8.iv.1921 (♂), 2.iv.1921 (♀), Dr H. SCHOUTEDEN (MRAC).

Discussion. This species is remarkably similar to *C. picipennis* (Enderlein, 1922) and co-exists in part of its distribution range. *C. exigua* is furthermore unusual (together with *C. paucifenestrata*), in that setulae are present dorsally on Cu, a character state previously believed (Frey 1932) to separate *Conopariella* from *Federleyella*. As discussed in the generic discussion, this character state can no longer be used to diagnose these genera, the only sure method being dissection of the male genitalia.

Distribution. Known only from Zaïre (Fig. 685).

Conopariella paucifenestrata (Steyskal, 1963) comb. nov.

(Figs 208 – 214, 685)

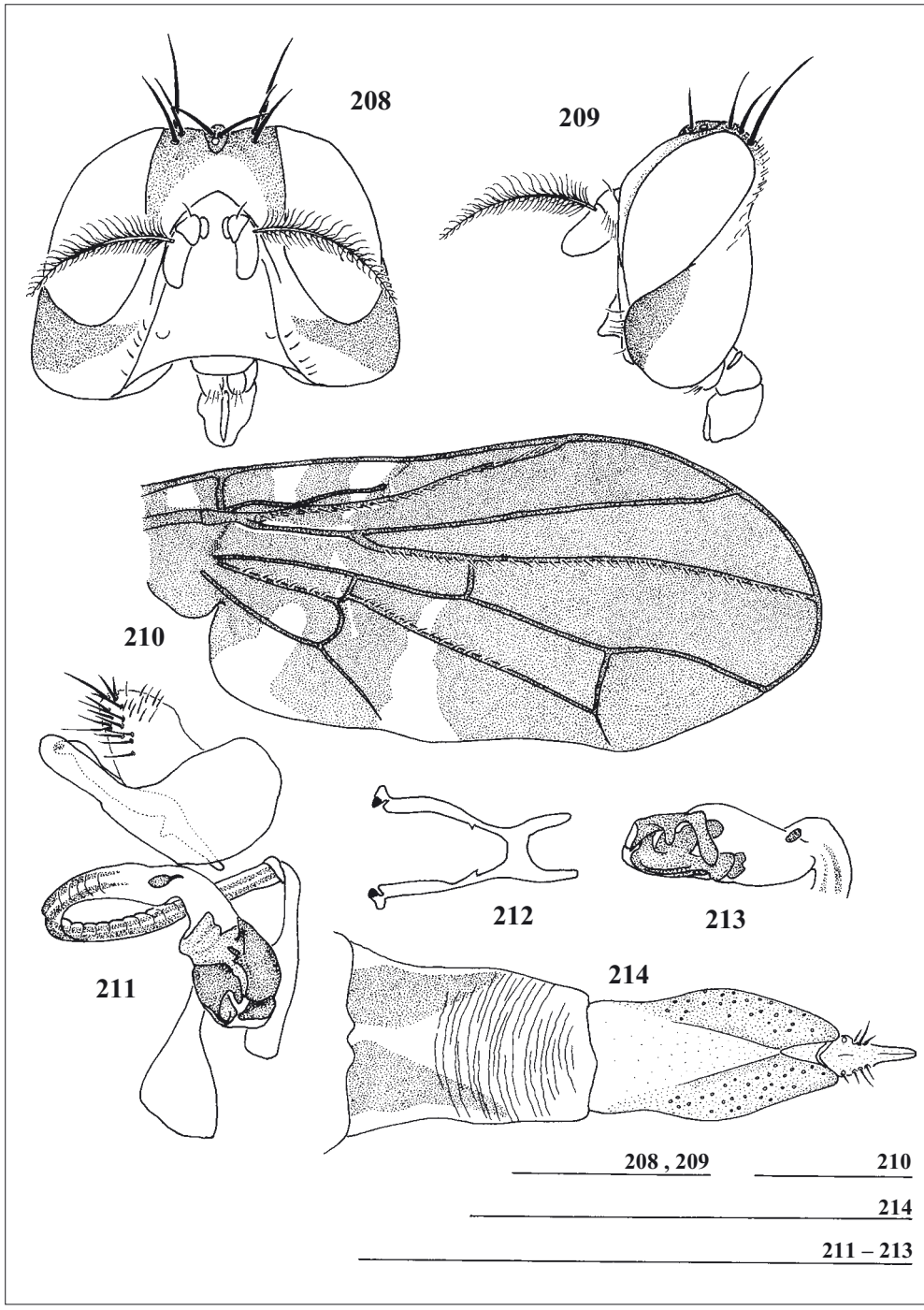
***Federleyella paucifenestrata* Steyskal, 1963** – Steyskal (1963: 133) [description]. Steyskal (1980: 564) [catalogue].

Diagnosis. Male gena slightly laterally expanded. Pale yellow fringe of setulae at apex of pedicel. Anepisternum brown on posterior half; anepimeron mostly brown and katepisternum pale creamy-yellow. Basal scutellar seta closer to base of scutellum than to apical seta. All tibiae brown. Dorsal surface of Cu with row of setulae along basal and distal portions (adjacent to bcu and dm respectively) [occasional specimens are found with setulae only along basal portion (adjacent to bcu)]. Wing membrane with distinct hyaline incisions and few spots.

Etymology. *Paucus* L. = few, *fenestra* L. f. = window, referring to the sparse hyaline spots in the wing membrane.

Description

Dimensions: ♂ Holotype. Body length 3.9 mm; wing length 4.1 mm. **Colour/Vestiture**: Ground-colour creamy-yellow; ptilinal hemisphere of frons yellow-orange; dorsal part of frons buff brown; around bases of orbitals, vertex and post occiput brown; dark brown on gena (Figs 199 & 209). Antennae, mouthparts and tarsi slightly darker than ground-colour. Notum, posterior half of anepisternum (Fig. 146), anepimeron, mediotergite, subscutellum, scutellum and distal four abdominal tergites brown. Postpronotal lobe and area around anterior notopleural seta pale cream. Apex of mid and hind femora and all tibiae brown. Black setulae on apex of palp, subvibrissal row, postocular row, gena and postgena and on all brown coloured parts of head, thorax and abdomen; pale setulae on pale coloured areas. Dorsal seta on pedicel black. One pair of postocellar setae, broadly separated and convergent. Ventral katepisternal setulae long, pale and prominent. Wing membrane brown with broad hyaline incisions in costal cell (1 pre-humeral, 2 post humeral), cu_1 and anal cell; those on hind margin continuing into dm and bcu respectively (Fig. 210). Veins brown, costa pale in areas corresponding to pale membrane. Calypter brown, darker brown along margin. Halter creamy-yellow. Microtrichia silver, but sparse on pleurites, notum and scutellum; bronze on frons.
Head: Subtriangular (Fig. 208), gena height below eye margin equal to length of flagellomere 1, curved forwards at apex, but not strongly extended laterally. Plumosity of arista only a little longer than width of flagellomere 1 (Figs 208 & 209). Facial tubercles situated close to lower facial margin. Antennal pits distinct. Middle section of lower facial margin (in frontal view – Fig. 208) slightly curved. Facial carina flat and indistinct. Subvibrissal row comprised of long setulae. Postocellar setulae relatively weak, not clearly arranged in a single row. Merging with background setulae.
Thorax: Basal scutellar seta closer to base of scutellum than to apical seta. **Legs**: [forelegs missing in Holotype] Mid tibial pre-apical seta as long as trochanter length. Coxal setae pale and indistinctive. Mid-coxal prong small and narrow. **Wing** (Fig. 210): Pre-humeral and humeral weakenings weak and indistinct, subcostal weakening absent. Subcosta evanescent at angle. Sc-R spur short. Flexion line distinct throughout its length; stopping level with middle of Cu_2. R-M basad of middle of dm; dm elongate, longer than bm, distal portion of M consequently short. Cu-bm much shorter than BM-Cu, about one quarter its length. M evanescent just basad of junction with crossvein BM-Cu.
Abdomen: As for generic description. Genitalia (♂) – Epandrium subrectangular, slightly higher than wide in lateral view (Fig. 211). Proctiger shallow, hypoproct strongly directed forward, setulae stronger and denser ventrally than dorsally (Fig. 211). Lateral surstylus blunt at apex (Fig. 211). Medial surstylus a single sickle-shaped lobe; backward and inward directed peg on main stem of surstylus weakly developed, stem of surstylus narrow (Fig. 212). Distiphallus short, protruding little beyond apex of lateral surstylus (Fig. 211). Caeca of glans very reduced, small basal sclerotised bar evident (Fig. 211). Glans without apparent apical visica (Fig. 213); large compared to epandrium (Fig. 211). Phallapodeme and hypandrium poorly sclerotised.



Figs 208–214: *Conopariella paucifenestrata* (STEYSKAL, 1963). ♂ Holotype and ♀ specimen. – **208**: Male head, frontal view; – **209**: Male head, profile; – **210**: Right wing, dorsal view; – **211**: Male genitalia, right lateral view; – **212**: Medial surstylus, dorsal view; – **213**: Male genitalia, detail of glans, left side; – **214**: Female ovipositor, ventral view.

Variation: ♂ Body length 3.8–3.9 mm; wing length 4.0–4.1 mm. ♀ Body length 3.2–4.3 mm, wing length 3.9–4.0 mm. Male from 40km East of Sangmelima has a small faint pale brown spot near apex of R_1 and all female specimens have hyaline spot at this position and in r_{4+5} beyond R-M. Female from Mlanji Boma (Malawi) has only one intact wing, which has two setulae dorsally on the basal portion of Cu. Ovipositor – T_6 completely absent. Taenia, eversible membrane and aculeus short and stout (Fig. 214). Taenia broad and strongly developed equal to most of width and two-thirds of length of eversible ovipositor (Fig. 214). Wrinkles on eversible ovipositor evenly curved (Fig. 214). Aculeus broad and blade-like; tip pointed apically, four distinct setulae present (Fig. 214).

Material examined: **Holotype**: CAMEROUN: ♂ (CMNH) "Lolodorf [03°17'N; 10°50'E; ca. 500 m] / Cameroon / A. I. GOOD." [printed on discoloured white card]. "Dec. 10 / 1914" [printed on discoloured white card, "10" and "14" hand-written]. "Carn. Mus. / Acc. 5737" [printed on discoloured white card, "5737" hand-written]. "HOLOTYPE / *Federleyella / Paucifenestrata* STEYSKAL" [hand written on red card]. Right arista, forelegs and some setae missing or broken; some fungus growth present. Genitalia in glycerine, in microvial below labels on same pin as specimen.
Other Material — IVORY COAST: 1♀ Bouaké [07°42'N; 05°00'W], F[=forest]. – Foro, 8.viii.1974, G. COUTURIER, Piège coloré [colour-trap], transect B (MNHN). CAMEROUN: 1♂ Rt. N9, 40km East of Sangmelima [02°57'N; 11°56'E], 8.xi.1987, A. FREIDBERG (TAUI); 1♀ near Bidou [conflicting co-ordinates], 16.xi.1970, L. MATILE, Forestry Commission plantation (MNHN). ZAÏRE: 1♀ P.N.G Anie/9 [riparian forest 04°30'N; 29°48'E], 29.vii.1952, H. DE SAEGER, 3843 (MRAC). MALAWI: 1♀ Mlanje Boma [16°02'S; 35°30'E, 641m], 26–30.iv. & 3–5.v.1910, S.A. NEAVE, 800 m ("2,400ft") (BMNH).

Discussion. *C. paucifenestrata* is moved from *Federleyella*, because the medial surstylus of the male genitalia is modified at the apex into a sickle-shaped lobe and the stem of the medial surstylus lacks the outward projecting hook that is present in *Federleyella*.
Although STEYSKAL (1963) used the pattern on the wing membrane as the primary diagnostic feature, the combination of the coloration of the katepisternum and the legs is more consistent. Despite the appropriate choice of name for the Holotype, all other specimens seen have a hyaline incision at the apex of R_1 and a spot in r_{4+5} just beyond R-M. The legs of the Holotype are missing, but STEYSKAL's description (1963) clearly states that all tibiae are brown – all other known specimens have pale fore tibiae. Despite these differences, the specimens examined most closely resemble the holotype and have insufficient significant characters to warrant a new species. Once fresh material and new data becomes available, this decision can be re-examined.
The single female from Mlanji Boma (Malawi) has only two setulae on Cu, on the intact wing. The remaining setulae may have broken off, but there are no sockets visible to indicate that this is the case. Although it is outside of the geographic range of the other known specimens of this species, the tip of the aculeus is elongate (Fig. 214). The only other species of *Conopariella* known from Malawi (*C. tibialis*) has a much shorter aculeus tip (Fig. 239) and setulae on Cu are absent.

Distribution. *C. paucifenestrata* is a West and Central African species, known from Ivory Coast, Cameroun and Zaïre. There is a single specimen outlier in Malawi (Fig. 685).

Conopariella picipennis (ENDERLEIN, 1922)

(Figs 215–222, 685)

***Anaphalantias picipennis* ENDERLEIN, 1922** – ENDERLEIN (1922: 14) [description].
Conopariella picipennis: FREY (1932: 261) [key, n.comb.]; STEYSKAL (1963: 133) [list]; STEYSKAL (1980: 564) [catalogue].

Diagnosis. Male gena not laterally expanded. Frons yellowish with silvery microtrichia. Anepisternum and katepisternum pale buff. Scutellum subtriangular. Basal scutellar setae closer to base of scutellum than to apical setae; apical setae close together (distance between apical setae much less than distance between basals and apicals). Wing membrane dense brown without hyaline spots (except occasional faint costal marks and indefinite incisions on posterior margin, or streaks in cell m) wing membrane entirely brown in cell r_{4+5} beyond crossvein R-M. Cu with no setulae.

Etymology. *Piceus* L. = pitchy and *penna* L. f. = feather or wing, clearly referring to the black wings of this species.

Description

Dimensions: ♂ Lectotype. Body length 3.9 mm; wing length 4.2 mm. **Colour/Vestiture**: Head pale buff, but gena slightly darker brown and upper frons and ocellar triangle dark brown (Figs 215 & 216). Frons yellowish. Arista pale yellow; plumosity fair. Mouthparts pale orange-brown. Setulae generally pale, but black on upper frons and on gena. Ground colour of thorax pale buff; anepisternum with faint brown mark at base of seta (Fig. 142); notum with four dark glossy brown, longitudinal bands partially merging centrally, with lateral bands expanded out toward lateral extremities of notum (Fig. 217). Mediotergite and subscutellum dark, glossy brown and narrow; scutellum pale yellow-buff laterally, medially dark, glossy brown (Fig. 217). Legs pale buff; distal tarsomeres suffused with brown. Wing membrane dense brown without distinct hyaline spots or incisions, entirely brown in cell r_{4+5} beyond crossvein R-M, but slightly pale along wing margin in cu and anal cell; veins brown. Upper calypter pale grey (almost hyaline) with brown medial and distal bands and brown margin, with brown marginal setulae. Silver microtrichia dense on face (sparse in antennal grooves) and antennae; also present on vertex, postgena, most of thorax and abdomen.

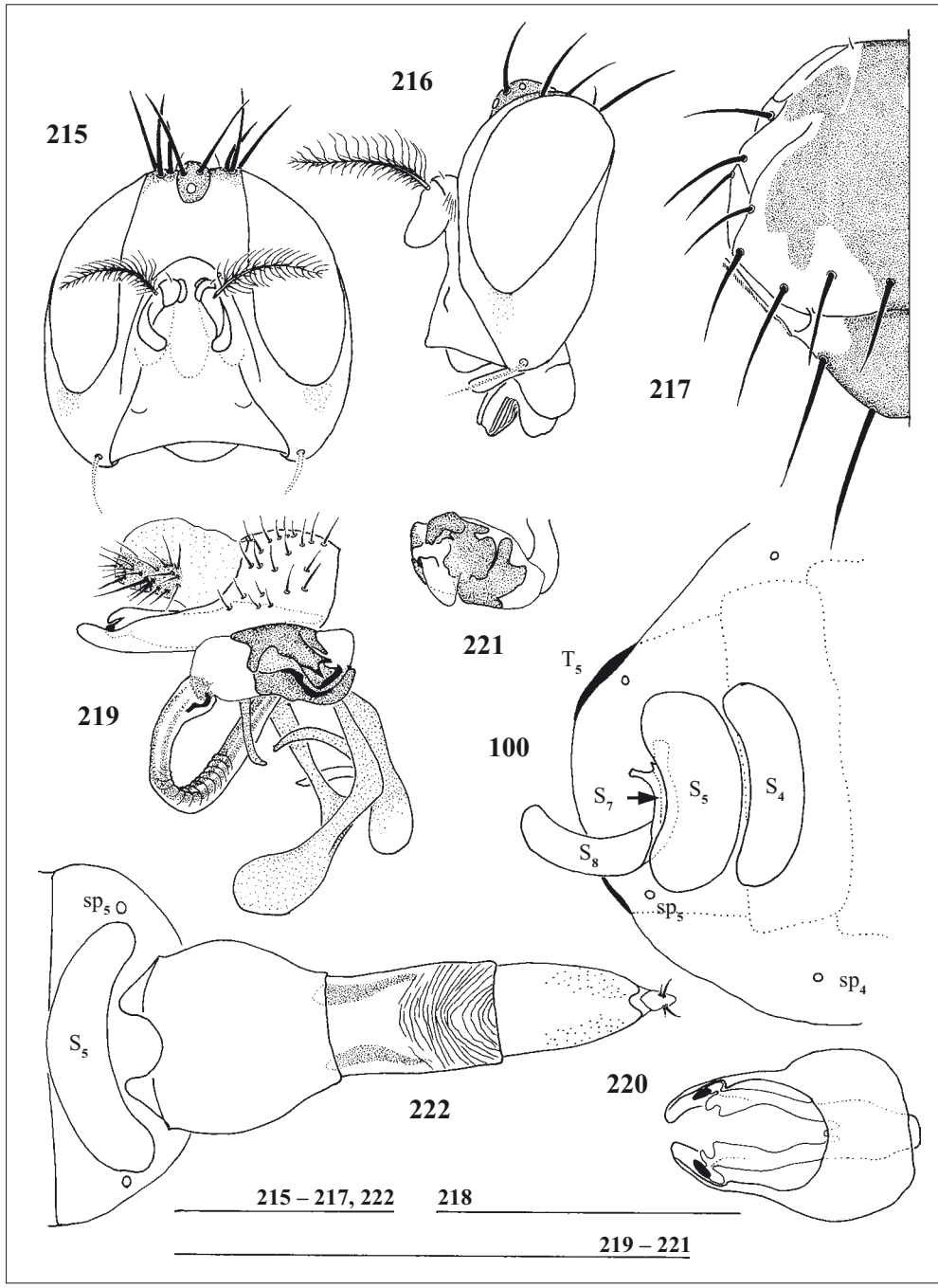
Head: Oval to subsquare (Fig. 215), gena not developed in males. Face slightly convex below antennal grooves (which terminate in a low tubercle) (Figs 215 & 216). Arista longer than width of frons; plumosity longer than width of flagellomere 1 (Figs 215 & 216).

Thorax: Scutellum subtriangular (Fig. 217). Basal scutellar setae closer to base of scutellum than to apical setae; apical setae close together (distance between apical setae much less than distance between basals and apicals) (Fig. 217). **Legs**: Mid tibial pre-apical seta longer than trochanter. **Wing**: Pre-humeral, humeral weakenings distinct; subcostal weakening absent. Subcosta continued as a fold to costa; Sc-R spur present, R_1 bulged out toward Sc-R spur. Flexion line poorly developed. R-M basad to middle of dm; crossvein Cu-bm short (much less than half length of BM-Cu). Cu with no setulae. Upper calypter emarginate, having a distinct lobe near wingbase.

Abdomen: As for generic description. Genitalia (♂) – Sternite 7 small with a pointed apical lobe, fused to sternite 8 (Fig. 218). Epandrium subsquare (Fig. 219). Proctiger a deep sac-like subsquare lobe; hypoproct disto-ventrally setulose (Fig. 219). Lateral surstylus elongate, narrow toward apex and curving around apex of medial surstylus (Figs 219 & 220). Medial surstylus apically tri-lobed, with dorsal most lobe sickle-shaped and sclerotised at apex (Fig. 220). Glans large (approximately same dimensions as epandrium), with apical visica rounded and protruding only a little; basal caeca poorly developed (Figs 219 & 221).

Variation: ♂ Body length 3.4 – 4.7 mm, wing length 3.5 – 5.7 mm. ♀ Body length 3.7 – 5.3 mm, wing length 4.3 – 5.7 mm. Ground coloration is the most obvious variation, some specimens have ground colour creamy-white, while most conform to colour of Lectotype. Arista is normally much darker than in Lectotype and may even be distally black, with correspondingly dark plumosity. Females and one unusual male specimen (from 40km E, Sangmelima, Cameroun; coll. Freidberg) have strong genal setae (normally absent in males of this genus) (Figs 215 & 216). Few specimens have notum as clearly marked with bands as in Lectotype – in most cases the entire notum, katatergite, mediotergite and sometimes most of the scutellum are dark brown to glossy black. Many specimens have pale or even dark brown tibiae (and apices of femora) or have black setulae instead of pale setulae in these positions. Wing membrane occasionally marked with hyaline spots in costal, medial, cubital and anal cells. A few specimens have longitudinal streaks through distal cells, but these are probably teneral. Ovipositor – T_6 a narrow membranous remnant. Eversible membrane and aculeus stout (Fig. 222). Taenia narrow and short (half length of eversible membrane – Fig. 222). Aculeus broad and blade-like (Fig. 222). Tip of aculeus blunt, two pairs of subapical setulae (Fig. 222). Spermathecae with deep apical indentation and a shallow basal one, ovaries smooth and elongate.

Material examined: **Lectotype**: CAMEROUN: ♂ (ZMBH) "8/10.96" [handwritten on tiny piece of paper, now discoloured]; "NKamerun / Johann.Albrechtshöhe [=Kumba? 04°38'N; 09°25'E; ca.200 – 500 m] / L.CONRADT 86" [printed on blue label]; "Type" [printed on orange label]; "*Anaphalantias* / *picipennis* / Type ENDERL. ♂ / Dr ENDERLEIN det 1920" [rectangular label, handwritten, but last line except "20" printed]; "Zool. Mus. / Berlin." [printed on yellow label]; "LECTOTYPE / *Conopariella* / *picipennis* / (ENDERLEIN, 1922) ♂ / Det WHITTINGTON" [rectangular red label, first and last lines printed, middle three handwritten]. In poor condition; double mounted on card strip; eyes and left wing crumpled; genitalia dissected and stored in glycerine, in a microvial on the same pin as specimen.



Figs 215–222: *Conopariella picipennis* (Enderlein, 1922). ♂ Lectotype and ♂ & ♀ specimens. – **215**: Male head, frontal view (position of genal seta indicated for females and aberrant male). – **216**: Male head, profile (position of genal seta indicated for females and aberrant male); – **217**: Thorax, dorsal half view; – **218**: Male abdomen, ventral view; S_4, S_5, S_7 & S_8 = sternites 4, 5, 7 & 8, sp_4 & sp_5 = spiracles 4 & 5, T_5 = tergite 5; – **219**: Male genitalia, right lateral view; – **220**: Male genitalia, dorsal view; – **221**: Male genitalia, detail of glans, left side; – **222**: Female ovipositor, ventral view; S_5 = sternite 5; sp_5 = spiracle 5.

Other material – CAMEROUN: 2♀♀ Rt. N6, Bali–Batibo [05°56'N; 09°58'E], West of Bamenda [05°55'N; 10°09'E, ca. 1000 m], 20.xi.1987, [one each by] A. Freidberg and Fini Kaplan (taui); 2♂♂ 2♀♀ Rt. N11, Bafut [06°06'N; 10°07'E, 500 m], 20 km North of Bamenda [05°55'N; 10°09'E], 17, 24.xi.1987, A. Freidberg (taui; 1♂ 1♀ nmse); 2♂♂ 1♀ same data coll. Fini Kaplan (taui); 1♂ Bambalang, off Rt. N11, 35km East of Bamenda [05°55'N; 10°09'E, ca. 1000 m], 18, 21.xi.1987, A. Freidberg (taui); 1♀ Mamfe [05°46'N; 09°18'E], 1.x.49, B. Malkin (casc); 1♂ **Paralectotype** Bibundi [04°13'N; 08°59'E],9.x.1907, G. Teß mann (zmbh); 1♀ Yaoundé [03°51'N; 11°31'E], 1936, VanZwaluwenburg & McGough, 700 m ["2300 ft"] (usnm); 1♂ Yaoundé [03°51'N; 11°31'E] Centre Agron, 8.xi.1966, E.S. Ross & K. Lorenzen, 710 m (casc); 2♂♂ 2♀♀ Yaoundé [03°51'N; 11°31'E] – N'Kolbisson [unknown latitude and longitude], 1♂ 1♀ on each day 8 & 9.viii.1967, L. Matile (1♂ 1♀ each at mnhn & nmse); 1♂ 2♀♀ Lolodorf [03°17'N; 10°50'E; ca. 500 m], 7.xi.1913 (♂), 6.iii.1911 and 29.xi.1913, A. I. Good (cmnh – Steyskal 1963 lists the 6 March 1911 specimen, but includes the 7 November specimen as 1914 and does not list the 29 November 1913 specimen); 1♂ Rt. N9, 20 km East of Sangmelima [02°57'N; 11°56'E], 7.xi.1987, A. Freidberg (taui); 1♀ same data coll. Fini Kaplan (taui); 2♂♂ 1♀ Rt. N9, 40 km East of Sangmelima [02°57'N; 11°56'E], 8.xi.1987, A. Freidberg (taui); 1♀ same data coll. Fini Kaplan (taui); 1♀ Efulen [=Ebemwok? 02°50'N; 10°48'E; ca. 500 m], , H. L. Weber (cmnh – also listed in Steyskal,1963); 2♂♂ 1♀ Fumbot [unknown latitude and longitude], 16.x.1970, L. Matile, gallery forest (mnhn); 1♀ Rés.De Kienké–Sud Piste Forest de Bidou [unknown latitude and longitude], 7.xi.1970, L. Matile, series 63, plant a Okoumé GDE Fêt primaire (mnhn); 1♀ Sasse–Sappo [conflicting co-ordinates], 20–311.I.52, S. Tita (casc). CENTRAL AFRICAN REPUBLIC: 1♂ La Maboké [03°54'N; 17°53'E], v.–vi.1964, J. Carayon (mnhn). EQUATORIAL GUINEA: 1♀ **Paralectotype** Alcu Benitogbt [= Benitogebiet, i.e. Benito District [01°34'N; 10°24'E]], 1–15 I♀ 06, G. Teß mann S.G (zmbh); 1♂ **Paralectotype** Uelleburg, [unknown latitude and longitude], vii–viii.1908, G. Teß mann S.G (zmbh); 1♀ **Paralectotype** Nkolentangan [unknown latitude and longitude], xi.1907 – v.1908, G. Teß mann S.G (zmbh). ZAÏRE: 1♂ 1♀ Bomboma [02°23'N; 19°03'E], vii.1935 (♀ taken on 20.vii.1935), A. Bal (mrac); 1♀ Modu (Wamba [02°10'N; 27°59'E]), 5.vi.1931, H.J. Brédo (mrac); 1♀ Mongbwalu, [01°56'N; 30°03'E], 1939, Mme Scheitz (mrac); 1♂ 1♀ Yangambi [00°47'N; 24°24'E], v.1960, J. Decelle (mrac); 1♀ Eala [00°02'N; 18°22'E], 18.vi.1953, J. Ghesquière (kbin); 1♂ Bomputu [00°20'S; 20°07'E], South of Salonga [= river/Nat. Park], vi–1936, J. Ghesquière (kbin); 1♀ Tshuapa [= river or region], Bokuma [00°40'S; 20°59'E], 1953, R. P. Lootens (mrac); 1♂ Sankuru [= river], Foret de Lonkala [04°37'S; 23°14'E], iii.1925, J. Ghesquière, fruits (mrac), 2♂♂ 4♀♀ Bangala district, Kufu [unknown latitude and longitude], 25.vi.1935, G. Settembrino R. Mus. Hist. Nat. Belg. I.G. 10.699 (kbin; 1♂ 1♀ nmse); 1♂ Mayumbe: Kinanga [conflicting co-ordinates], 10.viii.1926, A. Collart (mrac); 1♂ Equateur [=Province], 1927, R. Mayné (mrac); 1♂ P.N.A. Massif Ruwenzori, Piste Ruwenzori, VS273 [precise latitude and longitude unknown, but within 00°55'N–01°40'S; 29°00'–30°05'E], 7.i.1958, P. Vanschuytbroeck, 1900 m (mrac). UGANDA: 1♀ Kampala [00°19'N; 32°35'E], 24.iii.1935, H. Hargreaves (bmnh); 1♀ [Bwindi] Impenetrable Forest [00°08'–00°53'S; 29°35'–29°50'E, 1160–2607m], 27.I.1972, A. Freidberg (taui); 1♂ 26km (16 mi) NW of Bushenyi [00°32'S; 30°13'E], 6.xii.1957, E.S. Ross & R.E. Leech, 1450 m (casc); 3♂♂ Kawanda [conflicting co-ordinates], 21.x.1939, H.H. (possibly H. Hargreaves initials derived from G.H.E. Hopkins label with all but two "H"s crossed out), "cluster of six specimens on *Amomum*"[? = *Annona* L., Annonaceae (Custard Apples)] (bmnh); 2♂♂ S.W. Maramegambo Forest [unknown co-ordinates], 5.i.1996, I. Yarom & A. Freidberg 1900 m (taui).

Discussion. Lectotype designation: Enderlein (1922) listed 1♂ from Johann–Albrechtshöhe and 1♂ from Bibundi (both Cameroun); 1 ♂ from Uelleburg and 2♀♀ from Alcu Benitogebiet (all Equatorial Guinea). All except 1♀ from Alcu Benitogebiet are accounted for, while a female specimen from Nkolentangan (Equatorial Guinea) has a det. label that suggests that Enderlein saw this specimen and intend it as a type. It seems then that either the labels were mixed up or the data in the publication were incorrectly transcribed. Being first listed and without doubt about its status as a type, the male specimen from Johann–Albrechtshöhe (= Kumba?; Cameroun) was selected as the Lectotype.

The dark winged species *Federleyella pallidipes* should not be confused with *C. picipennis*. The two species can be separated by the presence of setulae dorsally on *Cu* in *Federleyella*, but more importantly by the structures of the male genitalia. Specimens of *Federleyella* are usually much smaller than those placed in *Conopariella*, but occasional large specimens of the former do exist.

C. picipennis is a distinctive species not easily confused with other species in the *C. tibialis*-group. Occasional specimens have pale hyaline markings in the costal cell and sometimes along the hind margin, but other than this the wing is noticeably dark brown without hyaline spots. Some teneral specimens have pale coloured streaks in the wing membrane. An important feature is the lack of any lateral development in the gena of male specimens.

It is tempting to divide *C. picipennis* into smaller groups based on character states such as: leg coloration (completely pale or brown beyond apical fifth of femur), presence or absence of ventral setulae on R_{2+3}, width of gena in males (predominantly narrow and similar to the female head in this species) and presence or absence of indistinct hyaline streaks in the wing membrane, which is otherwise dark brown.

These character states are viewed by the author to be too inconsistent to provide stable subgroups within this species. Ventral setulae on R_{2+3} is an unstable character state, found in only a few specimens of *C. picipennis*, but found, incidentally, in most specimens of *C. tibialis*. Very dark legs beyond the apex of the femora is linked to contrasting pale (almost white) ground-colour and lateral development of the gena in males. Less intensely dark legs are found in specimens, which have a darker yellow ground-colour, but the transition goes all the way through to specimens with entirely yellowish legs. The presence of a broad gena in males seems only to be found in the specimens with high colour contrast. And yet, the form of the male genitalia structures are consistent and suggest integrity of all these forms.

Distribution. *C. picipennis* is a West, Central and East African species, known from Cameroun, Central African Republic, Equatorial Guinea, Zaïre and Uganda (Fig. 685).

Conopariella steyskali sp. nov.

(Figs 223 – 226, 685)

Diagnosis. Anepisternum entirely yellow and katepisternum pale creamy-yellow. Large hyaline spot on wing membrane in cell r_{2+3}, in line with and touching spot in r_1 and r_{4+5}, in addition to other spots on wing membrane and incisions along wing margin. Ovipositor stout, taenia moderately stout and wrinkles on eversible membrane fine and indistinct; tip of aculeus with three strong lateral setulae.

Etymology. Named in honour of Dr George C. Steyskal (1909 – 1996) in recognition of his pioneering work in Acalyptratae.

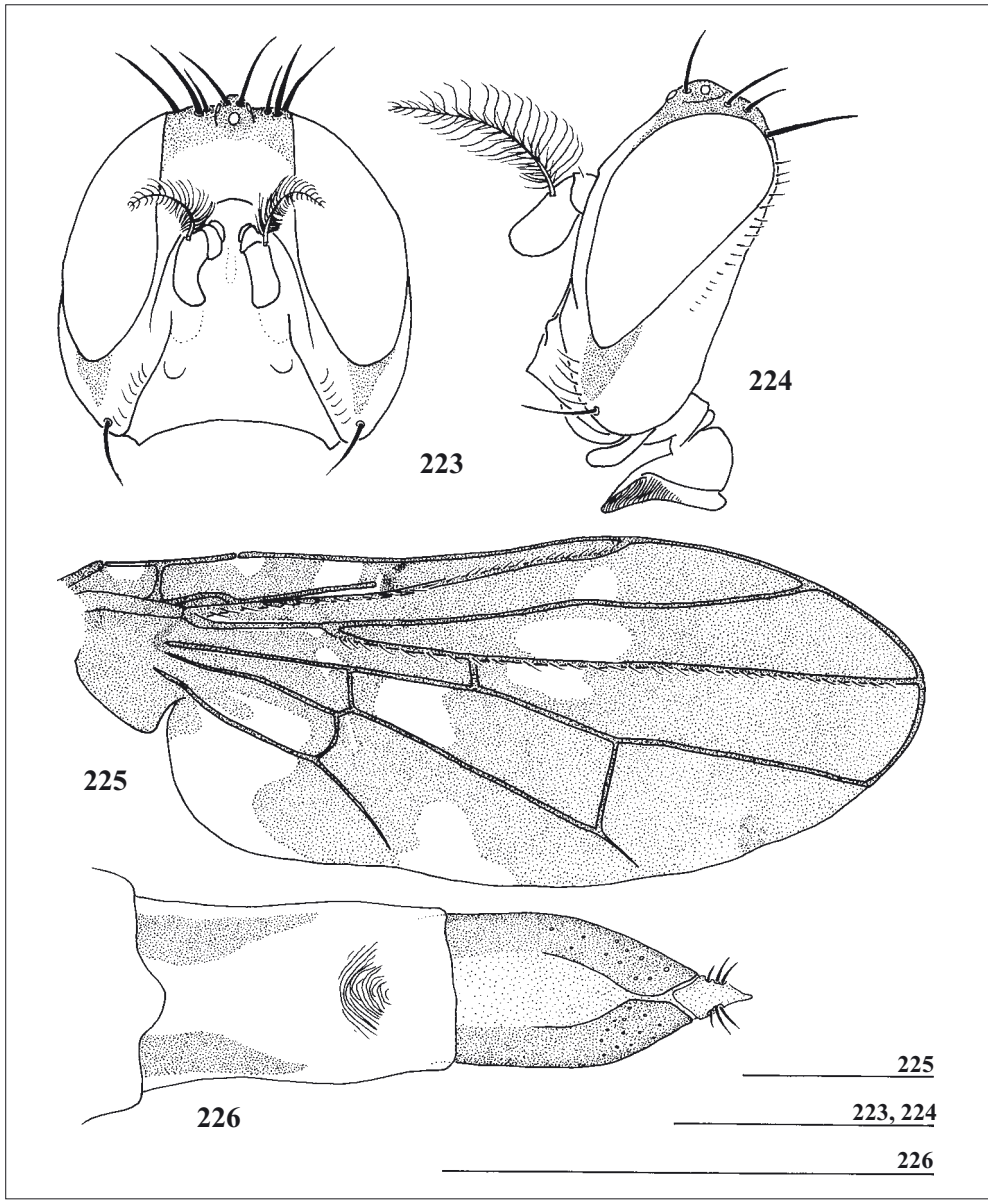
Description

Dimensions: ♀ Holotype. Body length 3.5 mm; wing length 4.2 mm. **Colour/Vestiture**: Ground-colour pale yellow; dark brown over ocellar triangle and vertex (Figs 223 & 224) slightly paler around base of orbitals. Postpronotum, notopleural callus and sutural cleft pale yellow. Anepisternum faintly brown along posterior margin (Fig. 142). Most of central notum, mediotergite, subscutellum and distal three abdominal tergites dark brown; posterior margin of notum and all of scutellum pale brown. Four darker stripes are evident on notum. Black setulae: at apex of palp; brown setulae: on frons, lower subvibrissal row, postocular row, postgena and gena; other setulae pale and inconspicuous; fringe of setulae on pedicel and upper subvibrissal setulae pale. Three postocellar setae irregularly positioned. Apex of mid and hind femora and mid and hind tibiae tinged pale brown. Wing membrane dark brown, distinct hyaline incisions as follows: 1 pre-humeral and 2 post-humeral costal incisions (poorly delimited); 1 incision in r_1 in line with apex of R_1; a vague incision at margin in m; 1 incision in each of cu_1 and anal cell, that of the anal cell continuing into bcu (Fig. 225). Large hyaline spots in r_{2+3}, r_{4+5} and dm (Fig. 225). Veins brown. Calypter smoky grey; margin brown. Silver microtrichia dense on thoracic pleurites and scutellum; present, but less obvious on face vertex, postgena, most of thorax. Bronze microtrichia on frons. Dense black microtrichia on gena below eye margin forming a distinct dark spot (Figs 223 & 224).

Head: Wider across gena than across eyes; frons narrowing dorsally such that vertex is equal to length of pedicel and flagellomere 1 (Fig. 223). Facial tubercles present below antennae (Fig. 224). Plumosity of arista longer than width of flagellomere 1 (Fig. 224). Lower facial margin slightly curved (Fig. 223).

Thorax: As for generic description. **Legs**: Mid tibial pre-apical seta as long as trochanter plus width of mid-coxa. Mid-coxal seta half as long as mid-tibial spur. **Wing** (Fig. 225): Pre-humeral and humeral weakenings distinct, subcostal weakening absent. Subcosta evanescent at angle, continued beyond angle to costa as darkened band and slight fold in membrane. Sc-R spur incomplete. Flexion line cutting across termination of Sc and distinct throughout wing to cu, where it runs closely adjacent to Cu_2. Cu_2 evenly curved. R-M slightly basad of middle of dm; M evanescent just basad of BM-Cu; Cu-bm short (less than half length of BM-Cu).

Abdomen: As for generic description. Ovipositor – Taenia, eversible membrane and aculeus stout (Fig. 226). Taenia moderately broad (each about one quarter width of eversible membrane) and half length of eversible membrane; wrinkles on eversible membrane fine and indistinct (Fig. 226). Aculeus broad and blade-like, finely ornamented with setulae ventrally on main body (Fig. 226). Tip of aculeus with brush of 3 (basal one short, apical two long) setulae on each side at apex (Fig. 226). Spermathecae with coiled distal invagenations.



Figs 223–226: *Conopariella steyskali* sp. nov. ♀ Holotype; – **223**: Male head, frontal view; – **224**: Male head, profile; – **225**: Right wing, dorsal view; – **226**: Female ovipositor, ventral view.

Material examined: **Holotype**: CAMEROUN: ♀ (TAUI) "CAMEROON, Rt.N6, Bali - /Batibo [05°56'N; 09°58'E, ca. 1000 m] West / of Bamenda [05°55'N;10°09'E] / 20.♀I.1987 / F. KAPLAN "; "HOLOTYPE / *Conopariella* / *steyskali* ♀ / sp. nov. / Det. WHITTINGTON" [first and last lines printed, middle three hand written on red card]. In good condition, double mounted, genitalia dissected, stored in glycerine in microvial on same pin as specimen.

Discussion. This species is only known from the female holotype. It appears in the key to species in a couplet together with *C. acutigena* and is distinguished from it by the wing pattern and female ovipositor.

Distribution. *Conopariella steyskali* is known only from the type specimen and type locality in Cameroun (Fig. 685).

Conopariella tibialis (Hendel, 1914)

(Figs 227–240, 685)

***Pterogenomyia tibialis* Hendel, 1914** – Hendel (1914b: 408) [description].
***Conopariella tibialis*:** Frey (1932: 260) [n.comb], 261 [key]; Steyskal (1980: 564) [catalogue].

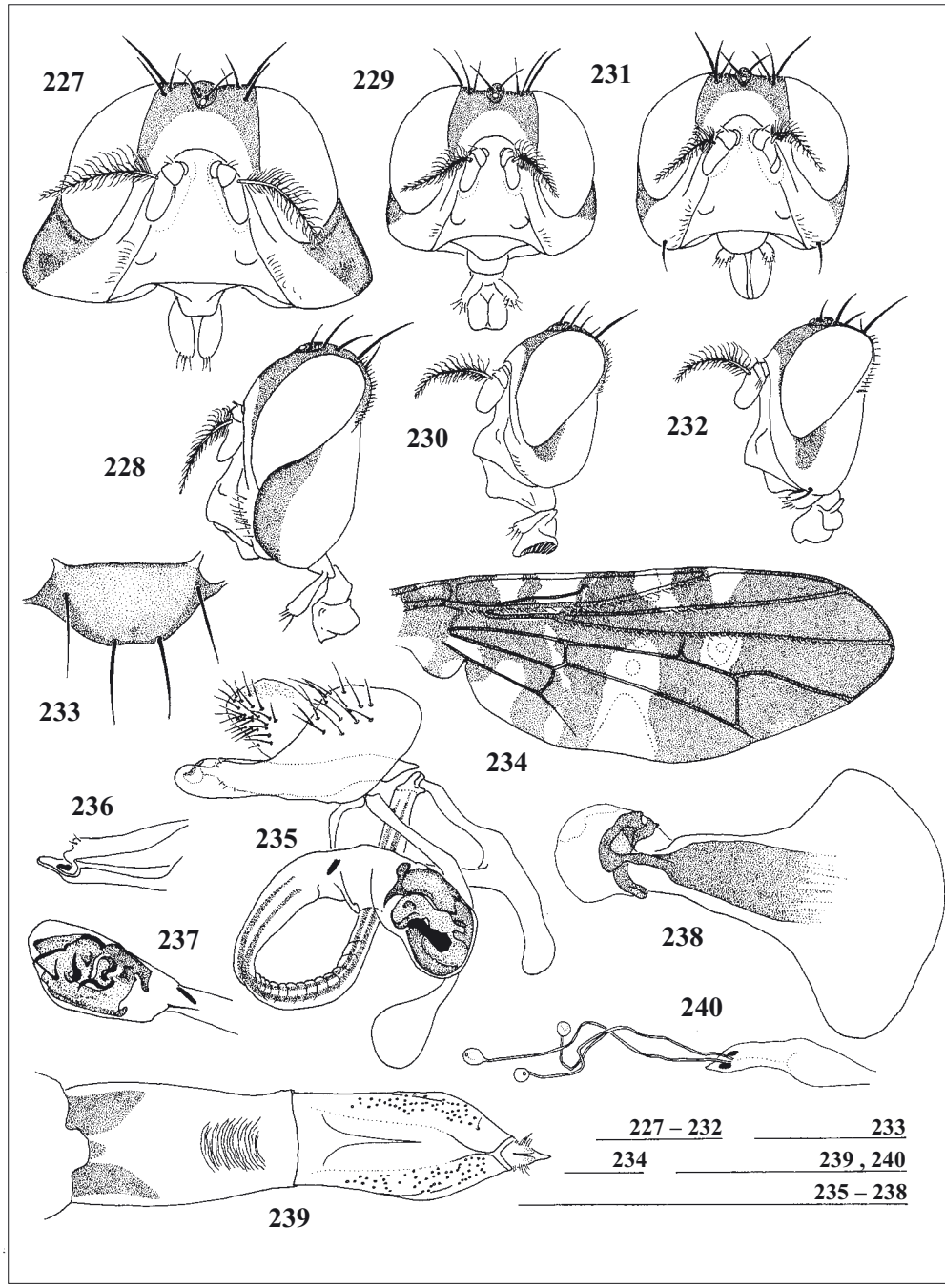
Diagnosis. Ground-colour pale yellow-ochre with various brown marks; yellowish lower part of the frons forming bell shape and clearly contrasting with brown dorsal part of frons. Males with expanded gena. Pale yellow fringe of apical setulae on pedicel. Anepisternum distinctly brown along posterior half; anepimeron mostly brown. Scutellum rounded and tending to be slightly indented apically. Basal scutellar seta closer to base of scutellum than to apical seta. Incision at apex of R_1 large, spot (variable in size) present in r_{4+5} beyond R-M. Dorsal surface of Cu without row of setulae. Apex of glans with rounded visica.

Etymology. *tibia* L. = shin and *-alis* L. (suffix) = having, pertaining to, condition; meaning not certain, but possibly having noticeably dark coloured tibiae.

Description

Dimensions: ♀ Lectotype. Body length unknown – specimen already dissected, but given by Hendel (1914b for any one of 2♂♂ 1♀) as 5.5 mm; wing length 5.7 mm. **Colour/Vestiture**: Face, gena, postgena and clypeus pale yellow; remainder of pale parts of head darker yellow – ptilinal hemisphere distinct and coloured yellow forming a bell shape and clearly contrasting with brown dorsal part of the frons (Figs 227, 229 & 231); dorsal half of frons brown, dark brown over ocellar triangle and vertex; dark brown spot on gena below lower margin of eye and in genal groove (Fig. 227). Arista pale brown; plumosity brown. Distal parts of mouthparts darker yellow. Black setulae: on frons; at apex of palp; subvibrissal row; postocular row continuous onto postgena where it spreads out onto gena and meets with subvibrissal row. Other setulae pale and inconspicuous; fringe of setulae on pedicel pale. Notum dark brown, with faint pair of narrow paler brown pre-sutural medial stripes; yellowish on anterior and posterior margins and in sutural cleft; postpronotum yellowish with a central brown spot. Posterior margin of anepisternum (Fig. 146), notopleural callus, anepimeron, mediotergite, subscutellum and scutellum all brown. Apex of femora and all tibiae brown; tarsi pale yellowish-brown, (darker than yellowish femora) and darker on distal tarsomeres. Calypter smoky grey; margin brown, with brown spot situated adjacent to margin midway along upper calypter. Wing membrane dark brown with distinct hyaline spots or incisions in costal cell and posterior margin of wing; clear incisions or spots at or beyond apex of R_1 and beyond crossvein R-M (Fig. 234). Veins mostly brown, sometimes pale in areas corresponding to pale membrane. Silver microtrichia dense on boundary between gena and parafacial, on thoracic pleurites and scutellum; present, but less obvious on face, vertex, postgena, most of thorax.
Head: Gena slightly wider than eyes (Figs 227, 229 & 231). Arista equal to width of frons; plumosity longer than width of flagellomere 1 (Figs 227–232).
Thorax: Scutellum rounded and tending to be slightly indented at apex (Fig. 233). Basal scutellar seta closer to base of scutellum than to apical seta (Fig. 233). **Legs**: Mid tibial pre-apical seta as long as trochanter. **Wing** (Fig. 234): Pre-humeral and humeral weakenings distinct, subcostal weakening absent. Subcosta sharply angled, broken at angle and continuous to costa as membranous fold, Sc-R spur incomplete. Flexion line cutting across apical section of Sc and distinct throughout wing to cu_1. R-M beyond middle of dm; Cu-bm short (equal to or less than half length of BM-Cu).
Abdomen: As for generic description. Ovipositor – Taenia, eversible membrane and aculeus stout (Fig. 239). Taenia short, less than one third length of eversible membrane; wrinkles on eversible membrane very fine and not completely covering width (Fig. 239). Aculeus broad and blade-like, finely ornamented with setulae on main body; tip of aculeus pointed, with brush of setulae subapically (Fig. 239). Spermathecae rounded with distal invagenations (Fig. 240).

Variation: ♂ Body length 3.4–5.1 mm, wing length 3.7–6.3 mm. ♀ Body length 2.9–6.1 mm, wing length 3.2–6.3 mm. Most male specimens have gena laterally extended to beyond outer margin of eye, measuring (across full width) up to twice width of sub cranial cavity. Some male specimens have gena as described for the Lectotype female and a few female specimens have head less compressed (lateral view). Some specimens have pale yellow colouring almost white and frons may be less intensely orange. Sub-



Figs 227–240: *Conopariella tibialis* (HENDEL, 1914). ♂ specimen and ♀ Lectotype; – **227**: Male head, frontal view; – **228**: Male head, profile; – **229**: Male head, variation, frontal view; – **230**: Male head, variation, profile; – **231**: Female head, frontal view; – **232**: Female head, profile; – **233**: Scutellum, dorsal view; – **234**: Right wing, dorsal view; dotted lines = variation in pattern; – **235**: Male genitalia, right lateral view; – **236**: Male genitalia, detail of apex of surstyli, dorsal view; – **237**: Male genitalia, detail of glans, left side; – **238**: Male genitalia, ejaculatory apodeme, right lateral view; – **239**: Female ovipositor, ventral view; – **240**: Female, internal genitalic organs.

vibrissal setulae are pale in a few male specimens, and sometimes both black and pale mixed. Other specimens have yellowish ground-colour suffused with magenta, especially on the parafacials. Mouthparts may be pale yellow and amount and distribution of brown on thorax (notum and pleurites) can vary. For example, katepisternum sometimes partially brown along posterior margin. Scutellum sometimes pale buff-brown in centre and, in a small group of 6♂♂ 9♀♀ Zaïrian specimens, scutellum is straight sided and thus subtriangular (as in *C. crenata* and *C. acutigena*) rather than rounded.

In many instances, costal insertions are large and bold. Vague spots of paler brown also occur along fore margin in cells r_1 and r_{2+3}. Hyaline spot beyond crossvein R-M ranges from large and dominant through small and indistinct to completely absent, while incision at apex of R_1 also ranges from large and conspicuous, to absent (dotted lines Fig. 234). There is sometimes a subapical hyaline spot on posterior margin of m, which is sometimes divided in two by a brown bar. Cell cu_1 incision sometimes stops at Cu_1 and then continues as a spot in dm and another in br. Occasional specimens have hyaline streaks along cells; these specimens are probably teneral. Apical section of subcostal vein evanescent in most specimens and Sc-R spur poorly formed. R-M is either at or beyond middle of dm and exceptionally (in some males) basad.

Genitalia (♂): Epandrium subrectangular (Fig. 235). Proctiger rectangular, strongly protruding, hypoproct strongly setulose (Fig. 235). Lateral surstylus broad, not curving in front of medial surstylus (Figs 235 & 236). Medial surstyli fused at apex to lateral surstylus; apex of medial surstylus sickle-shaped and apically sclerotised on inner surface (Fig. 236). Medial surstylus with shallow notch along ventral edge of apex, finely setose on second lobe (Fig. 236). Distiphallus annulated on inner surface for about half length (Fig. 235). Glans large (equal to epandrium) without basal caeca, with basal sclerotised bar small (Fig. 235) and with apical visica extended knob-like (Fig. 237). Ejaculatory apodeme broadly expanded distally (Fig. 238).

Material examined: **Lectotype**: UGANDA: ♀ (NHMW) "Uganda Prot. / Western Ankole. [unknown co-ordinates], / 4.500–5.000 ft. / 10–14,Oct.1911. / S.A. Neave." [printed on white card]; "Pterogenomyia / tibialis H. / det. Hendel" [last line printed on white card, rest handwritten]; "paratype" [printed on small yellow label]; "Coll. / Hendel" [printed on small white label]; "lectotype / *Conopariella / tibialis* / (Hendel, 1914) ♀ / Det.Whittington" [red label, first and last lines printed, middle three line hand written]. In good condition, but with slight damage (right antenna flagellomere 1 and orbital setae missing), abdomen dissected and placed in glycerine in a microvial, on same pin as specimen.

Other material — CAMEROUN: 2♀♀ Rt. N11, Bafut [06°06'N; 10°07'E, 1000 m], 20km N. Bamenda [05°55'N; 10°09'E, 1000 m], 17–24.xi.1987, A. Freidberg (TAUI) and 1♀ same data coll. F. Kapland (NMSE); 1♂ 1♀ Bambalang, Off Rt. N11, 35km E. Bamenda [05°55'N; 10°09'E], 18–21.xi.1987, A. Freidberg, 1200 m and 1♂ 1♀ same data coll. F. Kapland (TAUI); 1♂ Rt. N9, 40km E Sangmelima [02°57'N; 11°56'E], 8.xi.1987, A. Freidberg (TAUI). EQUATORIAL GUINEA: 1♀ Fernando–Poo, Forêt r[ou]te [road] de Concepcion [= Riaba 03°30'N; 08°50'E] 4km après [after] carref. [crossroads] de Moka [unknown co-ordinates], 13.xi.1970, L. Matile, 400 m (MNHN). CENTRAL AFRICAN REPUBLIC: 1♂ La Maboké [03°54'N; 17°53'E], 29.ix.1967, L.Matile, Forêt Galerie de Bébé (MNHN). ZAÏRE: 1♂ P.N.G Aka [river 04°35'N; 29°43'E], 14.v.1952, H. De Saeger, 3450 (MRAC); 1♂ P.N.G Dedegwa [river 04°34'N; 29°43'E], 17.v.1952, H. De Saeger, 3468 (MRAC); 2♂♂ P.N.G Anie/9 [riparian forest 04°30'N; 29°48'E], 29.vii.1952, H. De Saeger, 3843 (MRAC); 1♂ 1♀ P.N.G Mt. Moyo [04°30'N; 29°48'E], 25.ix.1952, H. De Saeger, 4076 (MRAC); 5♂♂ P.N.G Mabanga [camp III ca. 04°22'N; 29°47'E], 2♂♂ on 23.ix.1952,3♂♂ on 29.ix.1952, H. De Saeger, 4069 and 4103 (MRAC); 1♂ P.N.G Pali"/8 [river headwaters 04°22'N; 29°47'E], 27.ix.1952, H. De Saeger, 4401 (MRAC); 2♀♀ P.N.G. I/o/2" [Nagbarama River, riverine forest 04°21'N; 29°16'E], 13.ix.1950 and 5.x.1950, G. Demoulin, 818 and 868 (MRAC); 1♂ P.N.G. I/c/2" [Nambili gallery forest 04°20'N; 29°17'E], 30.xii.1949, H. De Saeger, 79 (MRAC); 18♂♂ 7♀♀ P.N.G. Makpe/8 [river source 04°20'N; 29°34'E], 5.xi.1951, H. De Saeger, 2718 (MRAC; 1♂ 1♀ NMSE); 1♂ P.N.G Ndelele/R. [river ca. 04°20'N; 29°47'E ca. 900 m], 24.ix.1952, H. De Saeger, 4075 (MRAC); 1♀ P.N.G. Ndelele, K.115 [04°20'N; 29°47'E, 900 m], 3.xii.1951, H. De Saeger, 2842 (MRAC); 4♂♂ 1♀ P.N.G Garamba/2 [source ca. 04°11'N; 29°57'E], 6.vi.1952, H. De Saeger, 3583 (MRAC); 5♂♂ 1♀ P.N.G. PpK/60/d/8 [river headwaters 04°10'N; 29°26'E], 18.xii.1951, H. De Saeger, 2924 (MRAC); 1♀ P.N.G. II/Pp.K.52/d/9 [riparian forest 04°06'N; 29°25'E], 28.x.1951, H. De Saeger, 2679 (MRAC); 2♂♂ P.N.G. II/dd/8 and II/dd/9 [river headwaters and riparian forest 04°00'N; 29°23'E], 6.ix.1951 and 7.vii.1952, H. De Saeger, 2383 and 3758 (MRAC); 1♂ P.N.G. II/eb/9 [riparian forest 03°59'N; 29°21'E], 13.iii.1952, H. De Saeger, 3234 (MRAC); 1♂ P.N.G. II/ec/4 [grassland savannah 03°59'N; 29°22'E], 30.viii.1951, H. De Saeger, 2172 (MRAC); 4♂♂ 1♀ P.N.G II/fc/4 [grassland savannah 03°58'N; 29°22'E], 30.viii.1952, H. De Saeger, 3997 (MRAC); 1♂ P.N.G. II/fc/17 [gallery forest 03°58'N; 29°22'E], 25.ix.1951, H. De Saeger, 2471 (MRAC); 1♂ 1♀ P.N.G. II/fd/5 [lowland savannah 03°58'N; 29°23'E], 10.ix.1951 and 25.x.1951, H. De Saeger, 2396 and 2678 (MRAC); 2♂♂ P.N.G. II/fd/11 [swamp vegetation 03°58'N; 29°23'E], 18.ix.1951, H. De Saeger, 2447 (MRAC); 2♀♀ P.N.G. II/fd/16 [confluence of Garamba and Nambirima rivers 03°58'N; 29°23'E], 28.xi.1951, H. De Saeger, 2814 (MRAC); 5♂♂ 2♀♀

P.N.G II/fd/17 [gallery forest 03°58'N; 29°23'E], 1♂ 9.vii.1952, 1♂ 2♀♀ 27.viii.1952, 1♂ 25.ix.1952 and 2♂♂ 24.ix.1951, H. DE SAEGER, 1♂ 3763, 1♂ 2♀♀ 3983, 1♂ 4083 and 2♂♂ 2468 (MRAC); 2♂♂ 1♀ P.N.G. II/gc/9 [riparian forest 03°57'N; 29°22'E], 20.x.1951, H. DE SAEGER, 2651 (MRAC); 6♂♂ 1♀ P.N.G II/gc/8 [river headwaters 03°57'N; 29°22'E], 3♂♂ 10.vii.1952 and 3♂♂ 1♀ 9.ix.1952, H. DE SAEGER, 3♂♂ 3765 and 3♂♂ 1♀ 4042 (MRAC); 5♂♂ 3♀♀ P.N.G. II/gd/4 [grassland savannah 03°57'N; 29°23'E], 1♂ 21.xi.1951, 1♀ 30.x.1951, 1♂ 31.vii.1952, 2♂♂ 1♀ 22.viii.1952 and 1♂ 1♀ 4.viii.1952, H. DE SAEGER, 1♂ 2770, 1♀ 2701, 1♂ 3859, 2♂♂ 1♀ 3964 and 1♂ 1♀ 4013 (MRAC); 6♂♂ 8♀♀ P.N.G. II/id/8 [Nampume river valley 03°55'N; 29°23'E], 6♂♂ 6♀♀ 31.x.1951and 2♀♀ 17.xi.1951, H. DE SAEGER, 6♂♂ 6♀♀ 2708 and 2♀♀ 2765 (MRAC); 12♂♂ 8♀♀ P.N.G. 2♂♂ 1♀ II/gd/8, 2♂♂ 1♀ II/hd/8 and 3♂♂ 3♀♀ II/je/8 [river headwaters 03°57'N; 29°23'E], 2♂♂ 1♀ 6.viii.1951, 2♂♂ 1♀ 3.viii.1951, 3♂♂ 3♀♀ 5.x.1951 and 5♂♂ 3♀♀ 13.xii.1951, H. DE SAEGER, 2♂♂ 2211, 1♀ 2226, 2♂♂ 1♀ 2195, 3♂♂ 3♀♀ 2600 and 5♂♂ 3♀♀ 2901 (MRAC); 4♂♂ 4♀♀ P.N.G. II/gd/9 [riparian forest 03°57'N; 29°23'E], 8.xi.1951, H. DE SAEGER, 2740 (MRAC); 1♀ P.N.G II/gd/10 [dry riverbed 03°57'N; 29°23'E], 8.viii.1952, H. DE SAEGER, 3909 (MRAC); 1♀ P.N.G II/gd/11 [swamp vegetation 03°57'N; 29°23'E], 4.ix.1952, H. DE SAEGER, 4036 (MRAC); 1♂ 2♀♀ P.N.G. II/hc/8 [river headwaters 03°56'N; 29°22'E], 12.xii.1951, H. DE SAEGER, 2902 (MRAC); 1♂ P.N.G II/id/9 [riparian forest 03°55'N; 29°21'E], 16.vii.1952, H. DE SAEGER, 3805 (MRAC); 2♂♂ P.N.G II/jd/9 and II/jd/11 [riparian forest and swamp vegetation 03°54'N; 29°23'E], 16.viii.1952 and 1.ix.1952, H. DE SAEGER, 3944 and 4008 (MRAC); 13♂♂ 7♀♀ P.N.G. II/ke/9 [riparian forest 03°53'N; 29°24'E], 12.x.1951, H. DE SAEGER, 2602 (MRAC); 9♂♂ 10♀♀ P.N.G II/le/8 [river headwaters 03°52'N; 29°24'E], 9.ix.1952 and 1♀ 3.v.1952, H. DE SAEGER, 4040 and 1♀ 3417 (MRAC); 7♂♂ 3♀♀ P.N.G. PpK.12/d/9 [riparian forest 03°47'N; 29°29'E], 2.i.1952, H. DE SAEGER, 2972 (MRAC); 4 ♂ P.N.G PpK.9/g/9 [riparian forest 03°46'N; 29°29'E], 10.ix.1952, H. DE SAEGER, 4044 (MRAC); 1♂ 1♀ P.N.G PpK.8/9 [riparian forest 03°46'N; 29°30'E], 15.vii.1952, H. DE SAEGER, 3792 (MRAC); 1♂ Haut Uelé, Abimva [03°08'N; 29°50'E], 1925, L. BURGEON (MRAC); 1♀ Odzala [00°37'N; 14°37'E], x.1963, A. DESCARPENTRIES & A. VILLIERS (MNHN); 2♂♂ Kunungu [unknown co-ordinates], 5 & 8.iv.1921 Dr H. SCHOUTEDEN (MRAC); 1♂ N. Rutshuru [01°11'S; 29°28'E], Makwera Forest, 29.v.1938, J. GHESQUIÈRE (KBIN); 1♀ Bangala District, Kutu [02°42'S; 18°10'E], 17.iv.1935, G. Settembrino (KBIN); 2♀♀ Bassin Lukuga [05°00'S; 14°17'E], 1936, DE SEAGER (MRAC); 1♀ Albertville [=Kalémié 05°57'S; 29°10'E], xii.1918, R. MAYNÉ, (MRAC); 1♂ 27 km [45 miles] South of Albertville [ca.06°24'S; 28°54'E, ca. 1500 m], E.S. ROSS & R.E. LEECH, 12.i.1958, 1350 m (CASC); 1♂ 1♀ Lulua [=river], Kapanga [08°22'S; 22°37'E, ca. 200–500 m], ix.1932, F.G. OVERLAET + 1♀ i.1933, 1♂ 1♀ iii.1933, 1♂ 2♀♀ 9.iv.1933, 1♂ 19. iv.1933, 1♀ iv.1934 (MRAC); 1♀ P.N.U. R. Munte [08°40'S; 26°45'E], 22.iv.1949, G.F. DE WITTE, 1400 m, 2528a (MRAC); 1♂ P.N.U. Reg. Confl. Mubale–Munte [ca. 08°40'S; 26°45'E], 13–18.v.1947, G.F. DE WITTE, 1480 m, 361a (MRAC); 1♀ P.N.U. Kabwoe s/Muye [09°00'S; 26°43'E], 6–12.v.1948, G.F. DE WITTE, 1320 m, 1581a (MRAC); 1♀ P.N.U. Lubanga af, Senze [09°09'S; 26°45'E], 10.iv.1948, G.F. DE WITTE, 1750 m, 1518a (MRAC); 2♀♀ P.N.U. Kenia affl. dr. Lusinga (affl. dr. Lufwa) [09°40'S; 27°12'E], 19.xii.1947, G.F. DE WITTE, 1585m, 1207 (MRAC); 3♂♂ 2♀♀ Lulua [=river], Sandoa [09°41'S;22°56'E], 8.iv.1931, F.G. OVERLAET + 1♂ 2♀♀ ii.1932, 4♀♀ 14.ii.1932 (MRAC); 2♀♀ P.N.U. Kalumegongo tête s. affl. dr. Lualaba [ca. 10°29'S;25°36'E], 18.iv.1947 and 21.i.1948, G.F. DE WITTE, 1780 m and 1830 m, 286a and 1220a (MRAC); 1♂ 1♀ P.N.U. Kenia [unknown co-ordinates, but within 08°–10°S; 27°–28°E], 28.iii.1947, G.F. DE WITTE, 1700 m, 136a (MRAC); 1♀ P.N.U. Kalumegongo [unknown co-ordinates, but within 08°–10°S; 27°–28°E], 18.iv.1947, G.F. DE WITTE, 1800 m, 276a (MRAC); 1♀ P.N.U. Dipidi [unknown co-ordinates, but within 08°–10°S; 27°–28°E], 22.iv.1947, G.F. DE WITTE, 1700 m, 300a (MRAC); 2♀♀ P.N.U. Mbuye–Bala [unknown co-ordinates, but within 08°–10°S; 27°–28°E], 24–31.iii.1948, G.F. DE WITTE, 1750 m, 1450a (MRAC); 2 ♀ P.N.U. Lusinga [conflicting co-ordinates, but within 08°–10°S; 27°–28°E], 22.iv.1949, G.F. DE WITTE, 1400 m, 2529a (MRAC); 1♀ Bitale [unknown co-ordinates], 19.viii.52, R. MAYNÉ, (KBIN). UGANDA: 1♂ Kampala [00°19'N; 32°35'E], 17.vii.1929, H. HARGREAVES (BMNH). MALAWI: 1♀ Cholo [16°05'S; 35°03'E], [no date], R.C. WOOD (BMNH). ZAMBIA: 1♀ Isomba R[iver], W[est] of Ikelenge [11°14'S; 32°46'E], 9–10.v.1983, D.L. HANCOCK (NMBZ); 1♂ Mwinilunga [11°44'S; 24°24'E], ii.1960, (NMBZ). MOÇAMBIQUE: 1♂ 1♀ Manica–Sofala District, Gorongoza Mountain [18°24'S; 34°06'E], ix.1957, B.R. STUCKENBERG, 840 m., gallery forest (NMSA); 1♀ near Spungabera [20°27'S; 32°46'E], 21.i.1955, B.R. STUCKENBERG & P.GRAHAM (NMSA). ZIMBABWE: 1♂ Mount Selinda [20°24'S; 32°43'E], 3.ii.1954, N.J. MYERS (NMSA); 1♀ Chirinda Forest, Mount Selinda [20°24'S; 32°43'E], 25.i.1955, B.R. STUCKENBERG & P. GRAHAM (NMSA); 1♀ Chirinda Forest, Mount Selinda [20°24'S; 32°43'E], 15–26.i.1959, A.C. VAN BRUGGEN, 670 m (3.500 ft.) (NMSA); 1♂ N. Vumba [ca. 19°06'S; 32°46'E], 23.iv.1966, D. COOKSON (NMSA).

Discussion. Lectotype designation: HENDEL (1914b) lists 2♂♂ 1♀ syntypes, but the depository of the two male specimens is not known. The female specimen is in NHMW and bears a yellow paratype label. HENDEL (1914b) did not select a holotype specimen, thus I consider the paratype label to be a later addition to the pin and therefore is not valid as a designation. In the absence of the two male specimens, I hereby designate the female as Lectotype.

Among the series of specimens examined there are some STEYSKAL manuscript labels for three unpublished names (not listed here, to prevent the establishment of *nomima nuda*). One label is on red card, written in black ink and was certainly intended to be permanent, while the other two names are on large, yellow paper labels written roughly in black (presumably) felt pen. Although these rough labels are

obviously only working (temporary) labels, they have been left on the pins for future reference. These names also appear in the key for *Conopariella* in STEYSKAL's unpublished manuscript. This key distinguishes the species placed in this genus by means of colour patterns on the wing and the coloration of the legs. I have found both characters to be generally unreliable and since the specimens correlate to this concept of *C. tibialis*, I have therefore disregarded the manuscript names.

The most remarkable variation found in *C. tibialis* is in the size ranges and wing patterns. Despite their small size, there appear to be no grounds for separating the smallest specimens in the above range, into a separate species.

In another group of 6♂♂ 9♀♀ Zaïrian specimens, the scutellum is straight sided and thus subtriangular (as in *C. crenata* and *C. acutigena*) rather than rounded. These specimens have pale pedicel fringe and a broad band of brown across the posterior margin of the anepisternum, as found in *C. tibialis* and are thus placed in this species. Further investigation may overturn this decision, but at present I consider there to be too little data to do otherwise.

Distribution. *C. tibialis* is widespread across the Afrotropical Region, except West Africa other than Cameroun. It is known from, Cameroun, Equatorial Guinea, Central African Republic, Zaïre, Uganda, Malawi, Zambia, Moçambique and Zimbabwe (Fig. 685).

Conopariella togoensis ENDERLEIN, 1922

(Figs 241 – 248, 685)

***Conopariella togoensis* ENDERLEIN, 1922** – ENDERLEIN (1922: 13) [description]. FREY (1932: 261) [key], FREY (1932: pl. VII, fig. 30); STEYSKAL (1980: 564) [catalogue].

Diagnosis. Ground-colour dusty creamy-white. Males with expanded gena. Pale yellow fringe of setulae at apex of pedicel. Posterior half of anepisternum distinctly brown; anepimeron mostly brown; katepisternum creamy-white. Scutellum rounded and tending to be slightly indented at apex. Basal scutellar seta closer to base of scutellum than to apical seta. Hyaline incision at apex of R_1 small; wing membrane brown beyond R-M. Dorsal surface of Cu without a row of setulae. Apex of glans with medial carina-like visica.

Etymology *Togo* a West African country, *-ensis* L. = suffix denoting place.

[Note: The holotype of *C. togoensis* is a poor representative of this species, being teneral and poorly coloured. Thus, this re-description is based on a male MNHN specimen from the Ivory Coast with the following data: "COTE D'IVOIRE / Bouaké [07°42'N; 05°00'W], F[=forest]. – Foro / 15.VII. 74 / G. COUTURIER leg." "*Conopariella* / *togoensis* / ENDERLEIN, 1922 ♂ / Det. A.E. WHITTINGTON" [rectangular white label, with black border; "Re-description / based on this / specimen" hand-written on reverse side]. In good condition, but head slightly collapsed around ptilinal fissure; glued laterally on card-pointer; genitalia (agreeing with Holotype) dissected and stored in glycerine, in a microvial on the same pin. Where the holotype differs, these variations are included in square brackets within the description.]

Description

Dimensions: ♂ specimen and [♂ Holotype]. Body length 4.1 [3.6] mm; wing length 4.3 [3.8] mm. **Colour/Vestiture**: Ground-colour dusty creamy-white [slightly transparent pale yellow-cream]; frons and lower parafacial tinged with yellow; upper frons to ptilinal hemisphere dark brown (almost black) [brown]; vertex, ocellar triangle and gena dark brown (almost black) [pale brown] (Figs 241 – 243); most of central notum, posterior half of anepisternum (Fig. 144), anepimeron, katatergite, subscutellum, scutellum and distal three abdominal tergites dark brown. Postpronotum, sutural cleft and posterolateral margins of notum white [slightly transparent pale yellow-cream]. Black setulae at apex of palp, lower subvibrissals, postgena and brown coloured parts of head, thorax and abdomen; pale yellow setulae for entire postocular row [all setulae pale except black on gena and postgena and brown on notum and pleurites]. Fringe of setulae on pedicel and upper subvibrissal setulae pale yellow. Three [two] pairs of postocellar setae: one medial divergent and two lateral parallel pairs either side of postcranial suture. Coxae and femora white [pale cream], except for slight brown coloration at apex of femora; all tibiae dark brown with short black setulae; tarsi buff. Wing membrane dark brown [pale brown] with a hyaline incision in each of cu_1 and anal cell [and m], but margins of these are indistinctly outlined and merge gradually with brown on membrane (Fig. 244). Yellow-brown incisions occur as: 1 pre-humeral and 2

post-humeral costal incisions; 1 incision at apex of R_1 [missing, but small remnant remains]; spot across R-M (Fig. 244). Veins mostly brown, pale in areas corresponding to pale membrane. Calypter white at base, smoky grey distally; margin brown. Halter powdery white [yellowish]. Epandrium brown and contrasting with white of remainder of male external genital apparatus. Microtrichia not apparent.

Head: Wider across gena than across eyes (dimension across gena three times width of frons) (Figs 241 & 243). Face slightly convex (Fig. 242). Antennal pits distinct. Facial tubercles below antennae pronounced. Frontogenal and ptilinal fissures not meeting, separated by distance equal to full width of flagellomere 1 (Figs 241 & 243). Genal extremities bent forward, post-gena slightly distended (Fig. 242). Facial carina flat and broad. Setulae of arista longer than width of flagellomere 1 (Figs 241–243). Frons, vertex gena and pedicel with some quite strong setulae scattered over surface, more dense adjacent to eye margins and extremity of gena. Subvibrissal and post-ocellar setulae long.

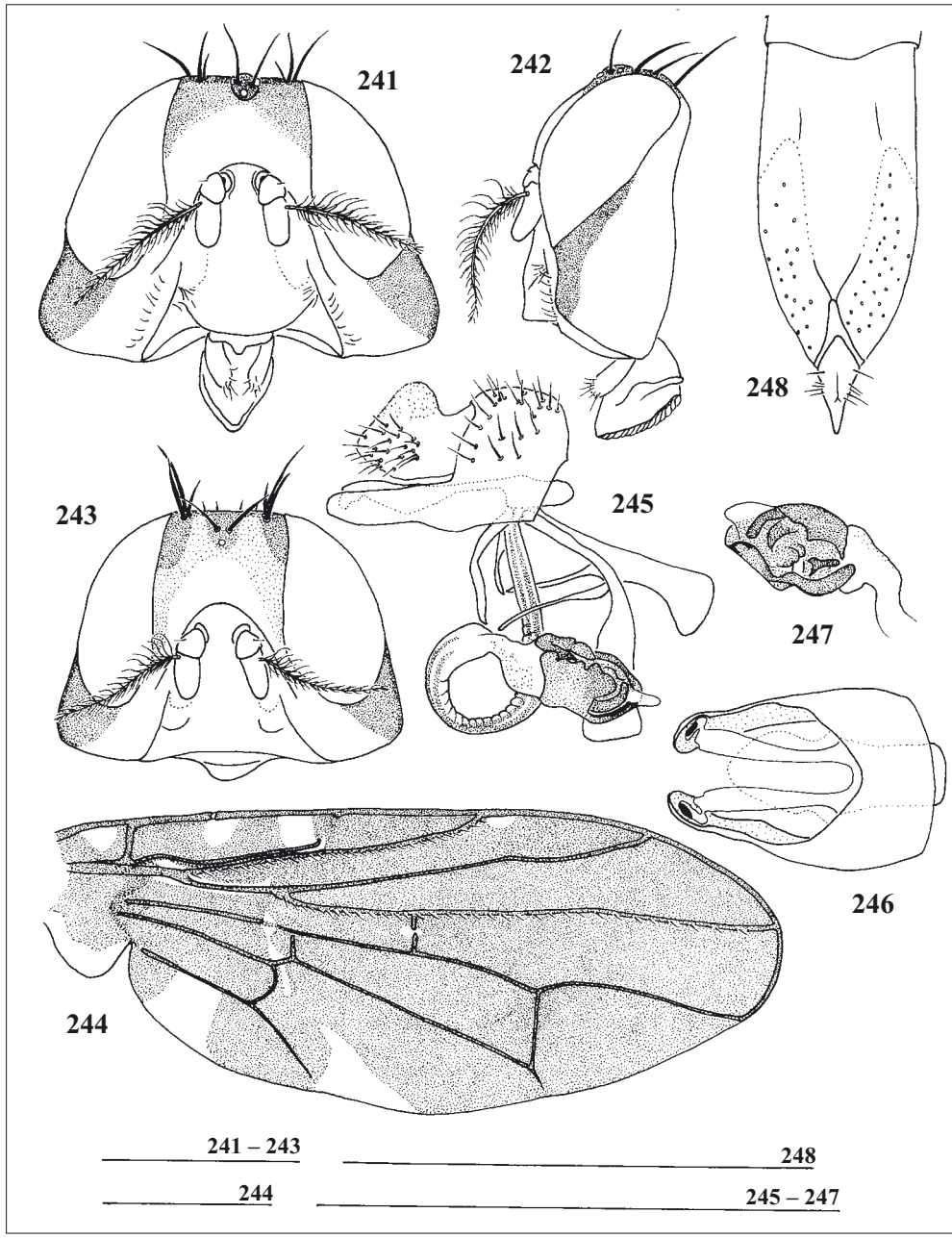
Thorax: Scutellum rounded and tending to be slightly indented at apex. Basal scutellar seta closer to base of scutellum than to apical seta. **Legs**: Mid tibial pre-apical seta as long as trochanter is long. Coxal setae pale and seta-like and not distinctive. Mid-coxal prong sharply curved. **Wing** (Fig. 244): Humeral weakening distinct, pre-humeral and subcostal weakening absent. Subcosta evanescent at angle, but well developed at margin; Sc-R spur obliterated by flexion line [Sc-R spur present], which cuts across junction between basal and apical sections of Sc. Flexion line indistinct across base of r_1, r_{2+3} and br, but thickened over bm, bcu and base of cu_1, stopping before level with middle of Cu_2. R-M at of middle of dm, slightly evanescent over middle; BM-Cu slightly evanescent at anterior end; Cu-bm shorter than BM-Cu , but more than half its length. Dorsal surface of Cu without a row of setulae.

Abdomen: As for generic description. Genitalia of Holotype and substitute specimen (♂) – Epandrium subsquare to round (Fig. 245). Proctiger raised in dome-like fashion; hypoproct setulose (Fig. 245). Lateral surstylus broad, curving in front of medial surstylus (Figs 245 & 246). Medial surstylus fused at apex to lateral surstylus; apex narrow and sickle shaped and strongly sclerotised on outer surface (Fig. 246). Small hook present toward base of inner side of stem of medial surstylus attached to a membranous connection with base of proctiger. Distiphallus annulated toward apex only (Fig. 245). Glans lacking basal caeca; with an apical finger-like visica (Figs 245 & 247).

Variation: ♂ Body length 3.5–4.1 mm, wing length 3.4–4.3 mm. ♀ Body length 3.5 (3.8)–4.5 (5.0) mm, wing length 4.2–5.6 mm. In some cases ground-colour may be suffused with pale buff, especially on parafacial and frons. In all male specimens examined, gena laterally extended to beyond outer margin of eye. Notum of some female specimens mostly whitish with six restricted brown marks, outer four of which are almost square. In these specimens scutellum is sometimes whitish at baso-lateral angle, extending to base of basal setae. Furthermore, these paler specimens have an indistinct brown mark on anepisternum, making them difficult to differentiate from pale specimens of *C. acutigena*. There is a range of colour on notum from almost completely brown to pale form mentioned above, with boundaries between colours frequently merging gradually causing yellowish-brown margin to some markings. Subvibrissal setulae sometimes black on lower portion and pale dorsally and in one specimen are completely pale. Females have strong genal setae, anteriorly orientated. A single female has dense dusting of blue-grey microtrichia across notum and scutellum. Ovipositor – T_6 reduced to narrow strip, oviscape (T_7 + S_7) strongly developed and protruding (body length measurements in bracket above include the oviscape), coloured brown. Eversible membrane striped brown and white. Wrinkles on eversible membrane fine and dense, becoming finer distally. Aculeus broad and blade-like, finely ornamented with setulae ventrally on main body; aculeus tip pointed, with a brush of setulae on each side at apex (Fig. 248). Spermathecae with distal invagenations. *In situ*: single spermatheca positioned dorsal to paired spermathecae. Twenty boat shaped ovarioles present, with fine rugosity at distal end.

Material examined: **Holotype**: TOGO: ♂ (ZMHB): "Togo / Bismarckburg [08°12'N: 00°47'E, 710 m] / 3–10.XII. [18]92. / L.CONRADT S." [printed on blue card; year of date = 1892]; "Type" [printed on orange card]; "*Conopariella* / *togoensis* / Type ENDERL. ♂ / Dr.ENDERLEIN det 1920" [handwritten on white card, now discoloured by the orange one above; last line printed up to and including "19"]; "Zool.Mus. / Berlin" [printed yellow label]; "HOLOTYPE / *Conopariella* / *togoensis* ♂ / ENDERLEIN, 1922./ Det WHITTINGTON" [rectangular red label, first and last lines printed, middle three handwritten]. In poor condition, teneral, right wing missing, left wing crumpled; pin badly weakened and bent; genitalia dissected and stored in glycerine, in a microvial on the same pin as specimen.

Other material – IVORY COAST: 5♂♂ 8♀♀ Bouaké [07°42'N; 05°00'W], F[=forest].–Foro, on dates: 1♂ 1♀ 13.v.1974, 1♂ 20.v.1974, 1♂ 4♀♀ 8.vii.1974, 2♂♂ 3♀♀ 15.vii.1974, 1♀ 28.vii.1974, G. COUTURIER leg., Piège coloré transect



Figs 241–248: *Conopariella togoensis* Enderlein, 1922. ♂ Holotype and ♂ & ♀ specimens; **241**: Male head, variation, frontal view; – **242**: Male head, profile; – **243**: Male head, frontal view (♂ Holotype); – **244**: Right wing, dorsal view; – **245**: Male genitalia, right lateral view; – **246**: Male genitalia, dorsal view; – **247**: Male genitalia, detail of glans, left side; – **248**: Female ovipositor, ventral view.

C (mnhn; 1 ♂ 1 ♀ dated 8.vii.1974 nmse). NIGERIA: 1 ♀ Sarduana Prov., Gangume Forest Reserve [ca. 08°06'N; 12°00'E, 1000 m], 10.vii.1970 H. Roberts (nmwc) – see comment under Other Material for *C. acutigena*. CAMEROUN: 1 ♀ Syntype of *Conopariella acutigena* Enderlein, 1922 "Neu-Kamerun [precise locality not known] / No. 15.7.193. / Teß mann S.G." [printed, pale blue label, number handwritten]; "Type" [printed on orange card]; "*Conopariella* / *acutigena* / Type Enderl. ♀ / Dr.Enderlein det 1920" [hand written, last line printed up to and including "19", on white card];

"Zool. Mus. / Berlin" [printed on white card]; white card bearing damaged wing and legs; "Zool. Mus. / Berlin" [printed on yellow card]; "Paralectotype / *C. acutigena* ♀ END. 1922 / misidentified: = *C. togoensis* END. 1922 / Det. A.E.WHITTINGON" [first and last lines printed, on yellow card, middle three lines hand-written]; in poor condition, repined by author, one remaining wing adhered to card, genitalia dissected and stored in glycerine in micro-vial on same pin (ZMHB – type misidentified by ENDERLEIN (1922)). CENTRAL AFRICAN REPUBLIC: 1♀ La Maboké [03°54'N; 17°53'E], 29.ix.1967, L.MATILE, Forêt Galerie de Bébé (MNHN).

Discussion. The type specimen is a poor representative of this remarkably distinct species, being discoloured or probably teneral. Dissection of the male genitalia confirms that the fresh material is clearly the same species as the holotype, although it is much whiter in comparison. This species is distinctly paler than all other species in *Conopariella*.

The specimens collected by G. COUTURIER from the Ivory Coast (including specimens of *Federleyella pallidipes* (ENDERLEIN, 1922), and *F. septemfenestrata* (ENDERLEIN, 1922) are very white and powdery. I suspect the killing agent used may have bleached the pale body parts. Even so, some body parts have remained cream coloured (e.g. behind the head), thus it is not clear whether the whiteness is artificial or not. Nevertheless, *C. togoensis* is readily distinguished from the *Federleyella* species by the male genital apparatus, the strongly developed and extended gena and the dark brown band on the gena below the eye. All specimens of *C. togoensis* examined lack the dorsal Cu setulae and it appears that these do not occur in this species. Furthermore the legs of *F. pallidipes* are pale in comparison to the distinctly dark brown apex of the femora and all of the tibiae of *C. togoensis*.

Distribution. *C. togoensis* is only known from West and Central Africa: Togo, Ivory Coast, Nigeria, Cameroun and Central African Republic (Fig. 685).

Conopariella ustulata sp. nov.

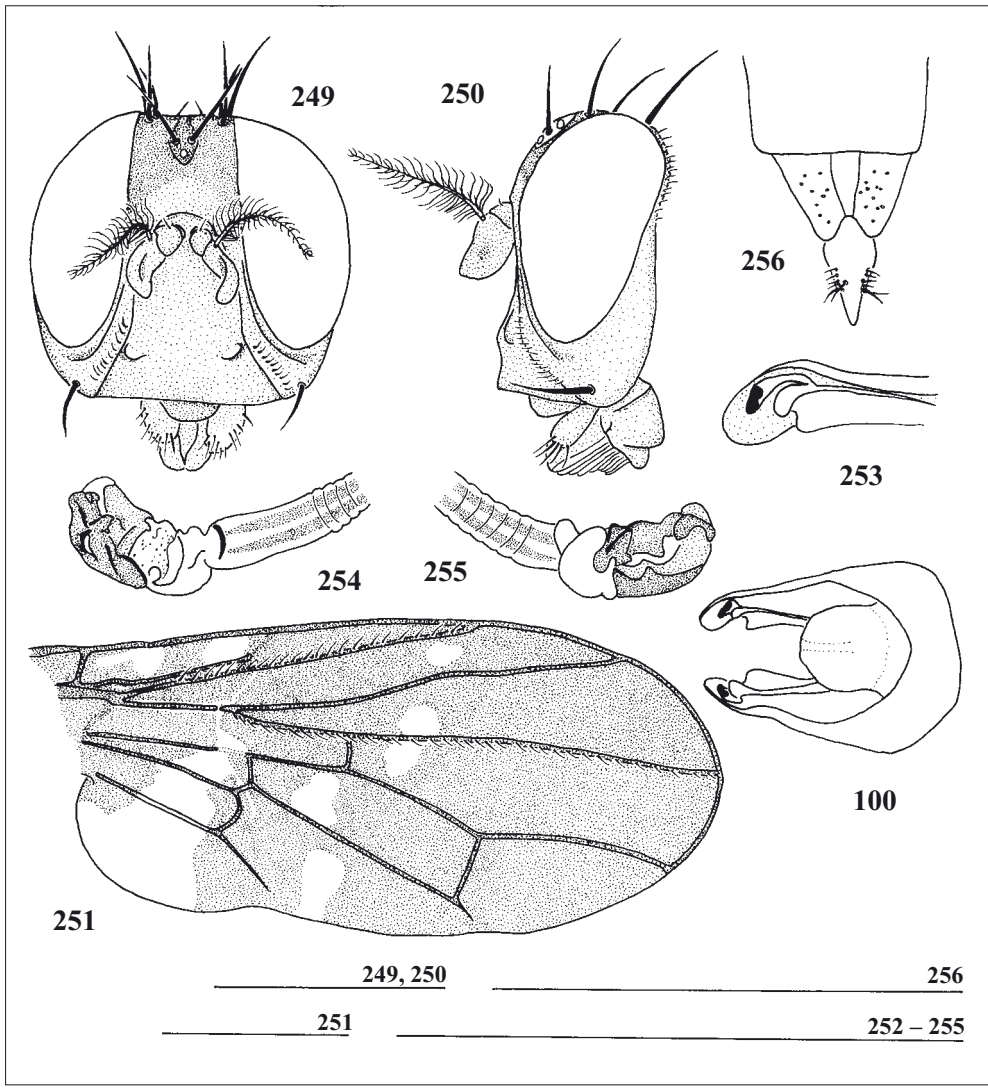
(Figs 249 – 256, 685)

Diagnosis. Ground-colour brown; only tarsi pale cream. Males without expanded gena. Pale yellow fringe of setulae at apex of pedicel. Anepisternum broadly brown; anepimeron mostly brown. Basal scutellar seta closer to base of scutellum than to apical seta. Fore femur densely setulose ventrally, with long setulae in many series. Wing membrane brown with distinct hyaline spots in costal and subcostal cells and on posterior margin in anal cell, across bcu and bm into br and a series of spots at apex of R_1, in r_{2+3} and r_{4+5} beyond R-M, in dm and cu; veins brown. Dorsal surface of Cu without row of setulae.

Etymology *ustulatus* L. a. = scorched, singed, browned, referring to the brown ground colour of this species.

Description

Dimensions: ♀ Holotype. Body length 3.5 mm; wing length 3.8 mm. **Colour/Vestiture**: Ground colour brown; darker over vertex and ocellar triangle (Figs 249 & 250), notum, anepisternum (Fig. 147) and abdominal tergites (except T_{1+2}); paler brown on occiput, postpronotum, notopleural callus, sutural cleft, proepimeron, meron, apex of femora and all of tibia. Tarsi pale buff and abdominal T_{1+2} yellow. Antennae, arista and plumosity brown. Wing membrane brown with distinct hyaline spots in costal and subcostal cells and on posterior margin in anal cell, across bcu and bm into br and a series of spots at apex of R_1, in r_{2+3} and r_{4+5} beyond R-M, in dm and cu; veins brown (Fig. 251). Upper calypter pale grey, dark grey-brown at margin with brown marginal setulae. Setulae generally brown, but black on vertex and notum; pale on apex of tibia and tarsi. Silver microtrichia scattered over most of body, but not particularly noticeable.
Head: Narrow and elongate (Figs 249 & 250). Face slightly concave below antennal grooves, which are longer than antennae and terminate in a low, but pronounced tubercle (Figs 249 & 250). Frons narrow – distance from ptilinal fissure to anterior ocellus less than length of antenna. Arista longer than width of frons; plumosity longer than width of flagellomere 1 (Figs 249 & 250). Pedicel with numerous brown setulae. Eyes converging dorsally such that vertex is narrower than lower frons (Fig. 249). Palp with long brown setulae over much of surface (Figs 249 & 250). Postocellar setae small and converging – two pairs, lateral pair slightly more dorsal than medial pair. Postgena not bulging (Fig. 250).
Thorax: Basal scutellar seta closer to base of scutellum than to apical seta. **Legs**: Coxal setae black and conspicuous. Fore femur densely setose ventrally, with long setulae in many series; mid tibial pre-apical



Figs 249–256: *Conopariella ustulata* sp. nov. ♀ Holotype and ♂ Paratype. – **249**: Female head, frontal view; – **250**: Female head, profile; – **251**: Right wing, dorsal view; – **252**: Male genitalia, dorsal view; – **253**: Male genitalia, detail of apex of inner surface of surstyli, oblique view (scale bar = 0,5 mm); – **254**: Male genitalia, detail of glans, right side; – **255**: Male genitalia, detail of glans, left side; – **256**: Female ovipositor, dorsal view.

seta longer than trochanter. Mid-coxal prong slender and short, semi-transparent and difficult to find; mid-coxal fringe well developed and strongly setose. **Wing** (Fig. 251): Humeral weakening distinct; prehumeral and subcostal weakenings absent. Subcosta evanescent beyond angle, traceable to costa as a dark and distinct fold; Sc-R spur obliterated by flexion line. Setulae on basal part of R_1 equal in length to R-M. R-M distinctly basad of dm, slightly curved; Cu-bm short, much shorter than half length of BM-Cu; BM-Cu curved. Upper calypter with a slightly sinuous margin.

Abdomen: As for generic description, but more elongate than ovate. Ovipositor – as for generic description, apex of aculeus with two distinct marginal setulae, numerous smaller setulae and numerous alveoli medially (Fig. 256).

Variation: ♂ Body length 3.2 mm; wing length 3.6 mm. ♀ Body length 3.4–3.5 mm, wing length 3.6 –3.8 mm. Male without expanded gena and with socket for genal seta (although specimen lacks genal setae). R_1 and r_{2+3} distal hyaline marks only in Mount Cameroon specimen. Female paratype teneral – hyaline steaks along wing membrane and generally paler than Holotype. In both paratypes, T_{1+2} orange-brown. Genitalia (♂) – Epandrium subsquare, proctiger subsquare (Fig. 252), but shallow and not distinctive. Lateral surstylus conspicuously longer than medial surstylus and curving around it slightly (Figs 252 & 253). Medial surstylus sickle shaped at apex, with a strongly sclerotised apical bar on outer surface and fused to inner surface of apex of lateral surstylus (Fig. 253). Stem of medial surstylus concave – upper lobe folded over at apex (Fig. 253). Distiphallus no longer than hypandrium. Glans large (slightly smaller than main body of epandrium), with no apical visica apparent, but with distinct apical carina and small basal caeca (Figs 254 & 255).

Material examined: **Holotype**: CAMEROUN: ♀ (TAUI) "CAMEROON, Rt.N6 / Bali – Batibo [05°56'N; 09°58'E] / W. of Bamenda [05°55'N; 10°09'E] / 20.♀I.1987 / A. FREIDBERG"; "HOLOTYPE / *Conopariella* / *ustulata* ♀ / sp. nov. / Det. WHITTINGTON" [first and last lines printed, middle three hand written on red card].. In good condition, double mounted, genitalia dissected, stored in glycerine in microvial on same pin as specimen.
Other material – **Paratypes**: CAMEROUN: 1♀ Rt.N6, Bali-Batibo [05°56'N; 09°58'E], West of Bamenda [05°55'N; 10°09'E], 20.xi.1987, F. KAPLAN (TAUI); 1♂ Bonakande, Mt. Cameroun [04°13'N; 09°10'E], 18.i.1932, M. STEELE, 914m ["3 000 ft"], B.M. 1934 – 240 (BMNH).

Discussion. *C. ustulata* is morphologically similar to *C. albitarsis* (ENDERLEIN, 1922) and is distinguished from that species by head colour, fore femur densely setulose ventrally with long setulae in many series and hyaline marks on the membrane distad of R-M.

Distribution. *C. ustulata* is known only from Cameroun (Fig. 685).

Eudasys gen. nov.

Type species: *Eudasys ophrys* sp. nov.

Diagnosis. Eye bare. Ocellar triangle small, slightly raised above frons, with two long thin ocellar setae, positioned anterior to orbital setae. Orbital plate extended dorsally, raised above dorsal margin of eye, beset with dense tufts of setae. Medial and lateral vertical setae present. Arista pubescent. Conspicuous white setae present on head and abdomen. Postpronotal setae absent. Three pairs of scutellar setae and dorsal tuft of thick, long white setulae anterior to apical scutellar setae. Hind trochanter of male rounded on inner ventral margin. Wings with radiate brown pattern. Heavy black and white setae on abdomen along midline, interspersed with, and longer than, long background setulae.

Etymology. *ευ* – *eu* Gr. = good or well; *δασψσ* – *dasys* Gr.f. = shaggy, thickly haired; referring to the strong setation in members of this genus. Gender feminine.

Description

Dimensions: Body length 3.9 – 5.0 mm; wing length 4.5 – 5.1 mm. **Colour/Vestiture**: Ground colour predominantly pale creamy contrasting with grey-brown and dark brown markings on notum, thoracic pleurites and abdominal tergites. Ptilinal hemisphere darker yellow than surrounding colour of frons; flagellomere 1 grey towards apex, arista pale buff, brown toward apex. Ventral half of palp brown. Scutellum yellowish cream. Pulvillae creamy-white. Wings hyaline; marked with radial dark brown lines generally following (but not necessarily corresponding to) pattern of long veins; veins dark brown except costa and basal portions of veins pale brown to buff where membrane is hyaline. Calypter white. Halter pale creamy-white. Abdominal sternites brown, setose. Abdominal pleurites membranous, pale cream. Male genitalia – glossy brown. Conspicuous white (cylindrical) setae present on head and abdomen. Setulae generally long and dense. Silver-grey microtrichia widespread, but absent from face (present in antennal grooves) and vertex posterior to ocellar triangle.

Head: Eye elongate, bare. Ocellar triangle small, slightly raised above frons, positioned anterior to orbital setae, with two long thin ocellar setae. Orbital plate conical, dorsally raised above dorsal margin of eye, beset with dense tufts of setae and setulae. Face concave, lower facial margin extending to level with apex of pedicel. Vertex one third to one half of head width; head width three-quarters thorax width. Antennal grooves well developed. Setal fringe on ventral surface of pedicel strongly developed. Flagellomere 1 oval, pendulous. Arista pubescent. Gena (in frontal view) with long curved margin between lower margin of eye and subcranial cavity. Palp elongate, many times longer than wide, ventrally setulose. Postgena slightly bulging posterior to eye. Subvibrissal row and setulae on apico-dorsal postgena black. Vertex asetulose. Setae: 1 ocellar, 2 black verticals, 1 white, weak postocellar (inserted close together and parallel), 1 white genal. Setae on orbital lobes super-numerous: two white anterior lateroclinate, five black erect medial (in a line dorsally on lobe) and one black and two white posterior reclinate orbitals. Postocular row poorly differentiated from background setation.
Thorax: Setulae long and dense, white, intermingled with black setulae in irregular patches on notum and pleurites; long setulae absent from presutural notum, postalar wall, posterior half of anepimeron, katatergite, meron, mediotergite and subscutellum; seta-like and erect in a clump on medial posterior margin of scutellum. Scutellum convex, rounded at margin. Setae: 2 notopleural (posterior one raised on a callus), 1 supra-alar, 1 postalar, 1 intra-alar, 1 posterior acrostichal and 1 posterior dorsocentral; scutellum with 2 lateral (dorsally inserted on margin with respect to apical seta) and 1 apical (ventrally inserted on margin with respect to laterals).
Legs: Setulae long, white, interspersed with black, tending to be more seta-like on ventral surfaces of femora and dorsal surfaces of tibiae; obscuring setae of coxae. Fore femora aspinose; white setulae interspersed with black setulae on apex. Apex of fore and hind tibiae with a distinct comb of pale orange-brown setulae. Mid coxal prong pale, slightly curved at base, apically pointed. Midtibia with ventral pre-apical seta (equal to width of tibia). Anterior margin of fore and mid tarsomeres with short, thick, black pre-apical setulae. First three tarsomeres of each leg with slightly thickened ventral setulae. Setulae long and conspicuous dorsally on apex of final tarsomere, curving over apex in front of claws. Empodium small, setiform. Pulvilli rounded and densely setose. Claws sharp, smooth and narrow; evenly curved. **Wing**: Costa with no breaks, but weakened prehumerally. Costa ending at apex of M, black and white setulae intermingled along it (black generally over dark coloured areas corresponding to patches on membrane) as far as subcostal node, black intermingled with brown and becoming shorter toward wing apex from subcostal node to apex. Costal cell broad (wider than length of crossvein postpronotal). Subcosta evanescent, continuing to costa as fold in wing, undulating near to humeral crossvein, weakened at wing flexion and bent toward costa at oblique angle. Fine setulae along posterior wing margin brown. Black setulae on entire R_1, and R_{4+5} and discal portion of M basad to R-M. Wing flexion noticeable as a hyaline band through apex of sub-costa, across br, bm, BM-Cu and cu_1, trailing off toward apex of A_1+Cu_2. R-M a little before midway on dm. Cell bm longer than bcu; apical portion of br half width of basal portion. Cu_1 and A_1+Cu_2 reaching wing margin. Lower calypter reduced to setose ridge, upper calypter well developed, with a undulating margin. Tegula small with long black and white seta-like setulae.
Abdomen: Ovate, widest at hind margin of T_{1+2}. Sternites reduced to less than one-third width of abdomen. Setulae long and dense, mixture of black and white, in longer tufts along midline of T_3 to T_5. Genitalia (♂) – epandrium subglobose, dorsally setose. Proctiger membranous and small, hypoproct enlarged, forming shield above surstyli, setulose along lateral and ventral margin. Lateral surstylus distally slightly curved around apex of medial surstylus, apically pointed; medial surstylus simple, apically sclerotised. Distiphallus narrow, with annular impressions on dorsal surface. Caeca of glans narrow, partially sclerotised. Glans elongate, with

swollen basal portion sclerotised on ventral margin, finely microtrichose on dorsal margin; much-reduced filaments and acrophallus enclosed by lateral sclerites. Ejaculatory apodeme sclerotised, narrowly spatulate. Vanes of phallapodeme and hypandrium narrow. Ovipositor – oviscape conical, slightly shorter dorsally than ventrally; eversible membrane finely ornamented on apical half with minute wrinkles; aculeus blunt ended, setulose at apex and along shaft; spermathecae round with apical "button"; ovaries not observed.

Included species: *Eudasys ophrys* **sp. nov**.

Discussion. Although presently monotypic, *Eudasys* is strikingly different from other Afrotropical Plastotephritinae. It is one of three genera currently placed in the *Cladoderris*-group and is most similar to the Oriental genus *Agadasys* WHITTINGTON, 2000, having many characters similar. Shared characters include:

> Arista pubescent; medial and lateral vertical setae present; wings with radiate brown pattern; postpronotal setae absent; conspicuous white setae present on head and abdomen, these not noticeably compressed; hind trochanter of male rounded on inner ventral margin, with lateral spur on inner surface; scutellum with a dorsal tuft of thick, long white setulae anterior to apical scutellar setae; abdomen with heavy white and black setae along midline, interspersed with and longer than long background setulae.

Nevertheless, *Eudasys* and *Agadasys* can easily be told apart (Table 7).

Distribution (Fig. 684) – *Eudasys* is known from West and central Africa.

Tab. 7: Characters distinguishing *Eudasys* gen. nov. from *Agadasys* WHITTINGTON, 2000

***Eudasys* gen. nov.**	***Agadasys* WHITTINGTON, 2000**
1. Eye bare (Figs 257 & 258)	1. Eye densely haired (WHITTINGTON 2000, figs 1–3)
2. Ocellar triangle small (Figs 257 & 258)	2. Ocellar triangle elongate (WHITTINGTON 2000, figs 1–3)
3. One pair of ocellar setae (Figs 257 & 258)	3. Three pairs of ocellar setae (WHITTINGTON 2000, figs 1–3)
4. Orbitals numerous, inserted on strongly raised lateral lobes of vertex (Figs 257 & 258)	4. Two pairs of orbitals, inserted on slightly raised lateral lobes of vertex (WHITTINGTON 2000, figs 1–3)
5. Three pairs of scutellar setae (Fig. 259)	5. Two pairs of scutellar setae (WHITTINGTON 2000, fig. 5)
6. Hypoproct elongate, longer than surstyli (Fig. 266)	6. Apex of distiphallus in ♂ genitalia without lateral plates (WHITTINGTON 2000, fig. 9)
7. Glans with reduced lateral sclerites (Fig. 266)	7. Glans with large lateral sclerites (WHITTINGTON 2000, figs. 8, 16 & 17)
8. Glans without apical visica (Fig. 266)	8. Glans with apical visica (WHITTINGTON 2000, figs. 8, 16 & 17)

Eudasys ophrys sp. nov.

(Figs 257 – 268, 684)

Diagnosis. Ocellar triangle small, slightly raised above frons, with two long thin ocellar setae, positioned anterior to orbital setae. Orbital plate extended dorsally, raised above dorsal margin of eye, beset with dense tufts of setae. Conspicuous white setae present on head and abdomen, these not noticeably compressed. Scutellum with dorsal tuft of thick, long white setulae anterior to apical scutellar setae. Hind trochanter of male with short pointed spur laterally on inner surface. Radiate brown pattern of wings narrow. Heavy black and white setae on abdomen along midline, interspersed with and longer than long background setulae.

Etymology. *ophrys* Gr.f. – eyebrow, referring to the dorsally extended lateral lobe of the vertex.

Description

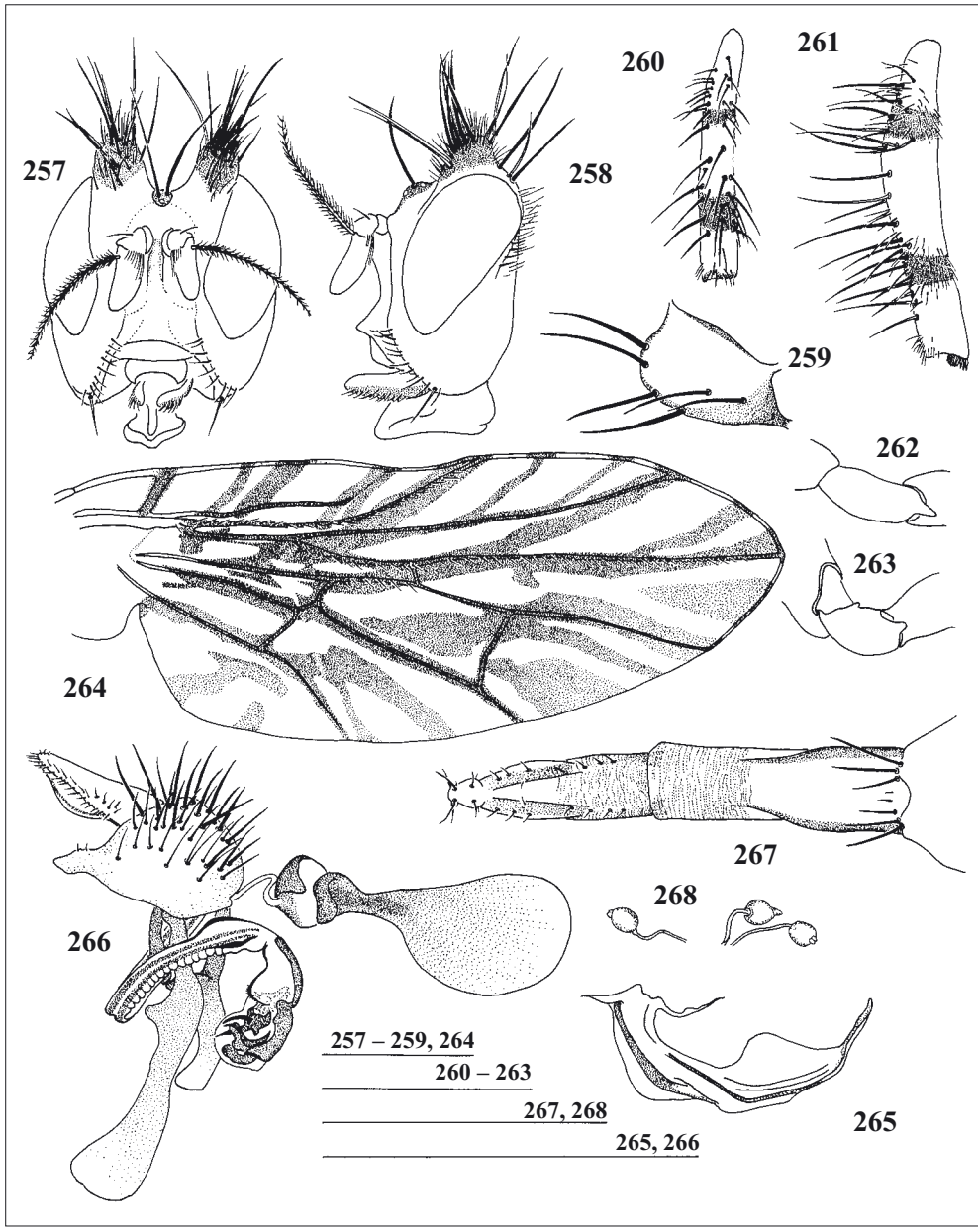
Dimensions: ♂ Holotype. Body length 4.9 mm; wing length 5.1 mm. **Colour/Vestiture**: Ground colour predominantly pale creamy contrasting with grey-brown and dark brown markings on orbital lobe (Figs 257 & 258), diagonal band across occiput, and markings on thorax and abdomen. Ocellar triangle orange-brown. Thorax largely grey, but pattern obscured by dense vestiture: notum grey with two ill defined dorsocentral pale stripes, with four smoky-grey square marks: one over each part of transverse suture and notopleural callus, one (faint) fronto-medial and one postero-medial band; anepisternum, katepisternum, katatergite, anatergite and mediotergite dark grey;. scutellum grey-brown ventral to scutellar setae and basal to first lateral seta (Fig. 259); subscutellum dull orange-brown. Legs banded with brown (Figs 260 & 261); mid and hind coxae brown; brown subapical spot on inside of fore femur corresponding to sub-basal band on tibia when leg is folded; mid and hind femora with basal brown bands and brown subapical spots on ventral surface; tibiae with two brown bands (sub-basal and pre-apical) and a narrow brown ring around apex; first tarsomeres of all legs basally brown; distal half of first tarsomeres and remaining tarsomeres pale brown. T_{1+2} basally pale grey-brown medially and laterally, T_4 grey with brown and grey-brown marks and T_5 grey-brown with darker brown marks. Silver-grey microtrichia densely covering body, especially thorax and abdomen, absent from elongate dark brown lateral markings on T_5.

Head: Elongate and vertically compressed, oddly shaped, orbital lobes strongly raised above eye margin in tubercle like fashion, ocellar triangle raised and positioned forward of orbital lobes, frons angled steeply back, occiput angled away from thorax, gena deeply developed below eye (Figs 257 & 258). Fronto-orbital setae intermingled with strongly developed setulae (Figs 257 & 258). Ventral setulae on pedicel long, reaching midway on flagellomere 1, intermingled on outer ventral margins of pedicel and flagellomere 1 with black setulae (Figs 257 & 258). Arista pubescent (Figs 257 & 258). Height of gena from seta to lower eye margin approximates length of flagellomere 1. Setulae generally long and dense, white, intermingled with black setulae in clump on orbital lobes. Postocular row white throughout except for small group of black setulae midway along eye margin (Fig. 258).

Thorax: Scutellum compact, rounded at apex, slightly flattened dorsally (Fig. 259); raised up distally above level of notum, exposing subscutellum. **Legs**: White setulae interspersed with black setulae on tibial bands of all legs (Figs 260 & 261). Midtibia with stout ventral pre-apical seta gently curved, approximately equal to width of tibia. Inner surface of hind trochanter (in male only) apically drawn out to pre-apically form a stout pointed lateral lobe (Fig. 262; compare with Fig. 263, hind trochanter of *Agadasys hexablepharis* Whittington, 2000). **Wing** (Fig. 264): Costa with prehumeral weakening, but no humeral weakening evident in holotype (see "Variation").

Abdomen: As for generic description. Genitalia (♂) – Sternite 7 c-shaped, narrowly bi-lobate at distal end, singly lobate basally (Fig. 265). Epandrium densely setulose (Fig. 266). Proctiger poorly developed and not visible above sides of epandrium, fused to hypoproct. Hypoproct (Fig. 266) long, apically rounded, raised at a slight angle to the epandrial margin, having two sinuous ventral struts, setose along margin and apex in two orientations (ventral and dorso-lateral), brown pruinose toward apex. Lateral surstylus pointed, abruptly narrowing apically and curved acutely around in front of medial surstylus, two setulae present dorsally (Fig. 266). Medial surstylus club shaped, differentiated into weakly formed lobes – apical lobe sinuous, ventral lobe more basal, blunt and short. Vanes of phallapodeme and hypandrium narrow (Fig. 266). Ejaculatory apodeme narrowly spatulate, strongly sclerotised basally and sclerotised throughout (Fig. 266). Apex of distiphallus raised lateral caeca, partially sclerotised (Fig. 266). Apex of glans with paired terminal lobes between which rest strongly sclerotised lateral filaments and acrophallus with apical spur.

Variation: ♂ Body length 4.0 – 5.0 mm, wing length 4.5 – 4.8 mm. ♀ Body length 3.9 – 4.7 mm, wing length 4.5 – 4.8 mm. Colour often paler, face may be tinged with pale orange; grey-brown of thoracic pleurites sometimes brown and in some females there is a pinkish tinge on abdomen; amount of ground colour present on T_{1+2} and T_4 variable . Some female specimens have an ill-defined humeral weakening on Costa. Inner surface of female hind trochanter lacking pre-apical lobe. Ovipositor – oviscape with 2 pairs of long setae at apex of dorsal and ventral margin (Fig. 267). Basal half of aculeus and apical half of eversible membrane ornamented with fine wrinkles (Fig. 267). Aculeus setulose. Tip of aculeus blunt ended with dorsal and ventral pairs of long apical and basal setulae and a lateral pair of minute apical setulae basad of long apicals (Fig. 267). Spermathecae round with an apical cap (Fig. 268).



Figs 257–268: *Eudasys ophrys* sp. nov. ♂ Holotype and ♀ Paratype. – **257**: Head, frontal view; – **258**: Head, profile; – **259**: Scutellum, oblique dorsal view from right; – **260**: Left fore tibia, dorsal view; – **261**: Left hind tibia, inner surface, lateral view; – **262**: Right hind trochanter, inner surface, lateral view; – **263**: Right hind trochanter, inner surface, lateral view of *Agadasys hexablepharis* WHITTINGTON, 2000; – **264**: Right wing, dorsal view; – **265**: Male sternite 7, ventral view; – **266**: Male genitalia, right lateral view; – **267**: Female ovipositor, ventral view; – **268**: Spermathecae.

Material examined: **Holotype**: NIGERIA: ♂ (NMWC) "Nigeria: Ife – Ife [07°28'N; 04°34'E] / W State 20 Feb 1973 / J. T. MEDDLER Coll." [printed on white card]; "HOLOTYPE / *Eudasys ophrys* / sp. nov. ♂ / Det. WHITTINGTON" [first and last lines printed, middle two handwritten on red card]. Double mounted on *Polyporus*. In good condition; genitalia dissected and stored in glycerine, in microvial pinned with specimen.

Other material – **Paratypes**: NIGERIA: 1♂ same data as Holotype, but dated 30.x.1969 (NMSA); 1♂ same data as Holotype, but dated 3.ii.1975 (NMSE); 1♀ Igbo Ora [07°29'N; 03°19'E], 26.ix.1964, B.R.L. [full name of collector not known], in woodland (BMNH). CAMEROUN: 2♀♀ Rt.N4, 120Km NW Yaounde [04°38'N; 11°15'E, ca. 500 m], 5.xi.1987, A. FREIDBERG (TAUI). ZAÏRE: 1♂ Yangambi [00°47'N; 24°24'E, ca. 200–500 m], 2.iv.1951, D.W. CLANCY, resting on fruit of *Syzygium zambos* (Myrtaceae) (USNM); 1♀ Likete (S/Lomela [River]) [00°48'S; 21°31'E; ca. 200–500 m], 13.vi.1936, J. GHESQUIÈRE (KBIN); 1♂ Tshuapa, Ikela [01°06'S; 23°06'E; ca. 200–500 m],.viii.1956, R.P. LOOTENS (MRAC).
Excluded from the paratype series – CAMEROUN: 1♀ Yokadouma [03°26'N; 15°06'E, ca. 500–1000 m], v.1971, NONVLL. [Nonveillier possibly?], C.I.E. Coll: A7811 (NMWC). ZAÏRE: 1♂ Eala [00°02'N; 18°22'E; ca. 200–500 m], vii.1936, J. GHESQUIÈRE (KBIN – headless).

Discussion. *Eudasys ophrys* is the only species known in this distinctive African genus. The only biological data known is that one male from Yangambi (Zaïre) was found resting on fruit of *Syzygium jambos* L. ALSTON (Myrtaceae).

Distribution. *Eudasys ophrys* is a West and Central African species known from Nigeria, Cameroun, and Zaïre (Fig. 684).

Federleyella FREY, 1932

***Federleyella* FREY, 1932** – FREY (1932: 263, pl. VIII, fig 43) [description]. **Type species**: *Anaphalantias septemfenestrata* ENDERLEIN, 1922, by original designation (as *fenestrata* in error). FREY (1932: 257) [key]; STEYSKAL (1963: 133) [key to species]; STEYSKAL (1980: 564) [catalogue].

Diagnosis[1]. Arista plumose. Gena in males not laterally expanded. Medial vertical seta reduced and hair-like, often indistinguishable from postocellar row. Postpronotal seta absent, notum with postsutural acrostichal seta. Two pairs of scutellar setae. Setulae present ventrally on R_{2+3} and/or on M, in addition to setulae dorsally along length of R_1, R_{4+5} and Cu. Wing membrane generally dark brown with hyaline spots and incisions. Medial surstylus of male genitalia bilobed at apex and having an outward directed hook midway along stem, which articulates with a notch in lateral surstylus. [♂ Body length 2.7–3.3 mm; wing length 2.7–3.8 mm; ♀ body length 2.7–3.4 mm; wing length 2.9–3.8 mm].

Etymology. This genus was dedicated by FREY (1932) to H. FEDERLEY, Professor of Genetics at Helsingfors University; thus *Federley* and the diminutive suffix *-ellus* in the feminine form of endearment, hence *-ella*; i.e. "little FEDERLEY". Gender feminine.

Description

Dimensions: ♂ Body length 2.7–3.3 mm; wing length 2.7–3.8 mm. ♀ Body length 2.7–3.4 mm; wing length 2.9–3.8 mm. **Colour/Vestiture**: Body colour pale yellow-ochre with dark brown markings. Eyes reddish-brown. Antennae buff to yellowish-brown. Frons frequently tinted with orange of buff adjacent to ptilinal fissure. Setulae on extended male genae dense, brown and mixed with dense microtrichia. Subvibrissal setulae varied: black, brown or pale yellow; sometimes a mixture of dark setulae on ventral portions and pale setulae dorsally. Tibiae pale or dark brown; tarsi orange-brown. Subalar sclerite dark brown and densely covered with velvet-like pubescence. Wing with hyaline incisions and spots on a brown membrane. Calypter smoky grey or brown with dark brown margin and marginal fringe of long, black setulae. T_{1+2} of abdomen pale, black or dark brown on remaining tergites. Pleurites of abdomen concolourous with sternites (pale yellow-ochre). Female oviscape concolourous with distal segments of abdomen, thus contrasting ventrally with pale sternites and pleurites. Setulae silver-white, short and generally reclinate on pale coloured body parts; black on brown coloured body parts. Scutellum asetulose (but having setae and microtrichia). Silver microtrichia weak and difficult to discern; most no-

[1] [N.B. compare carefully with diagnosis for *Conopariella* ENDERLEIN, 1922. It is advisable to dissect male specimens when in doubt]

ticeable on thoracic pleurites (view at acute angle from below) and over dark coloured areas. Microtrichia often brown-bronze on frons.

Head: Elongate and anteroposteriorly compressed, vertex much narrower than thorax. Face indented slightly under antennae, and convex to lower facial margin which projects at margin. A low, poorly developed tubercle present below antennal grooves, which are shallow. Eyes elongate, oval. Frontogenal and ptilinal fissures almost touching. Frons narrowing slightly dorsally. Ocellar triangle elongate, positioned forward of orbitals. Apex of ptilinal fissure separated from antennal base by vertical dimension of scape. Antennae pendulous, scape inserted dorsal to midway down length of head. Arista long plumose – longest setulae as long as width of flagellomere 1 and arranged in five series, with dorsal and ventral series longest, the others protruding at equal angles in between (two on inner surface and one on outer surface). Pedicel with latero-ventral fringe of long brown to yellowish setulae. Middle of vertex slightly sunken below level of top margin of eye. Gena (below eye margin) shallower than distance between apex of antenna and lower facial margin. Postgena slightly swollen, roughly equal to width across lower quarter of eye. Palp flattened, strongly setulose apically. Supracervical setulae short and sparse, silver. Setae: 1 pedicel, 1 divergent (slightly reclinate) ocellar, 1 parallel - to-divergent postocellar (occasionally doubled), 2 reclinate orbitals (anterior one slightly more robust), 1 vertical, 1 strong genal (present in ♀ only). Postocular row distinct, continuing dorsally adjacent to postocellars.

Thorax: Notum longer than broad, broadest across anepisternum. Katatergite slightly bulging. Margin between katatergite and anatergite usually defined by a broad but shallow furrow. Posterior spiracle close to base of halter. Setae strong and well developed: 2 notopleural (posterior one raised on callus), 1 supra-alar, 1 postalar, 1 intra-alar, 1 postsutural dorsocentral, 1 postsutural acrostichal, (both along posterior margin of scutum), 1 basal and 1 apical scutellar; 1 tegular (plus some smaller strong, black setulae). Setulae short, recumbent, and quite dense, generally silver-white, but black over dark body parts; strongly developed on posterior margin of anepisternum, centre of anepimeron, ventral parts of katepisternum and coxae. **Legs**: Fore coxa with 2 long pale apical setae; mid coxae with single or double long dorsal setae. Mid coxal prong weak, pointed at apex, curved throughout length. Mid tibia with strong ventral pre-apical seta longer than width of apex of tibia. Setulae of legs pale (sometimes black on tibiae), conspicuous and long dorsally on apex of final tarsomere, curving over apex in front of claws. Ventral setulae of tarsomeres slightly stouter and denser than other setulae of legs, apical two or three tarsomeres of fore and mid legs with short black preapical setulae across latero-ventral margins, most strongly developed on middle leg. Empodium setiform, small and inconspicuously situated between large, pale pulvilli. Claws strongly developed. **Wing**: Costa with pre-humeral, humeral and subcostal weakenings (but no distinct breaks); pre-humeral weakening marked by stronger setulae basad and weaker setulae apicad. Subcosta sinuous, ending abruptly before turning toward costa, continuing to costa as distinct fold in membrane; Sc-R poorly developed. Setulae dorsally on entire length of R_1 and R_{4+5}, and ventrally on basal quarter of R_{2+3} and middle portion of M from just before R-M to just beyond end of dm; some species bear setulae ventrally on R_{4+5}. R_{2+3} slightly sinuous; and M arching forward slightly after dm, before curving posteriad to terminate at wing margin. Discal cell broader distally than basally, slightly curved along anterior margin at junction with R-M.

Abdomen: Ovate, broadest across margin of T_{1+2} and T_3. Sternites narrow, about one third width of tergites. Pleurites membranous. Male genitalia – S_7 with a short dorsal spur midway along its length. Epandrium rounded to subsquare; epandrial-surstylar suture present. Proctiger membranous, hypoproct having short setulae, denser ventrally than dorsally. Lateral surstylus broad, apically blunt, curved around apex of medial surstylus. Medial surstylus apically bilobed,

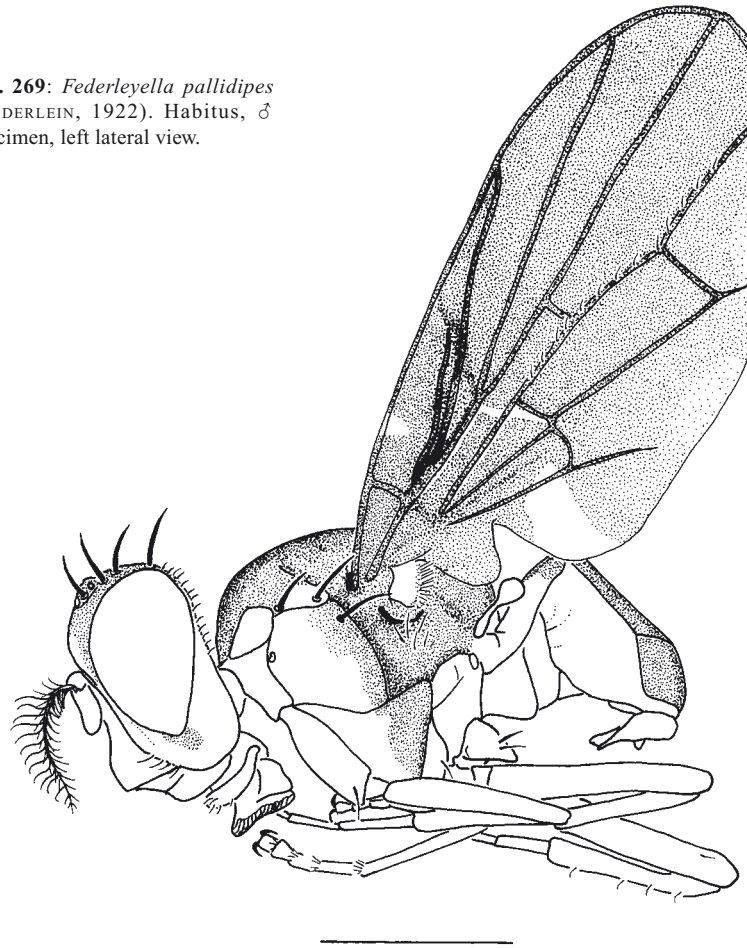


Fig. 269: *Federleyella pallidipes* (ENDERLEIN, 1922). Habitus, ♂ specimen, left lateral view.

distal lobe ventral to more basal lobe and heavily sclerotised at apex; basal (and more dorsal) lobe not heavily sclerotised; stem with an outward directed hook basally which articulates with a corresponding notch in the lateral surstylus. Distiphallus, phallapodeme and hypandrium weakly sclerotised; distiphallus short and stout, weakly annulated on dorsal surface, finely microtrichose. Glans a complex association of interlocking segments; caeca poorly developed. Base of ejaculatory apodeme membranous and large, bulbous, apex weakly sclerotised. Ovipositor – T_6 and oviscape tucked under T_5; T_6 reduced to a narrow slightly sclerotised strip. S_6 approximately half as wide as preceding sternites. Oviscape conical, shorter dorsally than ventrally. Ovipositor short; eversible membrane ornamented with fine, parallel but curved wrinkles. Aculeus blade-like and finely ornamented with setulae. Tip of aculeus pointed, 3 – 5 long apical setulae on each side. Three rounded spermathecae; spermathecal ducts arranged in a 1+2 sequence, vagina covered with fine microtrichia at apex and with a single finger-like vesicle protruding from apex near base of spermathecal ducts.

Included species: *Federleyella pallidipes* (ENDERLEIN, 1922) **comb. nov.**
Federleyella septemfenestrata (ENDERLEIN, 1922)

Discussion. Within Plastotephritinae, *Federleyella*, *Conopariella* and *Pterogenomyia* form a group of morphologically similar species, all having plumose aristae and 2 pairs of scutellar setae. The major distinctions separating *Pterogenomyia* from *Conopariella* + *Federleyella* are body size (> 8,0 mm), presence of postpronotal seta, ventral setulae absent from wing veins and wing banded longitudinally. *Federleyella* was previously distinguished from *Conopariella* by the presence of setulae dorsally on Cu. This has now been found to be unreliable and characters in the male genitalia alone now reliably distinguish the two genera.

Male specimens can readily be placed in either *Federleyella* or *Conopariella* by dissection of the genitalia. This leaves identity of many female specimens uncertain. Although species of *Conopariella* exist which have dorsal Cu setulae, so long as one observes the size ranges expressed for both genera, those specimens with numerous Cu setulae, can safely be placed in *Federleyella*. *C. paucifenestrata* (STEYSKAL, 1963) and *C. exigua* sp. nov, also have setulae on Cu, but these species are larger than specimens of *Federleyella*.

Distribution (Fig. 686) – *Federleyella* is most frequently encountered in West and Central Africa, but specimens also exist from Malawi and Zimbabwe.

Key to the species of *Federleyella*

1 All legs pale creamy-yellow (Fig. 269); lateral surstylus subrectangular, apex almost as broad as base (Fig. 271) ..... ***F. pallidipes* (ENDERLEIN, 1922)**

– At least apex of mid and hind femora and base of mid and hind tibiae brown (sometimes pale, but nevertheless brown); lateral surstylus tapering toward apex, at apex less than half as broad as base (Fig. 280) ..... ***F. septemfenestrata* (ENDERLEIN, 1922)**

Federleyella pallidipes (ENDERLEIN, 1922) comb. nov.

(Figs 269 – 276, 686)

***Anaphalantias pallidipes* ENDERLEIN, 1922** – ENDERLEIN (1922: 15) [description].
Conopariella pallidipes: FREY (1932: 261) [key, n.comb.]; STEYSKAL (1963: 133) [list]; STEYSKAL (1980: 564) [catalogue].

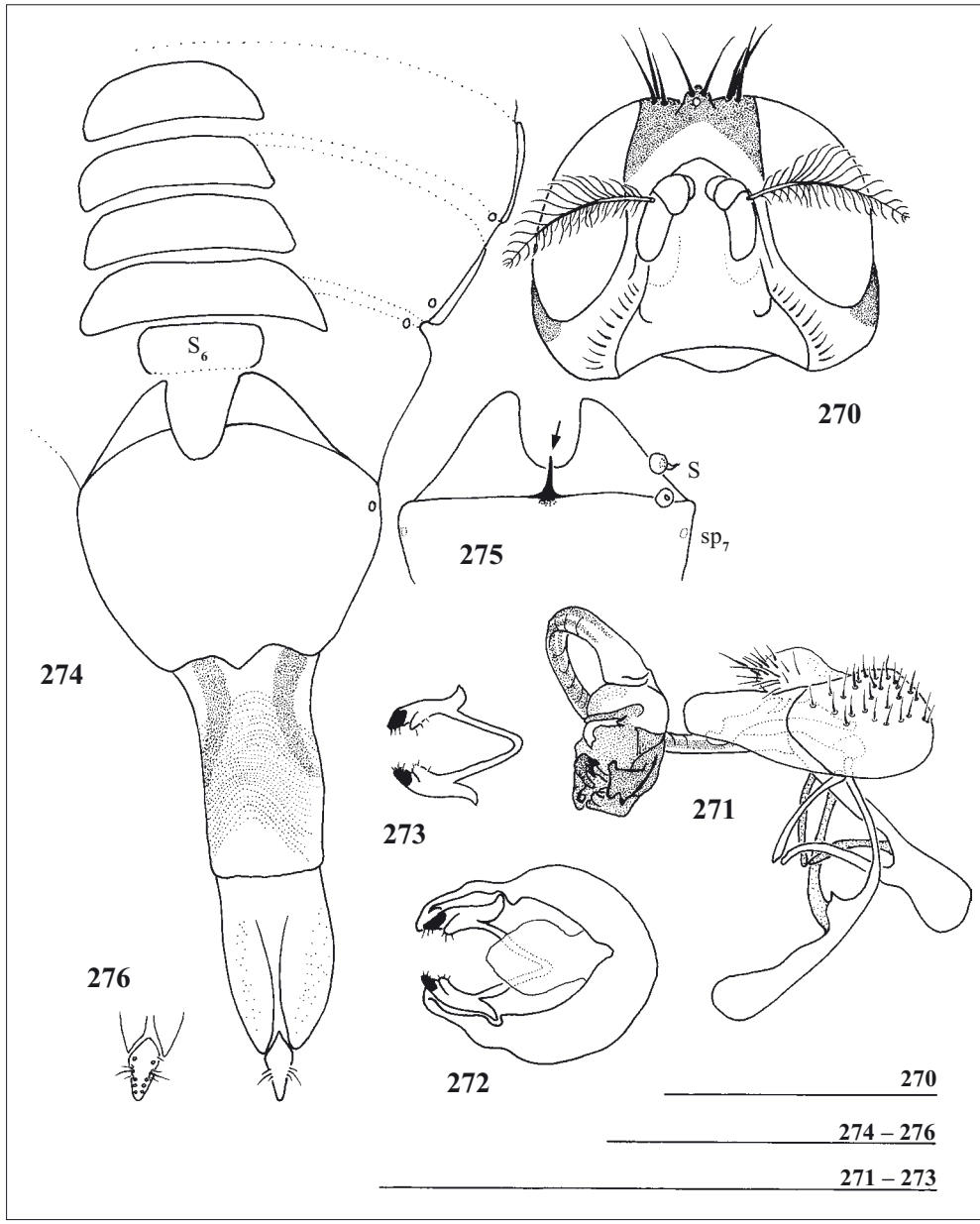
Diagnosis. All legs creamy-yellow. Lateral surstylus subrectangular, apex almost as broad as base.

Etymology. *pallidus* L. = pale and *pes* L.m. = foot, referring to the pale coloured legs of this species. The Latin noun *pes* is masculine, but derived from the feminine Greek *πεζα – peza*.

Description

Dimensions: ♂ Holotype. Body length 3.2 mm; wing length 3.7 mm. **Colour/Vestiture**: Ground-colour dirty creamy-white to buff; tinged with orange on antenna, ptilinal hemisphere of frons and mouthparts. Brown on vertex, ocellar triangle occiput and a faint spot below margin of eye on gena (Figs 269 & 270). Thorax (except postpronotal lobe anterior anepisternum and proepimeron) and distal four abdominal tergites brown. Small brown dorsal spot on base of mid coxa. Black to dark brown setulae: postocular row (Fig. 270), on gena and brown coloured parts of head, thorax and abdomen. Dorsal pedicel seta pale. Setulae on ventral margin of katepisternum dense, but pale. All legs creamy-yellow. Wing membrane brown (Fig. 269) with broad hyaline incisions in pre- and post-humeral parts of costal cell, and in anal cell continuing into bcu. Veins mostly brown, pale in areas corresponding to pale membrane. Calypter pale smoky grey at base, darker distally with brown margin. Halter buff. Microtrichia bronze, but sparse on frons; silver and sparse on face and pleurites, notum and scutellum but not clearly apparent, denser on occipital sclerites; brown on gena over brown spot below eye.

Head: Face projecting weakly forwards (Fig. 269). Lower facial margin evenly curved in frontal view (Fig. 270). Facial carina narrow, slightly furrowed along midline. Facial tubercles below antennae not pronounced, but forming gently raised curve on face (Fig. 270). Setulae of arista longer than width of flagellomere 1. Postocellar setulae long at ventral end of row.



Figs 270–276: *Federleyella pallidipes* (Enderlein, 1922). ♂ Holotype, ♂ and ♀ specimens. – **270**: Head, frontal view; – **271**: Male genitalia, holotype, right lateral view; – **272**: Male genitalia, holotype, dorsal view; – **273**: Male genitalia, detail of medial surstylus, holotype, dorsal view; – **274**: Female abdominal sternites and ovipositor, ventral view; S_6 = sixth sternite; – **275**: Base of female oviscape, dorsal view; arrow = internal apodeme of T_7, s = spermatheca, sp_7 = spiracle seven; – **276**: Tip of aculeus, dorsal view.

Thorax: As for generic description. **Legs**: Mid tibial pre-apical seta as long as coxa width and trochanter length together. Coxal setae pale. Mid-coxal prong small and narrow, almost hair-like, slightly curved. **Wing**: Pre-humeral and humeral weakenings distinct, subcostal weakening absent. Subcosta evanescent at angle (Fig. 269). Sc-R spur weak. Flexion line cutting across apex of Sc, base of Sc-R spur and base of r_{2+3} as a fold in membrane of wing, but otherwise indistinct at proximal end; distinct as hyaline line from RS

along remainder of its length, stopping in cu_1 level with middle of Cu_2 (Fig. 269). R-M at middle of dm; crossvein Cu-bm less than one quarter length of BM-Cu (Fig. 269). M evanescent just basad of crossvein BM-Cu.

Abdomen: As for generic description. Genitalia (♂) – Epandrium subsquare, dorsally short setulose epandrial-surstylar suture distinct (Fig. 271). Proctiger elongate "ace-of-spades" – shaped in dorsal view (Fig. 272); hypoproct covered in setulae along ventral and lateral margins, stronger at apex and along ventral margin (Fig. 271). Lateral surstylus subrectangular, apex almost as broad as base (Fig. 271), slightly sinuous on outer margin and curved around apex of medial surstylus (Fig. 272). Medial surstylus apically bilobed, distal lobe ventral to more basal lobe and heavily sclerotised at apex, minutely setulose on inner surface of sclerotised apex; basal (and more dorsal) lobe not heavily sclerotised, minutely setulose on inner surface apex. Stem of medial surstylus with an outward directed hook basally which articulates with a corresponding notch in the lateral surstylus, weak basad to hook (Figs 272 & 273). Distiphallus short and weak, only a little longer than hypandrium, finely microtrichose near glans; weakly annulated on dorsal surface (Fig. 271). Glans large, approximately equal to epandrium, lacking basal caeca (Fig. 271).

Variation: ♂ Body length 2.8 – 3.3 mm, wing length 3.1 – 3.8 mm. ♀ Body length 3.1 – 3.4 mm, wing length 3.1 – 3.8 mm. Wing pattern (Fig. 269) variable, hyaline costal incisions sometimes more clearly defined than in Holotype and in other specimens wing is almost entirely brown, with only faint areas where marks are paler brown. Marks at apex of R_1 and in r_{4+5} beyond R-M vary from well-defined hyaline incision or spot, through poorly defined pale brown smudge to completely absent. Specimens from Ivory Coast, collected by G. COUTURIER, paler than other specimens with ground-colour powdery white. In male, mark below eye on gena is faint, brown on pleurites and scutellum paler and there is a yellow-brown spot in middle of notum. Female specimens have strong genal setae directed anteroclinate toward midline. Ovipositor: S_6 approximately half as wide as preceding sternites (Fig. 274). Oviscape conical, shorter dorsally than ventrally; T_7 with distinct internal apodeme (Fig. 275). Ovipositor short; eversible membrane ornamented with fine, parallel but curved wrinkles. Taenia half length of eversible membrane, stout throughout length (Fig. 274). Aculeus blade-like and finely ornamented with setulae. Tip of aculeus pointed, 3 – 5 long apical setulae on each side (Figs 274 & 276). Spermathecae round (Fig. 275).

Material examined: **Holotype**: EQUATORIAL GUINEA: ♂ (ZMHB) "Westafrika: / Uelleburg [co-ordinates unknown] / VI. – VIII. 08 / G. Teß MANN S.G." [printed on blue card]; "Type" [printed on orange card]; "*Anaphalantias* / *pallidipes* / Type ENDERL. ♂ / Dr. ENDERLEIN det 1920" [handwritten, last line printed up to and including "19", on white card]; "Zool. Mus. / Berlin" [printed on yellow card]; "HOLOTYPE / *Federleyella* / *pallidipes* ♂ / (ENDERLEIN, 1922) / Det. WHITTINGTON" [first and last lines printed, middle three handwritten on red card]. In poor condition; left antenna misshapen, wing damaged and crumpled, most setae missing or broken. Genitalia dissected and stored in glycerine, in a microvial on the same pin as specimen.

Other material – IVORY COAST: 1♂ 2♀♀ Bouaké [07°42'N; 05°00'W], F[=forest]. – Foro, ♂ 15.vii.1974, 2♀♀ 17.vi. and 15.vii.1974, G. COUTURIER, Piège coloré [colour-trap], transect B (♂) and E and D (2♀♀) (MNHN). CAMEROUN: 1♂ Rt. N6, Bali – Batibo [05°56'N; 09°58'E], West of Bamenda [05°55'N; 10°09'E], 20.xi.1987, A. FREIDBERG (TAUI); 1♂ Edéa [03°47'N; 10°13'E], 27.xi.1987, A. FREIDBERG (TAUI); 1♂ LOLODORF [03°17'N; 10°50'E; ca. 500 m], 10.xii.1914, A. I. GOOD, 5737 (CMNH); 1♂ Rt. N9, 20km East of Sangmelima [02°57'N; 11°56'E], 7.xi.1987, A. FREIDBERG (TAUI); 4♂♂ Rt. N9, 40 km East of Sangmelima [02°57'N; 11°56'E], 8.xi.1987, 3♂♂ A. FREIDBERG 1♂ F. KAPLAN (TAUI; 1♂ NMSE). ZAÏRE: 2♂♂ 1♀ P.N.G Anie/9 [riparian forest 04°30'N; 29°48'E], 29.vii.1952, H. DE SAEGER, 3843 (MRAC); 1♂ P.N.G PFNK.12/9 [riparian forest ca. 04°29'N; 29°49'E], 24.vii.1952, H. DE SAEGER, 3820 (MRAC); 2♂♂ P.N.G. I/o/2 [= Nagbarama River; ca. 04°21'N; 29°16'E], 2.xi.1950, H. DE SAEGER, 923 [dense forest of *Ficus congensis* ENGL. (= *Ficus trichopoda* BAKER; S. VAN NOORT *in litt*. 12 June 2000)] (MRAC); 1♀ Uelé: Dingila [03°35'N; 26°03'E], vi.1938, J. GHESQUIÈRE (MRAC); 1♂ Haut – Uelé, Tuku [02°24'N; 27°54'E], iv.1915, P. VAN DEN PLAS (MRAC); 1♂ P.N.A Mont Hoyo [precise latitude and longitude unknown, but within 00°55'N – 01°40'S; 29°00' – 30°05'E], 7 – 15.vii.1955, P. VANSCHUYTBROECK, 1280 m, sur plantes basses [on low plants] 13274 – 309 (MRAC); 2♂♂ Lulua [= river], Kapanga [05°08'S; 17°03'E], 5 and 15.ix.1932, F. G. OVERLAET (MRAC; NMSE); 1♂ Albertville [= Kalémié 05°57'S; 29°10'E], xii.1918, R. MAYNÉ, (MRAC); 1♂ P.N.U. Kabwe s/Muye [09°00'S; 26°43'E], 6 – 12.v.1948, G.F. DE WITTE, 1320 m, 1581a (MRAC); 1♂ Sandoa [09°41'S; 22°56'E], v.1931, F.G. OVERLAET (MRAC); 1♂ P.N.U. R. Mubale [unknown co-ordinates, but within 08° – 10°S; 27° – 28°E], 6.v.1947, G.F. DE WITTE, 1480 m, 333a (MRAC). UGANDA: 1♂ Kananda [00°19'N; 32°35'E], 21.x.1939, H. HARGREAVES (BMNH). MALAWI: 3♀♀ Cholo [16°05'S; 35°03'E], 1♀ no date, 2♀♀ 8.i.28, R.C. WOOD 2♀♀ numbered 3798 820 and 1060 m ["2700 ft" and "3500ft"] (BMNH). ZIMBABWE: 2♂♂ Chirinda

Forest, Mt. Selinda [20°24'S; 32°43'E], 25.i.1955, B. R. Stuckenberg and P. Graham (nmsa); 1♂ Mount Selinda [20°24'S; 32°43'E], 11.ii.1954, N. J. Myers (nmsa).

Discussion. *F. pallidipes* is a new combination, since *pallidipes* was originally described in *Anaphalantias* Enderlein, 1922 and later assigned to *Conopariella* Enderlein, 1922 by Frey, 1932. The dissection of the male genitalia, clearly places it with *septemfenestrata* in *Federleyella*.
The 3♂♂ specimens from Mount Selinda each bear Steyskal manuscript labels of an unpublished name, yet the specimens clearly belong to *F. pallidipes*. No distinction was made in Steyskal's unpublished manuscript as to why he thought these specimens represented a new species.

Distribution. *F. pallidipes* is distributed widely across the Afrotropical Region, known from: Ivory Coast, Cameroun, Equatorial Guinea, Zaïre, Uganda, Malawi and Zimbabwe (Fig. 686).

Federleyella septemfenestrata (Enderlein, 1922)

(Figs 277 – 284, 686)

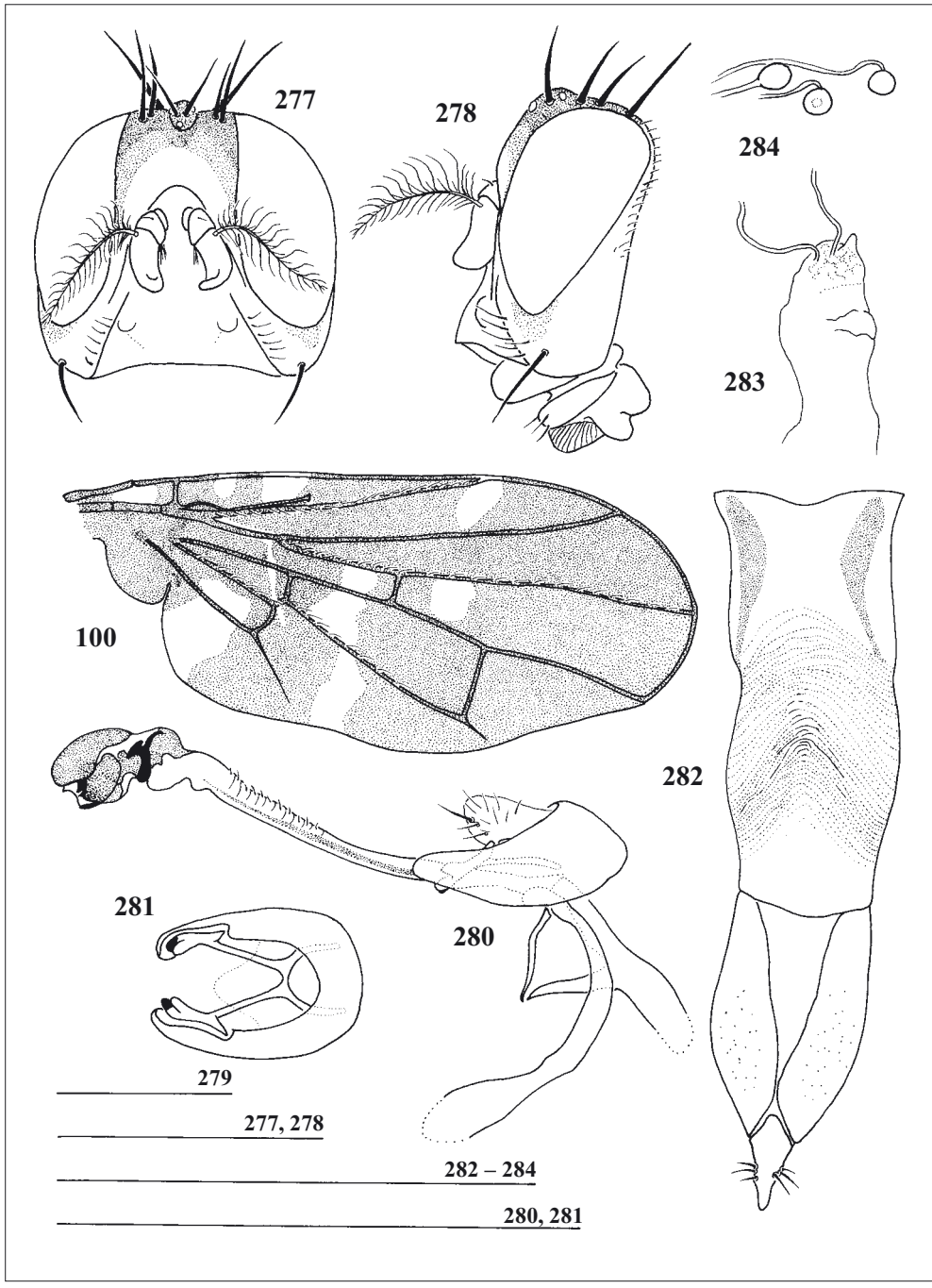
***Anaphalantias septemfenestrata* Enderlein, 1922** – Enderlein (1922: 15) [description].
***Anaphalantias fenestrata*:** Frey (1932: 263) – incorrect subsequent spelling.
***Federleyella septemfenestrata*:** Frey (1932: 263, pl. VIII, fig. 43) (n. comb.); Steyskal 1963: 134 [list]; Steyskal 1980: 564 [catalogue].

Diagnosis. At least apex of mid and hind femora and base of mid and hind tibiae brown (sometimes pale, but nevertheless brown). Lateral surstylus tapering toward apex, at apex less than half as broad as base.

Etymology. *septem* L. = seven, *fenestra* L. f. = window, referring to the pattern of seven hyaline spots and incisions on the wing margin.

Description

Dimensions: ♀ Holotype. Body length 3.2 mm; wing length 3.3 mm. **Colour/Vestiture**: Ground-colour creamy-yellow; ptilinal hemisphere of frons yellow-orange; upper frons, vertex and occiput brown (Figs 277 & 278); notum, posterior half of anepisternum, most katepisternum (only fore margin pale cream-yellow) and remainder of pleurites (except meron), mediotergite, subscutellum, scutellum and distal four abdominal tergites brown. Area around anterior notopleural seta pale cream. Apex of mid and hind femora and base of mid and hind tibiae brown. Black setulae on all but basal area of palp, subvibrissal row, postocular row and postgena and on all brown coloured parts of head, thorax and abdomen; pale setulae on pale coloured areas; long on frons. Dorsal pedicel seta pale. Two pairs of postocellar setae, all parallel. Ventral katepisternal setulae long, brown and prominent. Wing membrane brown with broad hyaline incisions in costal cell (1 prehumeral, 2 post humeral), at apex of R_1, indistinctly in cu_1 and anal cell; large prominent spots in r_{4+5} beyond R-M and in apex of br extending into base of dm and into cu_1 (Fig. 279). Veins brown, costa pale in areas corresponding to pale membrane. Calypter brown, darker brown along margin. Halter buff. Microtrichia bronze, but sparse on frons; silver and sparse on pleurites, notum and scutellum but not clearly apparent.
Head: [antennae missing in Holotype] Facial tubercles below antennae not pronounced, but forming a gently raised curve on face, which continues as a forward projection at lower facial margin. Antennal pits distinct. Middle section of lower facial margin (in frontal view) almost straight, slightly bowed downwards at edges (Fig. 277). Facial carina flat and narrow, face strongly concave below antennae, but bulging convexly toward lower facial margin (Fig. 278). Subvibrissal row comprised of long setulae (Figs 277 & 278). Postocellars sparse and relatively weak (Fig. 278).
Thorax: As for generic description. **Legs**: [forelegs missing in Holotype] Mid tibial pre-apical seta as long as coxa width and trochanter length together. Coxal setae strong and distinctive. Mid-coxal prong small and narrow, almost straight; distinct black setula on mid trochanter. **Wing** (Fig. 279). Pre-humeral and humeral weakenings weak and indistinct, subcostal weakening absent. Sc evanescent at angle. Sc-R spur not evident. Flexion line indistinct at proximal end, but distinct from RS along remainder of its length; stopping in cu_1 level with middle of Cu_2. R-M at middle of dm; Cu-bm about one quarter length of BM-Cu. M evanescent just basad of crossvein BM-Cu.



Figs 277–284: *Federleyella septemfenestrata* (ENDERLEIN, 1922). ♀ Holotype, ♂ and ♀ specimens. – **277**: Head, frontal view; – **278**: Head, profile; – **279**: Right wing, holotype, dorsal view; – **280**: Male genitalia, right lateral view; – **281**: Male genitalia, dorsal view; – **282**: Female ovipositor, holotype, ventral view; – **283**: Anterior vagina; – **284**: Spermathecae.

Abdomen: As for generic description. Ovipositor – Ovipositor short; eversible membrane ornamented with fine, parallel, v-shaped wrinkles (Fig. 282). Taenia one third length of eversible membrane, tapering distally (Fig. 282). Aculeus blade-like and finely ornamented with setulae. Tip of aculeus pointed, 2 pairs long and 1 pair short apical setulae on each side (Fig. 282). Fine microtrichia at apex anterior vagina; single finger-like vesicle protruding from apex near base of spermathecal ducts (Fig. 283). Spermathecae round (Fig. 284).

Variation: ♂ Body length 2.7 mm, wing length 2.7 mm. ♀ Body length 2.7–3.5 mm, wing length 2.9–3.8 mm. Only one male known for this species; genae not expanded, genal seta absent. Setulae of arista longer than width of flagellomere 1. Most specimens only have black setulae on apex of palp. Forelegs usually pale throughout, but some specimens have small amount of brown dorsally at apex of femur and tibiae tinged pale brown. Sometimes, entire katepisternum brown. Specimen from Ivory Coast, collected by G. Couturier, paler than other specimens with ground-colour powdery white on legs, halters and abdomen, while head and pleurites are as described for holotype. Wing patterns generally prominent, but occasional specimens have hyaline spots restricted and in some instances spot in r_{4+5} absent. Genitalia (♂) – epandrium elongate subrectangular, epandrial-surstylar suture not clearly differentiated (Fig. 280). Proctiger elongate and slightly pointed at apex, covered dorsally with fine setulae; hypoproct sparsely setulose, one strong setula at apex (Fig. 280). Lateral surstylus broad, apically blunt, curved around apex of medial surstylus, tapering toward apex, at apex less than half as broad as base (Figs 280 & 281). Medial surstylus apically bilobed, distal lobe ventral to more basal lobe and heavily sclerotised at apex; basal (and more dorsal) lobe not heavily sclerotised; stem with an outward directed hook basally which articulates with a corresponding notch in the lateral surstylus, weak basad to hook (Fig. 281). Distiphallus twice epandrium length, weakly annulated and finely setulose on dorsal surface (Fig. 280) Glans large, equal to epandrium size, small basal caeca present, lateral sclerite enlarged dorsally and apically (Fig. 280). Hypandrium and phallapodeme weakly sclerotised distally (Fig. 280).

Material examined: **Holotype**: CAMEROUN: ♀ (ZMHB) "S. Kamerun / Lolodorf [03°17'N; 10°50'E; ca. 500 m] / L. Conradt S." [printed on pale blue card, no date]. "Type" [printed on orange card]. "*Anaphalantias septemfenestrata / Type* Enderl. ♂ [sic] / Dr. Enderlein det 1920" [printed on white card, except "Dr. Enderlein det 19" hand written]. "Zool. Mus. / Berlin" [printed on white card]. "Zool. Mus. / Berlin" [printed on yellow card]; "holotype / *Federleyella* / *septemfenestrata* ♀ / (Enderlein, 1922) / Det. Whittington" [first and last lines printed, middle three hand written on red card]. Antennae and forelegs missing, some setae broken. Genitalia in glycerine, in microvial below labels. *Other Material*: LIBERIA: 1♀ 12.5 km [8 mi.] N.W. of Zorzor [ca. 07°53'N; 09°28'W], 12.viii.1960 [? Pin hole goes thought he last digit], E.S. Ross & K. Lorenzen (casc). IVOR♂ COAST: 1♀ Bouaké [07°42'N; 05°00'W], F[=forest]. –Foro, 28.iv.1974, G. Couturier, Piège coloré [colour-trap], transect B (mnhn); 1♀ Lamto [unknown co-ordinates], 10 i.1971, D. Lachaise, *Prange afranjomum*, E2–Gal. (mnhn). CAMEROUN: 2♀♀ Lolodorf [03°17'N; 10°50'E; ca. 500 m], 3.vii.1920 and 16.xii.1924, A. I. Good, 6552 and 7789 (cmnh); 1♀ Rt. N9, 20km East of Sangmelima [02°57'N; 11°56'E], 7.xi.1987, A. Freidberg (taui); 2♀♀ Rt. N9, 40 km East of Sangmelima [02°57'N; 11°56'E], 8.xi.1987, 1 each A. Freidberg & F. Kaplan (taui; nmse). CENTRAL AFRICAN REPUBLIC: 2♀♀ La Maboké [03°54'N; 17°53'E], 29.xi.1967 and 5.ix.1970, L. Matile (mnhn & nmse). ZAÏRE: 1♀ P.N.G Dedegwa [river, 04°34'N; 29°43'E], 17.v.1952, H. De Saeger, 3468 (mrac); 1♀ P.N.G Anie/9 [riparian forest 04°30'N; 29°48'E], 29.vii.1952, H. De Saeger, 3843 (mrac); 2♀♀ P.N.G. I/o/2 [= Nagbarama River; ca. 04°21'N; 29°16'E], 2.xi.1950, H. De Saeger, 923 [dense forest of *Ficus congensis* Engl. (= *Ficus trichopoda* Baker; S. van Noort *in litt*. 12 June 2000)] (mrac); 1♀ P.N.G. I/o/2" [Nagbarama River, riverine forest 04°21'N; 29°16'E], 21.ix.1950, G. Demoulin, 838 (mrac); 4♀♀ Lulua [=river], Kapanga [05°08'S; 17°03'E], 2♀♀ i.1933, 1♀ ii.1934, 1♂ 1♀ iii.1934, F.G. Overlaet (mrac); 1♀ P.N.U. Kamitungulu af. Lusinga [conflicting co-ordinates, but within 08° – 10°S; 27° – 28°E], 4 – 7.iii.1947, G. F. de Witte, 1700 m, 6a (mrac); 1♀ P.N.U. Kenia [unknown co-ordinates, but within 08° – 10°S; 27° – 28°E], 28.iii.1947, G.F. de Witte, 1700 m, 136a (mrac); 2♀♀ P.N.U. Kabwe s/Muye [09°00'S; 26°43'E], 26.iv – 5.v.1948 & 6 – 14.v.1948, G. F. de Witte, 1320 m, 1567a & 1583a (mrac); 1♀ P.N.U. Kenia affl. dr. Lusinga (affl. dr. Lufwa) [09°40'S; 27°12'E], 19.xii.1947, G. F. de Witte, 1207a (mrac); 1♂ 1♀ Mayumbe: Buendi – Luindi [conflicting co-ordinates], 16.vi.1925, A. Collart (mrac) 1♀ Bangala District, Kulu [conflicting co-ordinates], 25.vi.1935, G. Settembrino (kbin); 1♀ Kunungu [unknown co-ordinates], 1.iv.1921 Dr H. Schouteden (mrac). UGANDA: 1♀ Kampala [00°19'N; 32°35'E], 17.vii.1929, H. Hargreaves (bmnh); Maramegambo Forest [unknown co-ordinates], 5.i.1996, I Yarom & A. Freidberg, 1900 m (taui). ZIMBABWE: 1♀ Chirinda Forest, Mount Selinda [20°24'S; 32°43'E], 25.i.1955, B. R. Stuckenberg & P. Graham (nmsa).

Discussion. The Holotype is a female, contrary to the label and statement by Enderlein (1922), although the specimen bears the correct data labels, has Enderlein's determination label and is labelled as a type. The specimen from Zimbabwe suggests that the distribution range is broader than apparent from

the bulk of the material available. The only biological information gained from the specimen labels (other than broad ecotypes) is that D. LACHAISE has collected this species from *Prange afranjomum* [?] in gallery forest (this may be a host plant). Only a single male is known for this species.

Distribution. *F. septemfenestrata* is distributed widely across the Afrotropical Region, known from: Liberia, Ivory Coast, Cameroun, Central African Republic, Zaïre, Uganda and Zimbabwe (Fig. 686).

Furcamyia gen. nov.

Type species: *Agrochira difficilis* FREY, 1932.

Diagnosis. Arista pubescent. Medial vertical setae equal to or similar in length to the lateral verticals (not distinctly weaker). Notum dark brown, lacking microtrichose stripes. Two pairs of scutellar setae. Fore femora distinctly spinose on the ventral surface. Wing brown marked with clear spots and incisions.

Etymology. *Furca* L. f. = pitchfork; *μυια – myia* Gr. f. = a fly; a reference to the raptorial fore femora. Gender feminine.

Description

Dimensions: ♂ Body length 2.8–4.3 mm; wing length 2.9–5.0 mm. ♀ Body length 2.8–4.5 mm; wing length 2.9–5.2 mm. **Colour/Vestiture**: Ground-colour predominantly combinations of pale buff to pale yellow-brown and dark brown. Ocellar triangle dark brown to black. Arista brown. Legs usually pale buff banded or ringed with dark brown. Mid coxal prong of ground-colour. Wing predominantly brown, with hyaline incisions and spots. Vestiture poorly defined, requiring an oblique angle of viewing; most noticeable on face and around eyes and on some thoracic pleurites; notum lacking microtrichose stripes. Abdominal pleurites pale-brown or orange-brown.

Head: Subglobose; vertex narrower than thorax; distance between inner margins of eyes not as wide as distance between postpronotal setae, distance across outer margin of eye exceeding thorax width. Face projecting at lower facial margin as far as pedicel. Poorly defined (usually smooth) elongate antennal-grooves beneath flagellomere 1. Flagellomere 1 elongate oval, pendulous, densely microtrichose. Arista pubescent. Ocellar triangle situated anterior to anterior orbital setae. Gena (in frontal view) with curved margin between margin of eye and the subcranial cavity. Setae: 1 divergent ocellar, 1 or 2 reclinate orbitals, 2 verticals (of approximately equal length), 1 (small) pedicel, 1 genal. Postocular row weak, frequently merging with background setulae.

Thorax: Setulae sparse, recumbent to semi erect. Setae: 1 postpronotal, 2 notopleural (posterior one raised on callus), 1 supra-alar, 1 postalar, 1 intra-alar, 1 postsutural dorsocentral, scutellum with 1 basal and 1 apical, 1 anepisternal. **Legs**: Fore femora distinctly spinose on the ventral surface; each spine ending in a fine setula. Mid coxal prong short and narrow, pointed. Mid tibia with a short ventral pre-apical seta. Long, conspicuous setulae dorsally on apex of final tarsomere, curving over apex and in front of claws. First two tarsomeres of each leg with ventral pad of stout, pale setulae. Terminal two or three tarsomeres with short black preapical setulae across latero-ventral margins, being most obvious on mid leg. Empodia setiform. Claws evenly curved, smooth. Pulvilli rounded, densely setulose. **Wing**: Pre-humeral and humeral weakenings present. Costa ending at apex of M, having progressively shorter black setulae toward wing apex. Fine setulae along posterior wing margin usually pale. Black setulae on entire R_1 and R_{4+5} on dorsal surface only. Wing flexion noticeable; following an angle basad along sub-costal evanescence, across basal r_1 and RS bifurcation, then at an angle apicad across br, bm, through Cu-bm and across basal cu_1. R-M a little beyond midway on dm. Cell bm longer than cell bcu. Apical cross vein of bcu straight. Tegula small.

Abdomen: Pleurites membranous, matt. Sternites glossy, sclerotised, but reduced to about one third abdomen width. Male genitalia – Epandrium subglobose, and setulose. Proctiger small, membranous; hypoproct flattened forming shield above surstyli, sometimes setulose

along outer margin or apex. Lateral surstylus small, blunt, curved slightly forward in front of medial surstylus. Medial surstylus short, blunt at apex sometimes bifid or ornamented. Glans robust, elongate, base unsclerotised and without caeca. Ejaculatory apodeme sclerotised, spatulate. Vanes of phallapodeme and hypandrium narrow, apices sclerotised, narrowly spatulate and square at apex. Ovipositor – T_6 absent. Oviscape conical, strongly sclerotised, shorter dorsally than ventrally. Eversible membrane membranous, with moderate to dense sclerotised denticles. Aculeus pointed, subapically to apically setulose. Three (1+2) spherical spermathecae each with an apical bulbous projection.

Included species: *Furcamyia contra* **sp. nov.**
Furcamyia difficilis (FREY, 1932) **comb. nov.**
Furcamyia gladiatura **sp.nov.**
Furcamyia pallida **sp.nov.**

Discussion. Members of this genus have a tendency to hold the abdomen up at a slanting angle. Collection data would suggest that this genus is predominantly inhabits forest or woodland.

Distribution (Fig. 682) – *Furcamyia* is presently known only from mainland Africa with isolated centres of distribution in West, East and southern Africa. This apparent tri-polar distribution is possibly a result of the poor collecting that this subfamily suffers from.

Key to the species of *Furcamyia*

1 Thorax dark glossy brown (Fig. 285), strongly contrasting with white face (Fig. 286), fore legs and bases of mid and hind femora; fore femora narrow, almost parallel sided (Fig. 287); gena of male protrude laterally to beyond width of eyes (Fig. 286); wing long in comparison with narrow thoracic width (ratio = 4:1) (Fig. 285) ..... ***F. contra* sp. nov.**

– Thorax bi-coloured, not strongly contrasting with face, fore legs and bases of mid and hind femora; fore femora strongly developed, such that outer surface is curved outwards, while inner surface is almost straight; gena of male not protruding laterally to beyond width of eyes (Fig. 301); wing and thorax stout (ratio < 4:1) **2**

2 Thoracic pleurites mostly yellow, posterior band indistinct and present only across katatergite; base of fore femur tinged brown; denticles on eversible membrane dense (Fig. 317) and tip of aculeus strongly sclerotised (Fig. 317) ..... ***F. pallida* sp. nov.**

– Thoracic pleurites with a central, dark brown, triangular mark across anepisternum, anepimeron and dorsal part of katepisternum (Fig. 294); base of fore femur consistently coloured with rest of femur; denticles on eversible membrane less dense (Fig. 310) or rugose ornamentation (Fig. 297); tip of aculeus weakly sclerotised (Figs 297 & 310) . 3

3 Hind tibia plain coloured and lacking brown bands; hind tibia of male with dorsal pre-apical spine slightly longer than width of hind tibia (Fig. 306); female abdomen yellow-buff with brown dorsal triangular mark over centre of T_{3-5}; proctiger of male genitalia subsquare, situated basal on epandrium (Fig. 308); denticles on eversible membrane pointed and moderately dense (Fig. 310); aculeus evenly tapered, with a pair of pre-apical teeth; aculeus tip with fine apical setulae (Fig. 310) ..... ***F. gladiatura* sp. nov.**

– Hind tibia with sub-apical brown band; hind tibia of male without spines; female abdomen more broadly brown; proctiger of male genitalia insignificant (Figs 298 & 299); denticles on ovipositor rugose (Fig. 297); aculeus abruptly narrowed, without pre-apical teeth; aculeus tip with two pairs of strongly developed apical setulae (Fig. 297) ..... ***F. difficilis* (FREY, 1932)**

Furcamyia contra sp. nov.

(Figs 285 – 290, 682)

Diagnosis. Gena of male protrude laterally to beyond width of eyes. Thorax dark glossy brown, strongly contrasting with white face, fore legs and bases of mid and hind femora. Fore femora narrow, almost parallel sided. Wing long in comparison to narrow thoracic width (ratio = 4:1).

Etymology. *Contra* L. = opposite, referring to the distinct contrast between the white face and fore-leg and dark brown body.

Description

Dimensions: ♂ Holotype. Body length 3.4 mm; wing length 3.8 mm. **Colour/Vestiture**: Ground-colour dark brown (Fig. 285). Head with postgena, ventral extremities of gena, face, parafacial area, mouthparts and fringe of ptilinal fissure white; antennae and lower frons grey-brown. Anepisternal cleft, coxae, fore-legs, base of mid and hind femora white, tibiae and tarsi pale yellow. Wing dark brown marked with hyaline patterns (Fig. 285). Calpyter grey-brown fringed with darker brown margin; stem of halter white, knob grey (Fig. 285). Abdomen: T_{1+2} orange-brown with dark brown hind marginal band (Fig. 285); sternites and pleurites pale yellow. Male genitalia glossy, brown. Fine grey microtrichia on face, occiput, postgena, anepisternum; katatergite and dorsal margin of mediotergite; dense and more silvery in cleft above occipital foramen.

Head: Subglobose in general form, but oddly shaped: gena expanded laterally beyond width of eye and slightly curved downwards and forwards (Figs 285 – 287); vertex a little sunken below upper margin of eye (Fig. 286). Arista short pubescent (Figs 285 – 287). Genal seta inserted posterior to mouthparts (Fig. 287). Postgena swollen below line level with lower margin of eye and extending back to thorax (Fig. 287). Palp strongly reduced. Setulae of head sparse: brown on frons, gena and occiput; pale on postgena and palp; subvibrissal row white. Postocular row not distinct from occipital setulae.

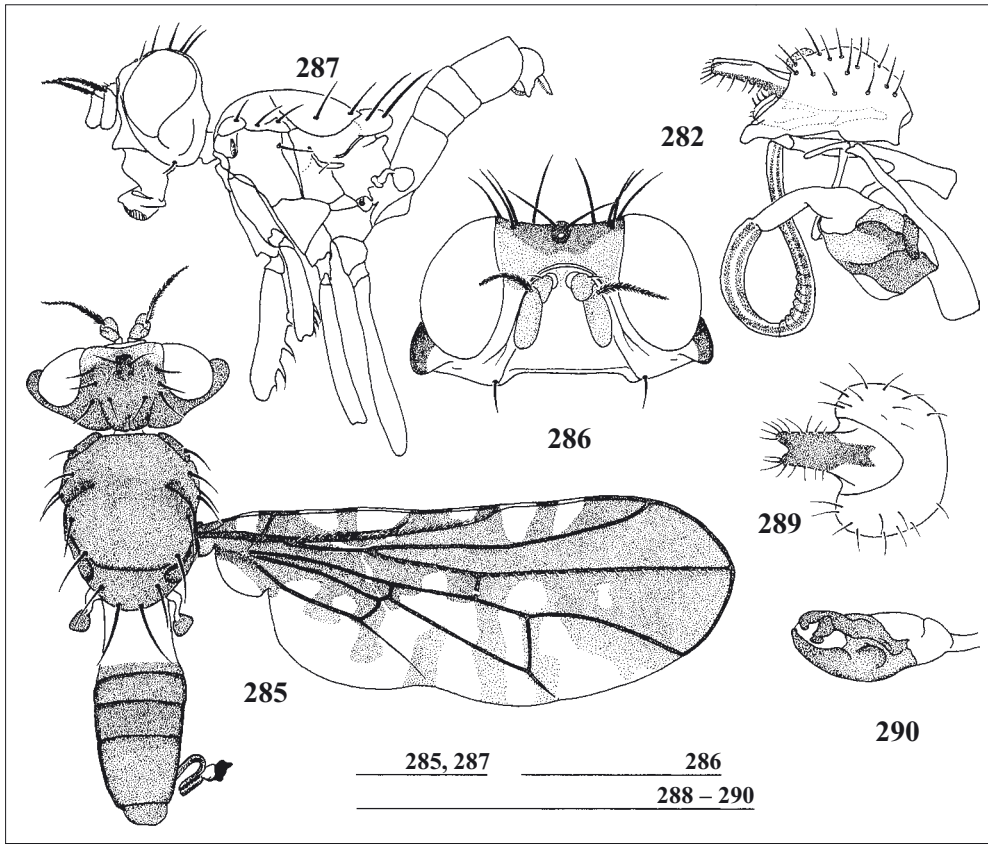
Thorax: Narrow (Fig. 285). Setulae brown on notum, pale-brown and longer on anepisternum, proepimeron and katepisternum, black on anepimeron; absent from remainder of thoracic pleurites and mediotergite. Setae: as for generic description, but no acrostichals nor dorsocentrals, 1 hair-like anepimeral among sparse black anepimeral setulae. Scutellar setae long, those at apex reaching hind margin of T_{1+2} (Fig. 285) or to hind margin T_4 when abdomen is held erect (Fig. 287). **Legs**: Slender (Fig. 287), fore femora narrow, almost parallel sided. Ventral surface of fore femur with three medially positioned long spines (longer than basal width of tibia), a single shorter apical spine, and two peg-like spines basally (Fig. 287). Pre-apical spur on mid tibia shorter than tibial width. Coxae and trochanters lacking distinct, black setae. Setulae pale coloured with some brown setulae at apex of mid-femur. **Wing**: Long in comparison to narrow thoracic width (ratio = 4:1). No pre-humeral seta. Sc terminating before costa, cut through by wing flexion. Setulae on R_1 and R_{4+5} equal to two-thirds length of R-M. R-M weakened near M (Fig. 285).

Abdomen: Distinctly longer than wide; T_{1+2} equal to T_5 and each equal to T_3 and T_4 together; epandrium visible in dorsal view (Figs 285 & 287). Setulae black, long, sparse and erect. Genitalia (♂) – clearly exposed *in situ*, hypoprotct noticeably cleft at apex and strongly setulose ventrally (Fig. 287 – 289). Epandrium subsquare, sparsely setulose (Fig. 288). Proctiger subsquare, finely pitted and scarcely visible above sides of epandrium in a posterior position. Hypoproct dorsally slightly humped and apically cleft and strongly setulose ventrally (Figs 288 & 289). Lateral surstylus short, subtriangular, apically blunt (Fig. 288); slightly curved forward in front of medial surstylus; with strongly sclerotised, thumb-like projection on dorsal surface. Medial surstylus laterally flattened and plate-like with setulose dorsal margin. Distiphallus with annular impressions on dorsal surface (Fig. 288). Glans large (equal to epandrium – Fig. 288), basal caeca weakly developed (Fig. 290). Ejaculatory apodeme strongly sclerotised, broadly spatulate; unsclerotised portion of basal lobe large.

Variation: ♂ Body length 3.3 – 3.4 mm; wing length 3.8 – 4.1 mm. Female unknown.

Material examined: **Holotype**: KENYA: ♂ (TAUI) "KENYA: Cheymen / Rt. B1, 10 Km. / East Kericho [00°19'S; 35°21'E; ca. 2100 m] / 19.ix.1992 / A. FREIDBERG" [printed on white card]; "HOLOTYPE / *Furcamyia contra* / sp.nov. ♂ / Det. WHITTINGTON" [first and last lines printed, middle two hand written on red card]. In good condition, left verticals and left genal setae broken, genitalia in glycerine, in microvial, ejaculatory apodeme damaged during dissection.

Other material — KENYA: 1♂ **Paratype** same data as Holotype (TAUI).



Figs 285–290: *Furcamyia contra* sp. nov. ♂ Holotype and ♂ Paratype. – **285**: Body and right wing, dorsal view; – **286**: Male head, frontal view; – **287**: Body, lateral view (wings not illustrated); – **288**: Male genitalia, right lateral view; – **289**: Male genitalia, dorsal view; – **290**: Male genitalia, detail of glans, left side.

Discussion. *F. contra* is distinct among other species of this genus by its dark colour, narrow body and extended gena in males.

Distribution. *F. contra* is known only from the type locality in Kenya (Fig. 682).

Furcamyia difficilis (Frey, 1932), comb. nov.

(Figs 291 – 300, 682)

***Agrochira difficilis* Frey, 1932** – Frey (1932: 259, pl. VII, fig. 24) [description]. Frey (1932: 258) [key], Frey (1932: pl.VII, fig. 24); Steyskal (1980: 564) [catalogue].

Diagnosis. Gena of male not protruding laterally beyond width of eyes. Thorax bi-coloured, not strongly contrasting with face, fore legs and bases of mid and hind femora. Thoracic pleurites with a central, dark brown, triangular mark across anepisternum, anepimeron and dorsal part of katepisternum. Fore femora strongly developed, such that outer surface is curved outwards, while inner surface is almost straight; base of fore femur consistently coloured with rest of femur. Hind tibia with sub-apical brown band; hind tibia of male without spines. Wing and thorax stout (ratio < 4:1). Female abdomen broadly brown. Proctiger of male genitalia insignificant. Denticles on eversible membrane sparse, rugose; aculeus abruptly narrowed, without pre-apical teeth; aculeus tip with two pairs of strongly developed apical setulae.

Etymology. *Difficilis L*. a. = difficult. Frey did not provide a reason for this choice of name.

Description

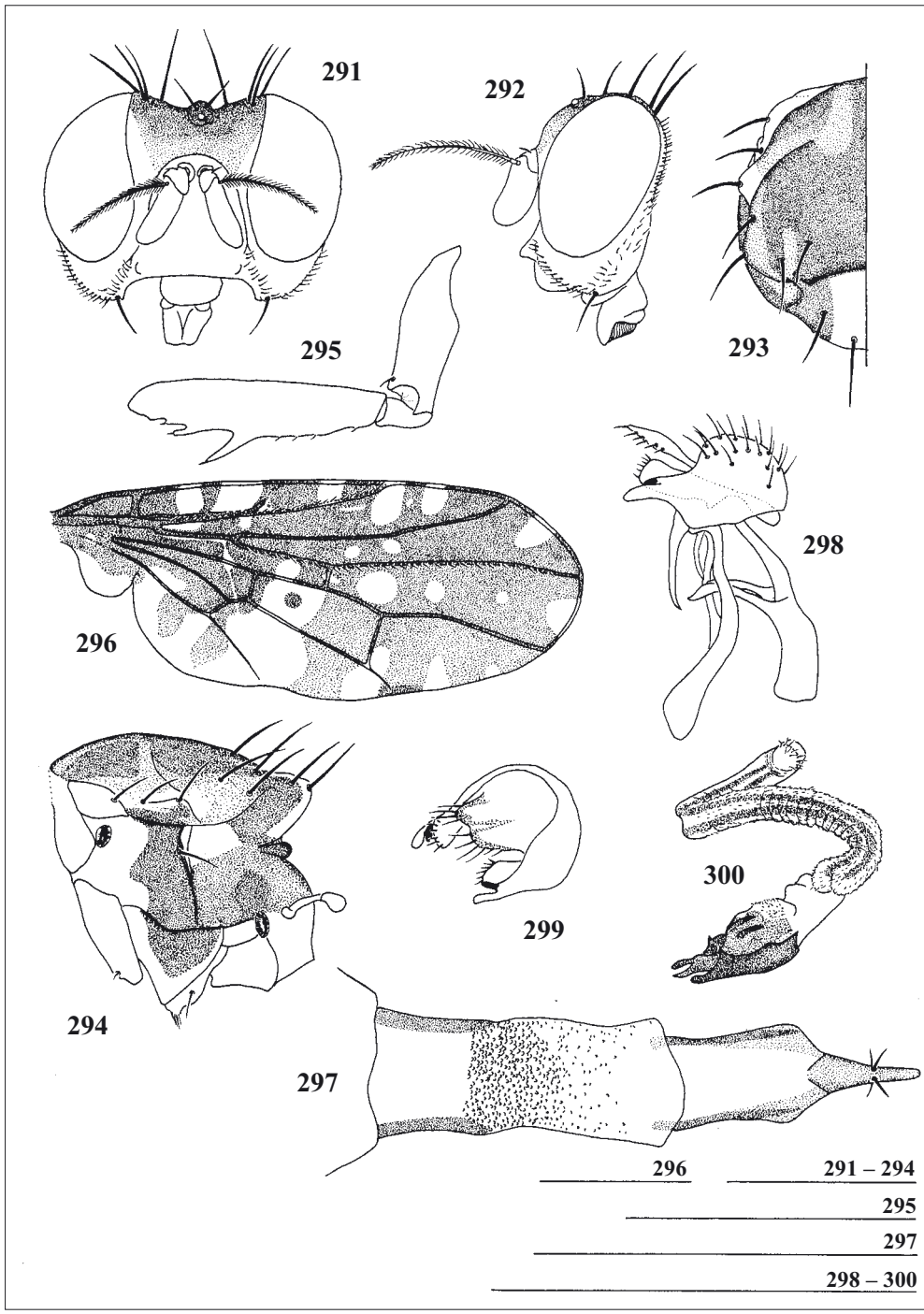
Dimensions: ♀ Lectotype. Body length 2.8 mm; wing length 3.1 mm. **Colour/Vestiture**: Ground-colour pale creamy-yellow. Head with dark-brown band across vertex; frons brown, matt with an appearance of velvet (Figs 291 & 292). Occiput dark brown on dorsal half, pale creamy-white below, medial occipital sclerite pale creamy-white. Flagellomere 1 tinged grey-brown. Thorax with notum dark brown, but pale creamy-white on postpronotal lobe and notopleural callus and with vague presutural pale-brown stripes (Fig. 293); posterior half of anepisternum, dorsal edge of katepisternum, entire anepimeron, katatergite, mediotergite and subscutellum all dark brown (Fig. 294). Lateral third of scutellum dark-brown, medial third distinctly pale creamy-white (Figs 294 & 295). Legs apex of mid and hind femora dark-brown; mid and hind tibiae with narrow basal and subapical dark-brown bands. Wing marked with dark brown and hyaline patterns (Fig. 296). Calpyter pale-brown fringed with darker brown margin. Halter pale creamy-white (Fig. 294). Abdomen: T_{1+2} pale brown with creamy-white posterior margin, T_3 with two pale creamy-white spots (not quite touching hind margin of segment) either side of medial black band, remainder of T_3 and all of T_4 and T_5 glossy black. S_{1-5} pale creamy-white. Female genitalia glossy, dark-brown oviscape, pale-brown eversible membrane and aculeus. Fine silver microtrichia not conspicuous, but present on frons and thoracic pleurites and scutellum.

Head: Gena not protruding laterally beyond width of eyes (Fig. 291). Arista long pubescent (Figs 291 & 292). Setulae of head sparse, pale; sparse black setulae on margin of subcranial cavity and on postocellar and postgena (Fig. 292).

Thorax: Nearly as broad as long (Fig. 293). Setulae short and black on notum, finer and pale on remainder of thorax. Setae: 1 postsutural dorsocentral (Fig. 293); 3 short anepimeral setulae. **Legs**: Fore femora strongly developed, such that outer surface is curved outwards, while inner surface is almost straight; base of fore femur consistently coloured with rest of femur. Spines of fore femur diminishing in length from long spine medially positioned to short spine subapically (Fig. 295). Fore coxa with long setulae on distal margin, mid and hind coxae with 2 pale lateral setae. Setulae pale coloured, long on apices of coxae and underside of hind femora; brown. **Wing**: Wing and thorax stout (ratio < 4:1). Prehumeral seta present. Setulae on R_1 and R_{4+5} shorter than half of length of R-M. R-M weakened near centre (Fig. 296).

Abdomen: Ovate, widest at hind margin of T_{1+2}. Setulae pale coloured on T_{1+2}, pale brown on remaining segments, protruding over distal margin of each segment. Ovipositor — Denticles on eversible membrane sparse, rugose, reaching greatest density medially, diminishing apically, ceasing abruptly basally (Fig. 297). Aculeus sclerotised, abruptly narrowed, without pre-apical teeth; aculeus tip with two pairs of strongly developed apical setulae (Fig. 297).

Variation: ♂ Body length 2.8 – 3.0 mm; wing length 2.9 – 3.2 mm. ♀ Body length 2.8 – 3.1 mm; wing length 2.9 – 3.1 mm. Female paralectotype with two ventral spines on front femur; male specimens with three or four spines, each with long pale apical setula (Fig. 295). Notum less obviously mottled, tending to be plain dark brown, glossy in new specimens. Wing of specimens from Nigeria lack brown mark in hyaline area of cell dm. Fore legs pale creamy-white with an indistinct preapical brown band on tibia; fourth tarsomeres lack short black preapical setulae across latero-ventral margins. One paralectotype has T_3 with two pale creamy-white spots (not quite touching hind margin of segment) either side of medial black band, while other paralectotype has no medial black band, thus creamy white spots are joined as in Lectotype. New material from Nigeria has brown covering most of central area of anepisternum and a central pale band on T_3. Genitalia (♂) – Epandrium sparsely setulose (Fig. 298). Proctiger not visible above sides of epandrium. Hypoproct apically slightly indented and distinctly setulose ventrally (Figs 298 & 299). Lateral surstylus elongate, projecting beyond apex of medial surstylus, with an apical, strongly sclerotised, projection on dorsal surface (Figs 298 & 299). Medial surstylus laterally flattened and plate-like with setulose dorsal margin (Figs 298 & 299). Distiphallus with complete annular impressions; densely setulose in rows along annulations, base of distiphallus setulose at junction with phallapodeme (Fig. 300). Apex of glans with lateral filaments either side of medial acrophallus; acrophallus projecting beyond filaments and deeply bifid at apex (Fig. 300) microtrichose at bifurcation. Ventral body of glans with two basally directed hook-like projections (Fig. 300). Basal caeca small, sub-basal body of glans finely microtrichose (Fig. 300). Ejaculatory apodeme strongly sclero-



Figs 291–300: *Furcamyia difficilis* (Frey, 1932). ♀ Lectotype and ♂ Paralectotype. – **291**: Female head, frontal view; – **292**: Female head, profile; – **293**: Thorax, dorsal half view; – **294**: Thorax, lateral view (wings not illustrated); – **295**: Left fore coxa, trochanter and femur, outer surface, lateral view; – **296**: Right wing, dorsal view; – **297**: Female ovipositor, dorsal view; – **298**: Male genitalia, right lateral view; – **299**: Male genitalia, dorsal oblique view; – **300**: Male genitalia, detail of distiphallus and glans, ventral view.

tised, broadly spatulate; unsclerotised portion of basal lobe large and bulbous. Male paralectotype damaged, lacks elongate lateral filament. Instead it is shortened and dorsally pointed; apex of hypandrium is short and pointed and distiphallus appears less setulose.

Material examined: **Lectotype**: GHANA: ♀ (BMNH) "Type" [printed round label with red boarder]; "Pres. by / Imp. Inst. Ent / Brit. Mus. / 1931 – 56." [printed label with the t of "Inst." indistinct]; "*Agrochira / difficilis* n. sp. / FREY det." [hand written label with last line printed]; "GOLD COAST / ABURI [05°53'N; 00°09'W; ca.200 – 500 m] / 1912 – 13 / W.H. PATTERSON" [printed rectangular label]; "Spec. typ. / phot" [printed on pink card; "phot." hand-written on white card and adhered to lower half of label possibly referring to the photograph of the left wing in FREY (1932)]. "LECTOTYPE / *Furcamyia* / *difficilis* / (FREY, 1932) ♀ / Det. WHITTINGTON" [first and last lines printed, on red card]. In reasonable condition, fore and mid legs missing, right eye slightly collapsed and thorax partly damaged by pin; genitalia in glycerine, in microvial on same pin as specimen.
Other material — GHANA: 1♂ 1♀ **Paralectotypes** same data as Holotype (UZMH & BMNH); 1♀ Begoro [06°23'N; 00°23'E; ca. 200 – 500 m], 12.v.1943, H.E. BOX (BMNH). NIGERIA: 2♂♂ 4m[iles] NW. of Agege [06°40'N; 03°13'E; ca. 0 – 100 m], Lagos, 23.iv.1973, M.A. CORNES (NMWC).

Discussion. Lectotype designation: FREY (1932) did not designate a type, but listed 1♂ 2♀♀ from Gold Coast. One of the females from BMNH has a label indicating that it was used for the wing photograph in FREY (1932). Thus I have chosen this specimen as the Lectotype, making Paralectotypes of the other female (BMNH) and the male specimen (UZMH). All the type material seen is in good condition, although the male is a little dusty.

Distribution. *F. difficilis* is a West African species, known from Ghana and Nigeria (Fig. 682).

Furcamyia gladiatura sp. nov.

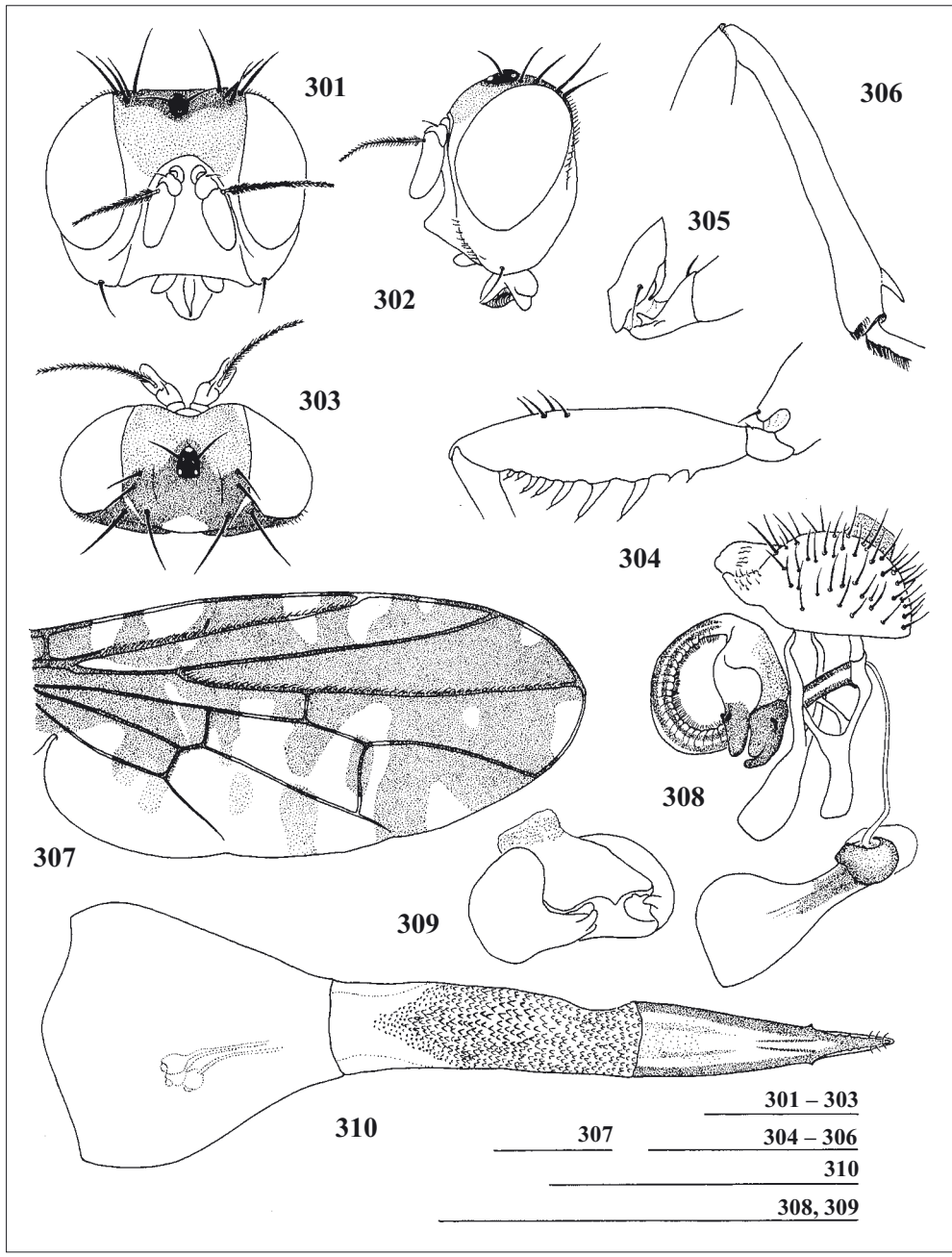
(Figs 301 – 310, 682)

Diagnosis. Gena of male not protruding laterally beyond width of eyes. Thorax bi-coloured, not strongly contrasting with face, fore legs and bases of mid and hind femora. Thoracic pleurites with central, dark brown, triangular mark across anepisternum, anepimeron and dorsal part of katepisternum. Fore femora strongly developed, such that outer surface is curved outwards, while inner surface is almost straight; base of fore femur consistently coloured with rest of femur. Hind tibia plain coloured and lacking brown bands; hind tibia of male with dorsal pre-apical dorsal spine slightly longer than width of hind tibia. Wing and thorax stout (ratio < 4:1). Female abdomen yellow-buff with brown dorsal triangular mark over centre of T_{3-5}. Proctiger of male genitalia subsquare, situated basal on epandrium. Denticles on membrane pointed and moderately dense; aculeus tapered with one pair of pre-apical teeth, tip with fine apical setulae.

Etymology. *gladiatura* L. f. – gladiator's profession, referring to this species' large size (within the genus), the strongly developed raptorial forelegs and the dorsal pre – apical spine on the male hind tibia.

Description

Dimensions: ♂ Holotype. Body length 4.3 mm; wing length 5.0 mm. **Colour/Vestiture**: Ground-colour pale yellow-brown. Head with dark-brown band across vertex (Figs 301 – 303). Occiput dark brown on dorsal half, pale creamy-white below, medial occipital sclerite pale creamy-white medially (Fig. 303). Flagellomere 1 tinged with grey-brown. Thorax with notum dark brown, but pale creamy-white on postpronotal lobe and notopleural callus; all but a narrow anterior margin of anepisternum and narrow ventral margin of anepimeron and katatergite dark brown, mediotergite and subscutellum dark brown. Scutellum dark brown, pale mark strongly restricted to apical triangular patch as wide as sockets of apical setae. Legs apex of mid and hind femora dark-brown. Wing marked with dark brown and hyaline patterns (Fig. 307). Calpyter grey-brown fringed with darker brown margin; halter pale creamy-white. Abdominal syntergite (T_{1+2}) pale brown with creamy-white posterior margin, T_3, T_4 and T_5, glossy dark brown. Female genitalia glossy, pale-brown. Fine bronze brown microtrichia on face; silver microtrichia on occiput, anepisternum, anepimeron, anepimeron and mediotergite.
Head: Gena of male not protruding laterally beyond width of eyes (Fig. 301). Arista long pubescent (Figs 301 – 303). Ocelli large and conspicuous. Postgena only slightly swollen (Fig. 302). Setulae of head sparse, pale on postgena, base of post occipital sclerite and dorsal-most four or five setulae of



Figs 301–310: *Furcamyia gladiatura* sp.nov. ♂ Holotype and ♀ Paratype. – **301**: Male head, frontal view; – **302**: Male head, profile; – **303**: Male head, dorsal view; – **304**: Left fore femur, outer surface, lateral view; – **305**: Left mid-coxa, outer surface, lateral view; – **306**: Left hind tibia, outer surface, lateral view; – **307**: Right wing, dorsal view; – **308**: Male genitalia, right lateral view; – **309**: Male genitalia, oblique frontal view; – **310**. Female ovipositor, dorsal view, position of spermathecae indicated.

subvibrissal setulae; black setulae on frons, gena, occiput and palp. Divergent ocellar setae proclinate, anterior reclinate orbital marginally shorter than posterior reclinate orbital, lateral vertical marginally shorter than median vertical. Postocular row merging with setulae of occiput.

Thorax: Setulae short and black on notum, finer and brown on remainder of thorax; anepimeron with distinctly longer black setulae around anepimeral setae. Setae: 1 postsutural dorsocentral, 1 postsutural acrostichal; and 3 short anepimeral among long anepimeral setulae. **Legs**: Fore femora strongly developed, such that outer surface is curved outwards, while inner surface is almost straight. Ventral surface of fore femur with two medially positioned long spines (longer than width of tibia), a diminishing series of 5 spines apicad and two peg-like spines basad (Fig. 304). Fore femur with three pale brown dorsal setae and a single black posterodorsal seta (Fig. 304). Fore coxa 2 pale setae on distal margin, mid and hind coxae with single black lateral setae (Fig. 305); fore and mid trochanters with single short, black, apico-dorsal setae (Fig. 305). Apex of hind tibia with distinctive, slightly curved spur on dorsal surface, pointing toward apex (Fig. 306). Setulae pale coloured, but brown toward apices of femora, at bases of tibiae and dorsal tarsi. **Wing**: Wing and thorax stout (ratio < 4:1). Pre-humeral seta present. Sc evanescent along line of wing flexion. Setulae on R_1 and R_{4+5} about half length of R-M (Fig. 307).
Abdomen: Longer than wide; T_{1+2} equal to length of T_5 and T_5 longer than T_3 and T_4 together. Setulae black and erect. Genitalia (♂) — Epandrium subglobose, somewhat dorsoventrally flattened, densely setulose (Fig. 308). Proctiger subsquare, situated basal on epandrium, finely microtrichose (Fig. 308). Hypoproct dorsally wrinkled (Fig. 308). Lateral surstylus narrow, setulose dorso-laterally (Fig. 308); slightly curved forward in front of medial surstylus; thumb-like projection present on dorsal surface (Fig. 309). Medial surstylus laterally flattened and plate-like, slightly cleft at apex (Fig. 309). Distiphallus annulated and setulose on dorsal surface (Fig. 308). Lateral filaments of glans broad, apex heavily sclerotised, basal caeca absent (Fig. 308). Ejaculatory apodeme sclerotised only partially in basal lobe and stem, narrowly spatulate; unsclerotised portion of basal lobe large.

Variation: ♂ Body length 4.3 mm; wing length 5.0 mm. ♀ Body length 3.6–4.5 mm; wing length 4.4–5.2 mm. Peg-like basal spines of front femur shorter in female than in male. Setae of hind coxa pale and paired in one specimen, while dorsal seta is pale and ventral one is black in second specimen. Yellowish band on scutellum less restricted in specimens from Zaïre, tending to occupy space between apical setae and spreading wider than setae along ventral margin of scutellum. Wing patterning varies by absence or presence of some hyaline spots along posterior margin. Abdomen yellow-buff with brown dorsal triangular mark over centre of T_{3-5}. Ovipositor — Denticles on eversible membrane pointed and moderately dense, reaching greatest proportion medially diminishing basally (Fig. 310). Aculeus tapered with one pair of pre-apical teeth, tip with fine apical setulae (Fig. 310).

Material examined: **Holotype**: SOUTH AFRICA: ♂ (NMSA) "SOUTH AFRICA : Natal / Ferncliffe Forest Res. / 29°33'00"S; 30°20'30"E / 975m J. G. H.. LONDT / Mistbelt Mixed Forest / Date 23.xi.1987" [printed on white card with numerals of date hand-written]; "HOLOTYPE / *Furcamyia* / *gladiatura* / sp.nov. ♂ / Det. WHITTINGTON" [first and last lines printed, middle three hand written on red card]. In good condition, genitalia in glycerine, in microvial, on same pin as specimen. Other material — **Paratypes**: ZAÏRE: 1♀ Kivu Rutshuru [01°11'S; 29°28'E], Kanzarue River, 15.vii.1935, G.F. DE WITTE, 1200 m, 1650 (MRAC) [with an unpublished STEYSKAL manuscript label "*Agrochira* / *kivuana*" on the reverse of which is "*Agrochira* / nr. *bismarkb.*"]; 3♂♂ 1♀ Rutshuru [01°11'S; 29°28'E; ca. 1000–1500 m], iii.1938, J. GHESQUIÈRE (KBIN; 1♂ NMSE); 1♀ Lulua [=river], Kapanga [05°08'S; 17°03'E], 12.ii.1932, F.G. OVERLAET (MRAC). SOUTH AFRICA: 1♀ same data as Holotype (NMSA); 1♀ Natal, Pietermaritzburg, Town Bush, 2930Cb [29°33'S; 30°20'E, 975m], 12.xi.1988, J.G.H. LONDT (TAUI).

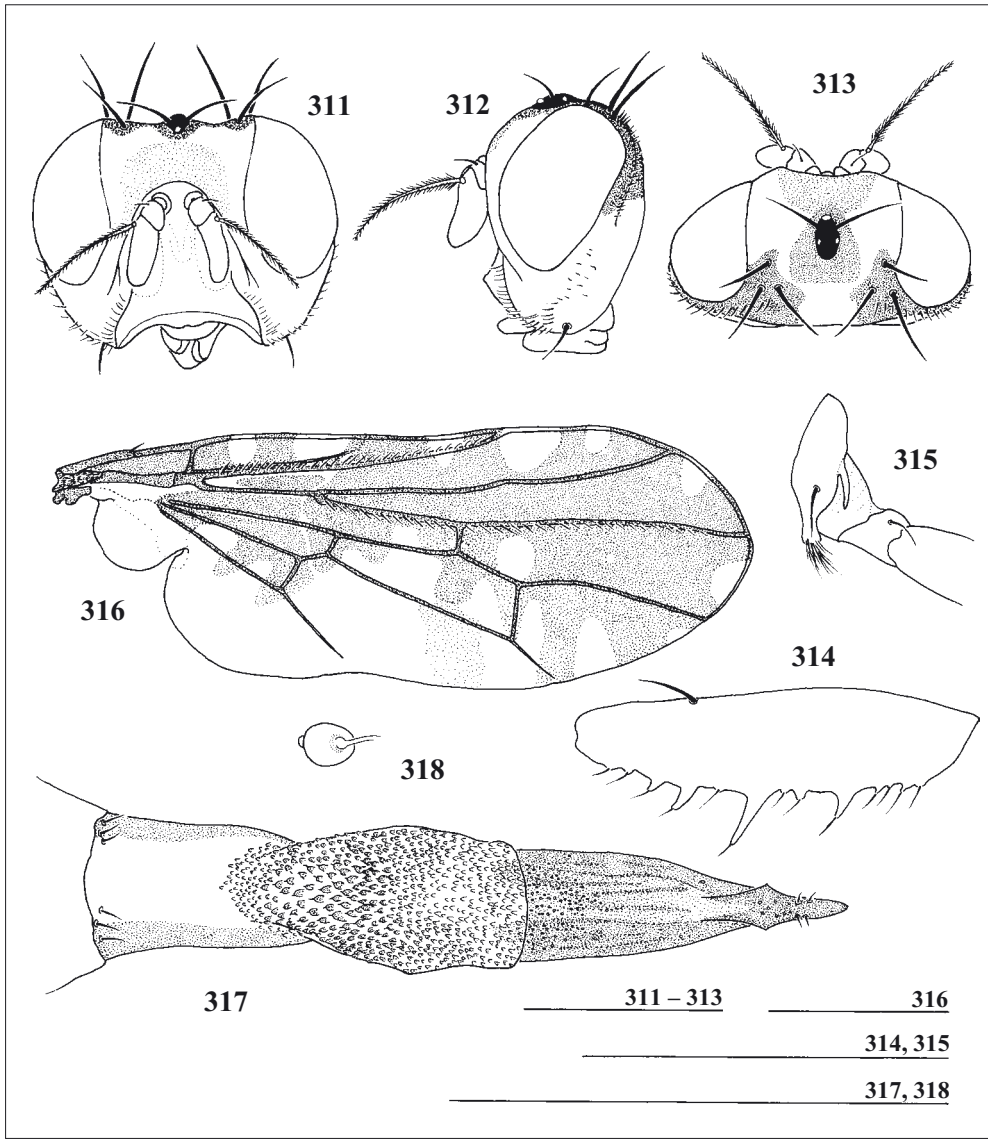
Discussion. *F. gladiatura* is a distinctive species easily separated from others by gross morphology. It is also unusually large for this genus, which otherwise consists of fragile, small species. It is also the only member of this genus with a tibia spur on the hind leg of the male. The holotype and one paratype were collected in dense Mistbelt Mixed Forest on an escarpment near Pietermaritzburg, South Africa.

Distribution. *F. gladiatura* is a central and southern African species, collected from the type locality in South Africa and disjunctly from Zaïre (Fig. 682).

Furcamyia pallida sp.nov.

(Figs 311–318, 682)

Diagnosis. Gena of male not protruding laterally beyond width of eyes. Thorax bi-coloured, not strongly contrasting with face, fore legs and bases of mid and hind femora; pleurites mostly yellow, posterior band indistinct and only across katatergite; base of fore femur tinged brown.



Figs 311–318: *Furcamyia pallida* sp.nov. ♀ Holotype. – **311**: Head, frontal view; – **312**: Head, profile; – **313**: Head, dorsal view; – **314**: Left fore femur, outer surface, lateral view; – **315**: Left mid-coxa and trochanter, outer surface, lateral view; – **316**: Right wing, dorsal view; – **317**: Female ovipositor, dorsal view; – **318**: Detail spermatheca, oblique basal view.

Fore femora strongly developed, such that outer surface is curved outwards, while inner surface is almost straight. Wing and thorax stout (ratio < 4:1). Denticles on eversible membrane dense and tip of aculeus strongly sclerotised.

Etymology. *Pallidus L.* a. – ashen, wan, pale referring to pale overall colour of the species.

Description

Dimensions: ♀ Holotype. Body length 4.1 mm; wing length 3.6 mm. **Colour/Vestiture**: Ground-colour pale yellow-brown. Head with dark-brown marks on ocellar triangle and lateral portions of vertex

(Figs 311 – 313), extending posteriad across dorsal half of occiput to shortly before occipital foramen. Medial line of face creamy-white. Arista black at apex. Thorax bi-coloured, not strongly contrasting with face, fore legs and bases of mid and hind femora; notum glossy dark brown, but pale creamy-white on postpronotal lobe and notopleural callus; pleurites tinged brown, central spot on katepisternum, all of katatergite, mediotergite and subscutellum dark brown. Scutellum glossy dark brown, pale mark strongly restricted to medial band with ill-defined margins as wide as sockets of apical setae. Legs: fore femur pale brown, base tinged brown, apex of mid and hind femora dark-brown. Wing marked with dark brown and hyaline patterns (Fig. 316). Calypter grey-brown fringed with darker brown margin. Halter pale creamy-white. Abdomen: medial mark on T_3; most of T_4 brown with indefinite margins; T_5, glossy dark brown. Ovipositor glossy, brown, base of exposed part of aculeus black. Fine orange-brown microtrichia on face; silver microtrichia on occiput, base of medial occipital sclerite, thoracic pleurites, mediotergite and lateral subscutellum.

Head: Gena of male not protruding laterally beyond width of eyes (Fig. 311). Arista short pubescent (Figs 311 – 313). Ocelli large and conspicuous. Postgena evenly curved posterior to eye (Fig. 312). Setulae of head: brown on frons, pale on postgena and palp, longer and black on gena and parafacial. Divergent ocellar setae proclinate.

Thorax: Setulae long and black on notum, anepisternum and anepimeron; finer and pale proepimeron, proepisternum and katepisternum; absent from remainder of thoracic pleurites and mediotergite. Setae: 1 presutural dorsocentral, 1 postsutural dorsocentral, 1 postsutural acrostichal, anepimerals not distinct from long anepimeral setulae. **Legs**: Fore femora strongly developed, such that outer surface is curved outwards, while inner surface is almost straight. Ventral surface of fore femur with one medially positioned long spine (longer than width of tibia), a diminishing series of 4 spines apicad, a basal long spine, two peg-like spines between medial and basal long spines and two peg-like spines basad of medial long spine (Fig. 314). Fore coxa with 2 long black setae on distal margin, mid coxa with single black lateral seta (Fig. 315) and hind coxa with single brown lateral seta; fore and mid trochanters with single short, black, apico-dorsal setae; fore femur with two dorsal setae, scarcely distinguishable from background setulae. Ventral margin of mid coxa produced into a blunt projection, strongly setulose, with long setulae (Fig. 315). Setulae of femora long and black, sparsely spaced; pegs and spines with setulae. Pale coloured setulae on tibiae and basal three tarsomeres. Pre-apical tibial spur pale brown. **Wing**: Wing and thorax stout (ratio < 4:1). Prehumeral seta present. Sc stops at wing flexion. Setulae on R_1 and R_{4+5} equal to length of R-M. R-M weakened in middle, but complete (Fig. 316).

Abdomen: Distinctly longer than wide; T_{1+2} equal to length of T_5, but T_5 shorter than T_3 and T_4 together. Setulae black, sparse and erect. Ovipositor – Denticles on eversible membrane dense, basally pointing, reaching greatest proportions medially, diminishing basally and apically (Fig. 317). Aculeus heavily sclerotised, apex pointed with distinct subapical lateral pointed lobes, and four minute apical setulae (Fig. 317).

Variation: male unknown.

Material examined: **Holotype**: NIGERIA: ♀ (BMNH) "NIGERIA: / N.W. State / 11 mls. N.W. Mokwa / Zugurma. R. Eku. [09°27'N; 04°52'E] / 11 – 19.viii.1970. / P.H.WARD./ B.M.1970 – 604." [printed on white card]; "HOLOTYPE / *Furcamyia pallida* / sp.nov. ♀ / Det. WHITTINGTON" [first and last lines printed, middle two hand written on red card]. In good condition, genitalia in glycerine, in microvial on same pin as specimen.

Discussion. The presence of only a single reclinate orbital seta is unusual in this genus, all other species have two orbital setae; no socket or scar remains to indicate damage or a vestigial character. All other characters match the criteria for *Fucamyia*, thus this specimen may be aberrant in this character state, which can only be assessed once more material becomes available.

Distribution. *F. pallida* is known only from the type locality in Nigeria (Fig. 682).

Mesanopin Enderlein, 1912

***Mesanopin* Enderlein, 1912 –** Enderlein (1912b: 369; fig. D.) [description]. **Type species**: *Mesanopin tephritinum* Enderlein, 1912, by original designation. Enderlein (1912a: 348) (nom. nud.); Hendel (1914a: 121, fig. 68 – 70) [synonymy with *Agrochira*]; Hendel (1914b: 265) [key], 266 [description]; Bezzi (1918: 246) [mentioned and placed in Ortalidae]; Steyskal (1980: 563) [catalogue].

= ***Prionoscelia* Enderlein, 1922** – Enderlein (1922: 11.) [description]. **Type species**: *Prionoscelia minax* Enderlein, 1922, by original designation. Frey (1932: 257) [key], (259) [discussion]. Steyskal (1980: 565) [catalogue]. **Syn. nov.**

= ***Tessmannella* Enderlein, 1924** – Enderlein (1924: 152) [description]. **Type species**: *Tessmannella undulata* Enderlein, 1924, by original designation. [Junior homonym, preoccupied by *Tessmannella* Hedicke, 1912.]. Frey (1932: 259) [synonymy]; Steyskal (1980: 565) [catalogue].

= ***Tessmanniola* Enderlein, 1925** – Enderlein (1925: 409), replacement name for *Tessmannella* Enderlein, 1924. Steyskal 1980: 565 [catalogue].

= ***Acanthoneuropsis* Frey, 1932** – Frey (1932: 258, pl. VII, fig. 21) [description]. **Type species**: *Agrochira laticeps* Enderlein, 1922, by original designation. Frey (1932: 257) [key]; Steyskal (1980: 563) [catalogue]. **Syn. nov.**

Diagnosis. Form of head extremely variable, especially in males, moderately to strongly broadened. Medial vertical setae equal to or similar in length to the lateral vertical setae, but not distinctly weaker. Fore femora distinctly spinose on ventral surface. Three pairs of scutellar setae. Notum lacking microtrichose stripes. Wing membrane banded along anterior half or more, with hyaline incisions and spots, frequently including hyaline spots in r_{2+3}. Lateral surstylus of male genitalia reduced, much shorter than length of epandrium. Aculeus tip bluntly rounded.

Etymology. *μεσοσ – mesos* Gr. = middle; *ανο – ano* Gr. = up, upward or over; *pin* AS. n. peg; possibly referring to the spinose fore femur characteristic of this genus. Gender neuter.

Description

Dimensions: Body length 2.5 – 4.1 (outlier 7,5) mm; wing length 2.6 – 4.7 (outlier 7,6) mm. (For discussion of outlier see *M. hendeli* (Enderlein, 1922). **Colour/Vestiture**: Ground-colour predominantly combinations of buff to orange-brown and dark brown or black. Ocellar triangle dark brown to black. Arista brown. Legs usually pale buff, banded or ringed with dark brown. Wings banded along anterior half or more, with clear spots within bands. Microtrichose vestiture poorly defined, requiring an oblique angle of viewing; most noticeable on face and around eyes and on some thoracic pleurites; notum lacking pruinose stripes. Abdominal pleurites pale-brown or orange-brown.

Head: Subglobose to anteroposteriorly compressed (width less than half height in dorsal view). Head of some species laterally broadened such that vertex is broader than thorax, but never forming distinct and narrow eye-stalks. Gena usually strongly developed ventrally (gena:eye-height ratio range 1:1.2 to 1:3.3), occasionally (1 species) shallower (gena:eye-height ratio approximately 1:4.5). Face projecting at lower facial margin as far as scape; distinct (usually smooth) elongate antennal-grooves beneath flagellomere 1. Flagellomere 1 elongate oval, pendulous. Arista pubescent. Ocellar triangle small, situated in line with or slightly apicad of anterior frontal seta. Palp elongate, but not protruding beyond lower facial margin, apically rounded. Postgena bulging slightly posterior to occipital sclerite. Supracervical setulae present. Setae: 1 ocellar, 2 latero-reclinate orbitals, 2 postocular, 1 (small) pedicel, 1 genal. Postocular row weak, frequently merging with background setulae.

Thorax: Approximately as broad as long, broadest about anepisternal seta. Setae: 1 postpronotal (present or absent see key and species descriptions); 2 notopleural (posterior one raised on a callus), 1 supra-alar, 1 postalar, 1 intra-alar, 1 postsutural dorsocentral (near posterior margin of scutum) and 1 postsutural acrostichal (anterior to line between ial s and dc s), 1 of each of basal, lateral and apical scutellar, 1 anepisternal. Weak setae (difficult to distinguish from general background setulae present on: anterior margin of notum (= scapular setae); anepimeral (two or three in a clump); margin of tegula. **Legs**: Fore femur distinctly spinose on the ventral surface;

each spine ending in a fine setula. Long conspicuous setulae present on dorsal surface of fore femur, sometimes merging with background setulae. Mid tibia with short ventral pre-apical seta. Long, conspicuous dorsal setulae on apex of final tarsomere, curving over apex and in front of claws. First two tarsomeres of each leg with ventral pad of stout, pale setulae. Terminal two or three tarsomeres with short black preapical peg-like setulae across latero-ventral margins, being most obvious on mid leg. Empodia setiform. Claws evenly curved and smooth. Pulvilli rounded and densely setose. **Wings**: Costa broad basally; sub-humeral weakening sometimes marked by ventral seta. Costa ending at apex of M, black setulae along its length becoming shorter toward wing apex. Sub-costa evanescent, ending in wing flexion. Fine setulae along posterior wing margin usually pale. Black setulae on entire R_1 and R_{4+5}. Wing flexion noticeable; following an angle basad along sub-costal evanescence, across basal r_1 and RS bifurcation, then in an angle apicad across br, bm, through Cu-bm and across basal cu_1. Crossvein R-M a little beyond mid-way on dm. Distal portion of M arching gently forward. Cell bm longer than cell bcu. Cu_1 and A_1+Cu_2 terminating before reaching hind margin. Lower calypter reduced to setose ridge, subalar sclerite slightly concave and anteriorly scooped. Tegula small.

Abdomen: Ovate, widest at hind margin of T_{1+2}. Pleurites membranous, matt. Sternites glossy, sclerotised, but reduced to about one third the width of abdomen. Male genitalia – epandrium subglobose, and setose. Proctiger membranous, variably extended above sides of epandrium. Hypoproct separate from proctiger, setose along outer margin and/or apex. Surstyli shorter than hypoproct and shorter than length of epandrium. Medial surstylus variously modified, bifid or single. If bifid, then inner bifurcation clawed or ornamented at apex and outer bifurcation blunt at apex. Distiphallus with annular impressions on dorsal surface. Glans elongate, with various modifications of acrophallus, lateral sclerites and vesicle. Ejaculatory apodeme sclerotised, broadly spatulate. Vanes of phallapodeme and hypandrium narrow. Ovipositor (♀) – Oviscape conical, strongly sclerotised. Eversible membrane with distinctive sculpturing from middle to apex. Aculeus blunt to pointed. Three spherical spermathecae in 1+2 arrangement, each with an apical "button".

Included species:
adamanta **sp. nov.**
ametromastax **sp. nov.**
biplexum **sp. nov.**
bismarckburgensis (ENDERLEIN, 1924) (*Agrochira*) **comb. nov.**
bvumba **sp. nov.**
clavigrum **sp. nov.**
hendeli (ENDERLEIN, 1922) (*Agrochira*) **comb. nov.**
laticeps (ENDERLEIN, 1922) (*Agrochira*) **comb. nov.**
londti **sp. nov.**
minax (ENDERLEIN, 1922) (*Prionoscelia*) **comb. nov.**
palaga **sp. nov.**
pallidum **sp. nov.**
tephritinum ENDERLEIN, 1912
tridens **sp. nov.**

Discussion. *Mesanopin* was described as a monotypic genus by ENDERLEIN (1912). In 1914(a), HENDEL synonymised *Mesanopin* with the then monotypic *Agrochira* ENDERLEIN, 1911 and in his second paper (1914b) provided a key to both species (*A. achiodes* ENDERLEIN, 1911 & M.

tephritinum ENDERLEIN, 1912). Disregarding this synonymy, ENDERLEIN (1922) added *A. hendeli* (ENDERLEIN, 1922) and *A. laticeps* (ENDERLEIN, 1922) to *Agrochira* and *Trypeta adatha* (WALKER, 1849) to *Mesanopin*. *T. adatha* is now placed in *Elaphromyia* BIGOT, 1859 (Tephritidae) (COGAN & MUNRO, 1980, NORRBOM *et al.* 1998). ENDERLEIN (1924) added a further species to *Agrochira* viz. *A. bismarckburgensis* ENDERLEIN 1924.

FREY (1932) then placed *Agrochira laticeps* ENDERLEIN, 1922 into a new monotypic genus, *Acanthoneuropsis*. Dissection of material collected since FREY (1932) clearly indicates that *Acanthoneuropsis* is a junior subjective synonym of *Mesanopin*. Thus, the latter genus is reinstated. Furthermore, only *A. achiodes* remains in *Agrochira*, while the above listed species are now placed in *Mesanopin*.

Sexual dimorphism occurs in *Mesanopin*, although it is not as well developed as in *Agrochira*. In the species *M. hendeli* and *M. laticeps* male heads are wider than female heads and the spines on the femora longer those of females. Although broadened heads in males appears to be more strongly associated with *Agrochira*, those in *Mesanopin* never form distinctive, narrow eye-stalks. The possibility of broadened heads evolving in two separate lineages, is reasonable given that this character occurs in other unrelated genera in Platystomatidae (e.g. *Achias* FABRICIUS, 1805 and *Laglaizia* BIGOT, 1878), in Tephritidae (e.g. *Themara* WALKER, 1856) and widely in Diopsidae.

FREY (1932) placed great importance in his key to wing patterns, but caution is called for in *Mesanopin*. In only a few species, are these patterns distinct enough to be reliable for species recognition. The patterns and arrangement of spots is broadly similar in several other species and even variable within species. The most reliable set of characters for species recognition in *Mesanopin* are found in the genitalia of both sexes.

It is noticeable that 3 of the 14 species now placed in *Mesanopin* lack the postpronotal seta. Although this character is distinct, it seems unreasonable, in the absence of other supporting characters, to separate these species to form another genus. Moreover, the genitalia compare with the remaining 10 species.

Distribution (Fig. 687): *Mesanopin* is presently known only from mainland Africa, with centres of distribution in West, East and southern Africa. This apparent tripolar distribution is possibly a result of the poor collecting in between these centres. Collection data would suggest that this genus is predominantly forest or woodland dwelling.

Key to the species of *Mesanopin*

1 Postpronotal seta absent (Fig. 322) **2**
– Postpronotal seta present (Fig. 328) **4**
2 Distance between inner margin of eyes greater than width of thorax (Fig. 368) .... ***M. hendeli* (ENDERLEIN, 1922)**
– Distance between inner margin of eyes less than width of thorax **3**
3 Parafacial area unicolourous pale yellow between ptilinal fissure and eye margin (Fig. 319); face white directly beneath antennal insertion (Fig. 319); vertex level with upper margins of eyes, marked with a dark-brown glossy diamond shaped marking across the ocellar triangle (Fig. 319); brown wing pattern extended to posterior margin of wing (Fig. 323); glans of male genitalia having well developed acrophallus and paired lateral filaments (Fig. 325) ..... ***M. adamanta* sp. nov**
– Parafacial area with a black or dark brown diamond shaped spot between ptilinal fissure and eye margin (Fig. 383); face black directly beneath antennal insertion (Fig. 383); vertex sunken such that ocellar triangle is below upper margins of eyes, broadly marked with

irregular dark brown pattern (Fig. 383); brown wing pattern ceasing before posterior margin of wing, terminating in DM-Cu, bcu and cu_1 (Fig. 390) ..... ***M. londti* sp. nov.**

4 Eye margins and face between antennae strongly white microtrichose; thorax, legs and abdomen mostly black (but head pale); dorsal surface and spines of fore femur distinctly black (Fig. 395); gena:eye-height ratio approximately 1:4.5 (Fig. 394); width of cell c at widest point three times as long as R-M, R_{2+3} strongly sinuous, dm twice as long as DM-Cu, and R-M situated basad of middle of dm (Fig. 397).... ***M. minax* (ENDERLEIN, 1922)**

– Eye margins and face between antennae not noticeably microtrichose; body mostly combinations of dark brown and yellow-ochre or yellowish; spines of fore femur not distinctly black, sometimes brown (Fig. 406), but then dorsal surface of femur pale; gena: eye-height ratio range 1:1.2 to 1:3.3; width of cell c approximately twice as long as R-M at widest point, R_{2+3} nearly straight, dm three times as long as DM-Cu, and R-M situated beyond of middle of dm **5**

5 Distance between inner margin of eyes greater than width of thorax (if in doubt also check the key for *Agrochira* ENDERLEIN, 1911) **6**

– Distance between inner margin of eyes less than width of thorax **7**

6 Anterior and posterior orbital setae inserted one behind another (Fig. 358); w-shaped dark brown glossy band across frons (Fig. 358); face and parafacial broadly brown (Fig. 358); notum broadly brown or black on paler background (Fig. 362) all femora brown to black at apices (Fig. 363); epandrium dorso-ventral compressed (Fig. 366) .... ***M. clavigrum* sp. nov**

– Anterior and posterior orbital setae inserted in line across head (Fig. 373); discrete dark brown band across face and parafacial area (Fig. 373); notum vittate (Fig. 376); all femora pale except a faint smudge at apex of hind femur; epandrium distinctly compact and subglobose (Figs 379 & 380) ..... ***M. laticeps* (ENDERLEIN, 1922)**

7 Frons, face (Fig. 413) and pleurites (except anepimeron and katatergite) pale creamy-white; forelegs pale (Fig. 417), entirely lacking tibial bands, a few indistinct spots on the inner surface of fore femora and tibiae ..... ***M. pallidum* sp. nov.**

– Pleurites more widely brown; all legs distinctly banded on femora and/or tibiae **8**

8 Face with distinct brown horizontal band (Fig. 326); flagellomere 1 dark in colour and co-incident with facial band (Fig. 326); scutellum either pale, or with lateral margin dark brown (Fig. 405) **9**

– Face pale, at most with faint smoky band (Fig. 335); flagellomere 1 pale, or if slightly darkened, then no facial band; scutellum predominantly brown, with paler medial band sometimes present (Fig. 337) **11**

9 Band of dark brown on parafacial area continuous with facial band (Fig. 344); gena and postgena not enlarged (Figs 344 & 346); anterior portion of anepisternum black .... ***M. bismarckburgensis* (ENDERLEIN, 1924)**

– Parafacial area not banded, but having an oval dark brown spot on parafacial area in line with dorsal margin of facial band (Figs 326 & 402); gena and postgena swollen (Figs 326, 327, 402 & 404); anepisternum mostly pale, with short brown band in dorsal fifth (e.g. Fig. 329) **10**

10 Ventral spines on fore femur concolourous with femur (pale creamy-white) (Fig. 330); flagellomere 1 dark smoky grey (Fig. 326); DM-Cu predominantly hyaline (Fig. 331) . ..... ***M. ametromastax* sp. nov.**

– Ventral spines on fore femur brown, contrasting with femur (pale buff-yellow) (Fig. 406); flagellomere 1 dark brown; DM-Cu marked with brown pattern (Fig. 407) .... ***M. palaga* sp. nov**

11 Pleurites of thorax broadly brown; most of frons uniformly brown and glossy or dark brown and pubescent **12**

– Pleurites of thorax banded brown on paler buff-yellow background; frons uniformly pale yellowish-brown or russet to orange-brown and finely pubescent (velvety) 13

12 .Frons uniformly brown and glossy, but pale brown immediately adjacent to ptilinal fissure, (Fig. 350) and spotted with small dark alveoli, from which arise short dark setulae; brown colour of wing membrane predominating over hyaline spots; veins not conspicuously dark ..... ***M. bvumba* sp. nov.**

– Frons dark brown and pubescent without pale brown band adjacent to ptilinal fissure, with inconspicuous alveoli and pale setulae (Fig. 425); hylaine areas on wing predominating more than brown membrane and veins conspicuously dark (Fig. 429) .... ***M. tridens* sp. nov.**

13 Frons russet to orange-brown and finely pubescent (velvety); cell r_{2+3} brown, lacking an apical hyaline incision, but occasionally having small medial and basal hyaline spots of much smaller diameter than dimension across r_{2+3} (Fig. 339); aculeus tip blunt and terminating at point of insertion of apical setulae (Fig. 343) ..... ***M. biplexum* sp.nov**

– Cell r_{2+3} marked with an apical hyaline incision and pair of baso-medial hyaline spots with diameter as wide as r_{2+3} (Fig. 423); aculeus tip pointed and extended beyond point of insertion of apical setulae (Fig. 424) ..... ***M. tephritinum* Enderlein, 1912**

Mesanopin adamanta sp. nov

(Figs 319 – 325, 687)

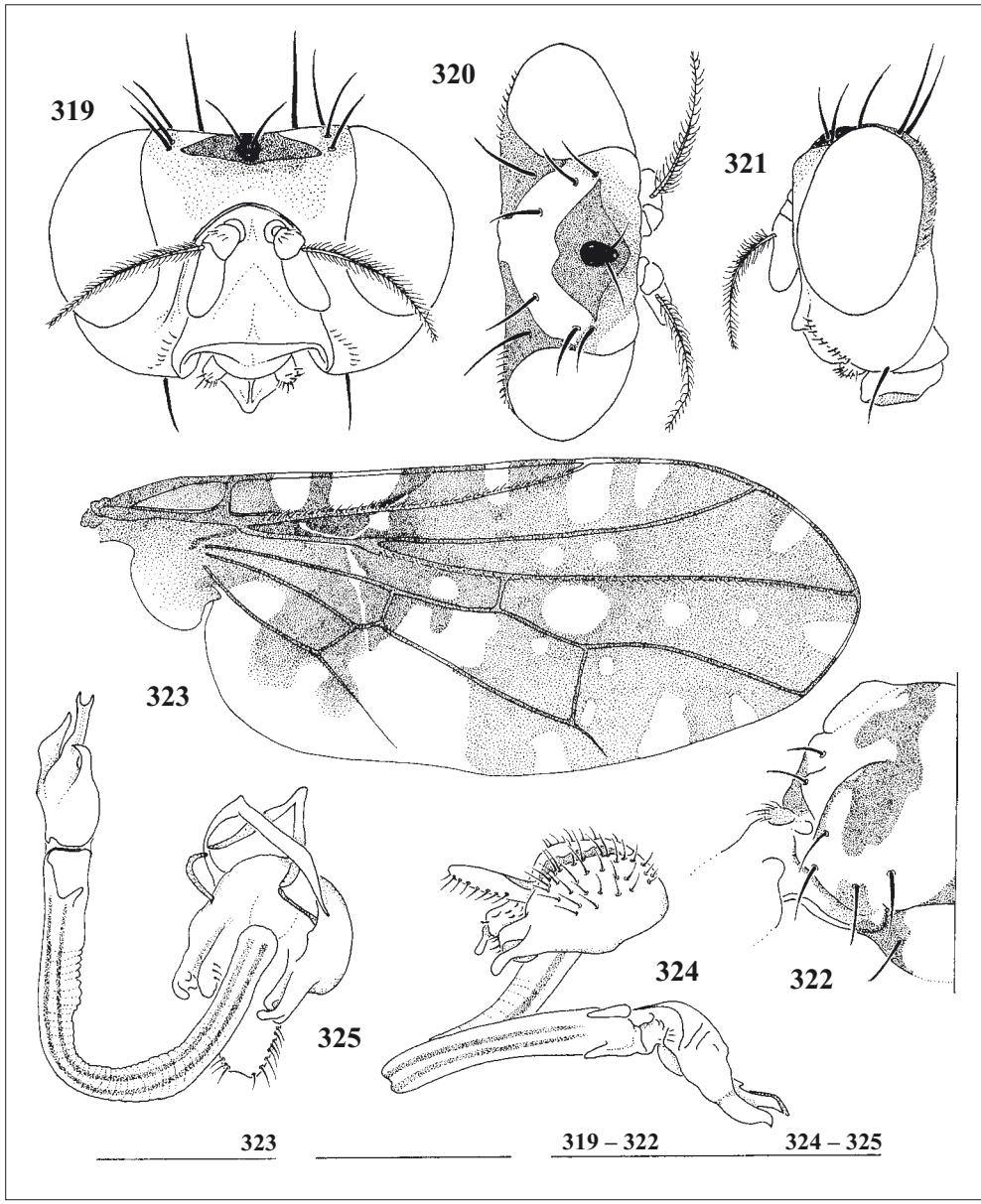
Diagnosis. Distance between inner margin of eyes less than width of thorax. Vertex with dark-brown glossy diamond shaped marking across ocellar triangle. Parafacial area unicolourous pale yellow between ptilinal fissure and eye margin. Face white directly beneath antennal insertion. No postocellar setulae or postpronotal seta. All legs and notum patterned brown on pale buff. Brown wing pattern extended to posterior margin of wing. Glans of male genitalia having well developed acrophallus and paired lateral filaments.

Etymology. *αδαμαντοσ* = *adamantos* Gr. m. = unconquerable, unyielding, diamond = referring to the diamond shape on the frons.

Description

Dimensions: ♂ Holotype. Body length 4.2 mm; wing length 4.1 mm. **Colour/Vestiture**: Ground-colour pale buff. Dark-brown, glossy, diamond shaped marking on vertex centred over ocellar triangle (Figs 319 & 320). Frons indistinctly marked with smudges of brown. Ocellar triangle black. Occiput dark brown, medial occipital sclerite buff (Figs 320 & 321). Thoracic pleurites with black apical and medial diagonal bands foreshortened and not reaching front margin of katepisternum, posterior diagonal band absent. Notum glossy, strongly marked with two irregularly shaped dark brown lateral stripes and a brown triangle medially on posterior margin (Fig. 322). Scutellum black laterally. Legs with dull black markings at apex of mid and hind femora, basally on mid and hind tibiae, and as bands in apical third of mid and hind tibiae. Wings marked with dark brown (Fig. 323). Calypter pale grey fringed with brown margin. Halter pale creamy-white with orange tint in stem. Abdomen entirely glossy black tinged with indistinct dark red-brown markings on T_{1+2} and T_3. S_{1-5} and male genitalia dull, dark red-brown. Fine silver microtrichia on face, where there is ground colour (except medially on vertex, which is glossy), distinctive on frons and flagellomere 1, on anteroventral margin of katepisternum, on subscutellum and basal two segments of abdomen (viewed at angle from front).

Head: Parafrontal and orbital plate weakly expanded, but not forming stalked eyes; vertex narrower than thorax, but outer margin of eye exceeding thorax width. Frons with acute (convex) angle between ocellar triangle and antennae (Fig. 321). Vertex level with upper margin of eyes. Gena (in frontal view)



Figs 319–325: *Mesanopin adamanta* sp. nov. ♂ Holotype. – **319**: Head, frontal view; – **320**: Head, dorsal view; – **321**: Head, profile; – **322**: Thorax, dorsal half view; – **323**: Right wing, dorsal view; – **324**: Genitalia, right lateral view; – **325**: Genitalia, oblique ventral view.

with curved margin between lower margin of eye and subcranial cavity (Fig. 319). Postgena only slightly swollen. Setulae short, mostly pale and sparse, black setulae in front of ocellar triangle, on gena and on palp; frons weakly spotted with small dark raised alveoli, from which arise short pale brown setulae. Subvibrissal setulae short. Supracervical setulae sparse. Postocular row short, but distinct, black, merging with similar setulae on gena.

Thorax: Setulae short and erect, reclinate on notum, black (some pale) anteriorly and laterally; coloured according to background colouring and longer on pleurites, particularly noticeable on posterior

margin of anepisternum and anepimeron, where some are black. 1 strong and 3 weaker anepimerals in a row, 1 katepisternal (on right side of body). **Legs**: Fore coxa with long, fine pale apical setulae. Mid coxa with 2 pale setae. Setulae pale, but intermingled with brown setulae on darkly coloured parts of femora, tibiae and entire tarsi. **Wing**: R-M midway along dm; dm rectangular, longer than twice greatest width; membrane patterned as in Fig. 323.

Abdomen: Setulae pale brown on T_{1+2}, black on T_3 to T_5. Genitalia (♂) — Proctiger small and not visible above sides of epandrium (Fig. 324). Hypoproct fused into a spatulate plate, apex slightly indented, outer margin long setulose (Figs 324 & 325). Lateral surstylus down-curved and rounded (Figs 324 & 325), a small tubercle present ventrally on inner surface (Fig. 325). Medial surstylus apically square with stout setulae basally, and longer setulae along apical margin (Figs 324 & 325). Distiphallus stout, faintly annulated. Glans bulbous, acrophallus well developed and extended beyond apex of glans, equal to length of glans and bifid at apex; lateral filaments asymmetrical, both apically pointed, shorter one more strongly curved (Fig. 325). Ejaculatory apodeme poorly sclerotised toward apex, spatulate. Phallapodeme, hypandrium and lateral sclerites narrow and weakly developed, apical lobes of phallapodeme and hypandrium undeveloped.

Variation: ♀ unknown.

Material examined: **Holotype**: GHANA: ♂ (BMNH) "GOLD COAST / Asuansi [ca. 05°16'N; 01°18'E] / 18 Dec 1942 / H.E. BOX" [printed on white card]. "Pres. by / Imp. Inst. Ent. / Brit. Mus. / 1946–320"; "HOLOTYPE / *Mesanopin adamanta* sp.nov. ♂ / Det. WHITTINGTON" [first and last lines printed, middle two hand written on red card]. In poor condition, 3 frontal setae missing, notum broken on right side in post-sutural region with consequent loss of seta, scutellum apically damaged and lacking setae, fore legs and middle left leg absent, remaining legs damaged. Genitalia dissected and stored in glycerine, in micro-vial on same pin as specimen.

Discussion. The presence of an aberrant katepisternal seta in the Holotype is most unusual in the Plastotephritinae and cannot be used diagnostically. Apart from occasional isolated specimens, all Plastotephritinae lack these setae.

The male genitalia, are distinctive and diagnostically useful. The acrophallus is well developed and extended beyond the apex of glans, equal to its length and apically bifid. The lateral filaments are asymmetrical, both apically pointed, while the shorter one is more strongly curved. The acrophallus and lateral filaments are seldom exposed in Plastotephritinae and glans of this species is reminiscent of some of the more elongate terminal filaments seen in many members of the other subfamilies of Platystomatidae.

Distribution. *Mesanopin adamanta* is known only from a single locality in Ghana (Fig. 687).

Mesanopin ametromastax sp. nov.

(Figs 326–334, 687)

Diagnosis. Distance between inner margin of eyes less than width of thorax. Face with distinct brown horizontal band; flagellomere 1 dark smoky grey and co-incident with facial band. Parafacial area with black spot on pale orange-brown background in line with dorsal margin of facial band. Gena broad, postgena swollen. Postocellar setulae and postpronotal seta present. Notum distinctly marked; anepisternum, anepimeron and katepisternum predominantly pale. Scutellum predominantly dark brown, with paler medial band. All legs patterned; spines on forefemur pale, long and conspicuous. DM-Cu predominantly hyaline.

Etymology. *αμετροσ – ametros* Gr. = beyond measure or large; *μαστα ξ – mastax* Gr. f. = jaw; referring to the heavy nature of the ventral part of the head.

Description

Dimensions: ? Holotype. Body length 3.7 mm; wing length 4.2 mm. **Colour/Vestiture**: Ground-colour pale creamy-white. Face with distinct brown horizontal band; flagellomere 1 dark smoky grey and co-incident with facial band (Fig. 326). Parafacial area with black spot on pale orange-brown background in line with dorsal margin of facial band (Fig. 326). Extremities of gena tinged with pale orange-brown (Figs 326 & 327). Frons glossy dark-brown, vertex darker than ground colour (tinged buff) (Fig. 326). Ocellar triangle dark brown (Figs 326 & 327). Occiput buff laterally, dark brown medially, medial occipital buff to

whitish centrally. Thorax laterally with black apical and medial bands truncated, such that apical band does not continue more than one third across anepisternum and medial band is only partly present on base of anepimeron and dorsal margin of katepisternum; posterior band very pale grey and indistinct on meron (Fig. 329). Notum glossy, strongly marked with a combination of black and orange-brown (Figs 328 & 329). Scutellum black laterally, orange-brown medially (Fig. 328). Legs with dull black to dark-grey-brown bands at apex of each tibia, apical third of hind femur and basally on hind tibia; pale yellow-brown smudge dorso-apically on front femur, spines pale (Fig. 330); pale, indistinct anterior dorsal spot and darker ventral spots either side of apex of mid femur. Front half of wings dark brown marked with spots and incisions; mostly hyaline in posterior half (Fig. 331). Calypter pale grey fringed with grey-brown margin; halter pale creamy-white. Abdomen: T_{1+2} pale creamy-white tinged with orange-brown with black lateral spots and small triangle medially on posterior margin, T_3 to T_5 glossy black. S_{1-5} pale creamy-white. Male genitalia glossy, black, with pale buff parameres. Fine silver microtrichia on face, frons and upper subvibrissal setulae leading onto post orbital and post ocellar regions, thoracic pleurites, subscutellum and mediotergite.

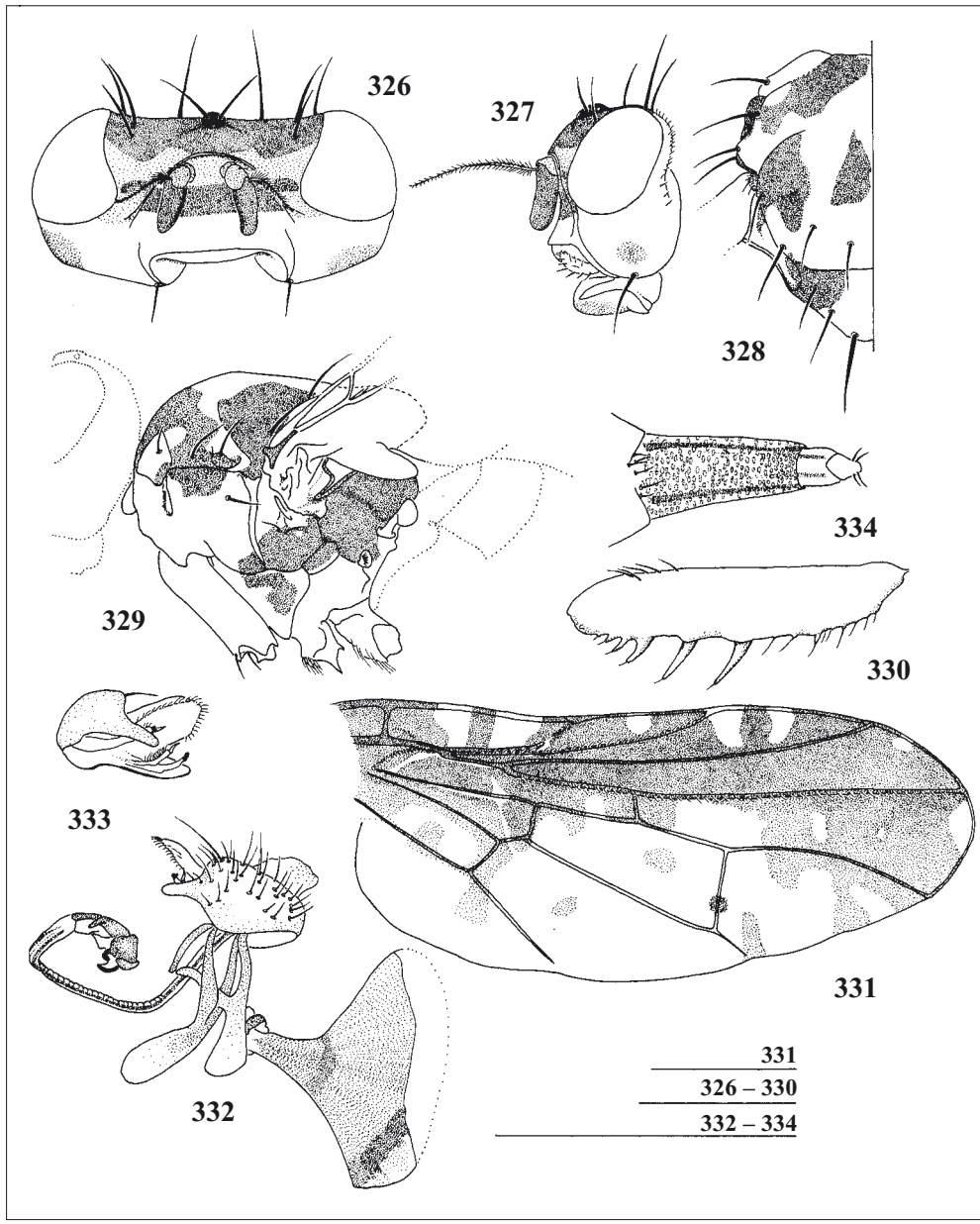
Head: Weakly expanded laterally (Fig. 326), but not forming stalked eyes; vertex narrower than thorax; inner margins of eye not as wide apart as distance between postpronotal setae, outer margin of eye exceeding thorax width. Frons convex (lateral view), ocellar triangle raised; surface of frons striated with fine parallel grooves (visible when viewed dorsally). Gena (frontal view) with an obtuse angle, with lower part curved between angle and subcranial cavity (Fig. 326). Postgena enlarged (Fig. 327). Setulae sparse, pale; moderately dense on frons between antennae and ocellus. Pedicel with thickened black setulae dorsally and ventrally at apex, a few short black setulae on postocellar. Weak divergent postocellar setulae present. Supracervical setulae short and pale. Postocular row short, black and conspicuous.

Thorax: Setulae short recumbent and black on notum, pale on remainder of thorax. Postpronotal seta present (Figs 328 & 329). Two conspicuous anepimeral setulae (Fig. 329). **Legs**: Front femur with three long conspicuous medial spines, and three smaller spines apically and basally, with additional small tubercles basally (Fig. 330). Mid and hind coxae with 2 pale lateral setae. Setulae pale coloured, long on apices of coxae and underside of femora; erect slightly darker and longer setulae dorsally near apex of front femur (Fig. 330); brown setulae sparsely intermingled on dark coloured areas and entire tibiae and dorsal basitarsus. **Wing**: R-M oblique, midway along dm; dm rectangular, longer than twice greatest width; membrane patterned as in Fig. 331.

Abdomen: Setulae pale brown, but long, black and protruding on apex of T_5. Genitalia (♂) – epandrium with numerous fine setulae and a single robust seta on apical margin (Fig. 332). Proctiger rhombahedral, finely microtrichose (Fig. 332). Hypoproct spatulate, blunt apically, with curved setulae along outer margin and a few minute setulae on dorso-laterally (Figs 332 & 333). Lateral surstylus apically rounded (Figs 332 & 333). Medial surstylus bifurcate, joined basally; inner arm apically square, terminating in stout spine on lower part of apex, and with a brush of long setulae along dorsal margin; outer arm strongly sclerotised at apex and minutely lobed (Fig. 333). Distiphallus thin, strongly annulated (Fig. 332). Glans bulbous, with two short, curved and pointed terminal processes (Fig. 332). Ejaculatory apodeme large, spatulate and heavily sclerotised (Fig. 332). Apex of phallapodeme and hypandrium elongate and narrowly spatulate; lateral vane of phallapodeme broadened along posterior side (Fig. 332). Lateral sclerite narrow (Fig. 332).

Variation: Body length 3.1–3.8 mm; wing length 3.8–4.5 mm. Dark markings frequently more, or less, broadly distributed, and sometimes darker than in holotype. Spots on apex of mid femur may be merged into one mark, whereas black triangular mark on medial apex of T_{1+2} is only present in the holotype. Distance between inner margin of eyes as wide as distance between postpronotal setae in some specimens. Spines of forelegs not always in same ratio as for holotype, but at least medial pair well developed. Dimensions of female head smaller – parafacial area narrower than in male. Ovipositor (♀) – glossy pale brown elongate, with eversible membrane finely and densely covered with shallow oval-shaped pits (Fig. 334). Tip of aculeus blunt with four apical setulae (Fig. 334). Spermathecae not examined.

Material examined: **Holotype**: KENYA: ♂ (TAUI) "KENYA: Cheymen / Rt. B1, 10 Km. / East Kericho [00°19'S; 35°21'E; ca. 2100 m] / 19.ix.1992 / A. FREIDBERG" [printed on white card]. "HOLOTYPE / *Mesanopin / ametromastax* / sp.nov. ♂ / Det. WHITTINGTON" [first and last lines printed, middle two hand written on red card]. In good condition, genitalia in glycerine, in microvial; ejaculatory apodeme damaged in dissection.



Figs 326–334: *Mesanopin ametromastax* sp.nov. ♂ Holotype and ♀ Paratype. – **326**: Male head, frontal view; – **327**: Male head, profile; – **328**: Thorax, dorsal half view; – **329**: Thorax, lateral view; – **330**: Male left fore femur, lateral view; – **331**: Right wing, dorsal view; – **332**: Male genitalia, right lateral view; – **333**: Male genitalia, oblique ventral view; – **334**: Female ovipositor, dorsal view.

Other material — **Paratypes**: UGANDA: 1♀ Ichuya Forest, Kanaba Gap [01°15'S; 29°47'E, ca. 1500 m], 28.xii.1995, 2500 m, I. Yarom & A. Freidberg (taui); 4♂♂ S.W. Kabale – Ketuna Road, 23.xii.1995, 1900 m, I. Yarom & A. Freidberg (3♂♂ taui; 2♂♂ nmse). KENYA: 2♂♂ 1♀ same data as Holotype; 1♂ West Pokot, Chepareria [01°19'N; 35°14'E; ca.2000 – 3000 m], 4 – 5.xi.1983, A. Freidberg; 1♀ Mt. Elgon Lodge [01°02'N; 34°50'E; ca.1500 – 2000 m], 1 – 6.xi.1983, A. Freidberg (taui).

Discussion – The head shape, bifurcate form of the medial surstylus and pitted pattern on the eversible membrane of the ♀ ovipositor of this species are distinctive. It was not possible to determine the relative length of the eversible membrane of the ♀ ovipositor nor the form of the spermathecae.

Distribution – *Mesanopin ametromastax* is known from western Kenya and Uganda (Fig. 687).

Mesanopin biplexum sp.nov.

(Figs 335 – 343, 687)

Diagnosis. Distance between inner margin of eyes less than width of thorax. Face pale, at most with faint smoky band, flagellomere 1 pale. Postpronotal seta present. Pleurites of thorax banded brown on paler buff-yellow background. Scutellum dark-brown to black, at most narrow medial pale orange-brown stripe between apical setae; subscutellum and mediotergite dark brown. Fore femur with 3 short spines (distinctly shorter than the tibial width). All legs distinctly banded on femora and tibiae. Cell r_{2+3} brown, lacking apical hyaline incision, but occasionally having small medial and basal hyaline spots of much smaller diameter than dimension across r_{2+3}. Aculeus tip blunt and terminating at point of insertion of apical setulae

Etymology. *bi* L. = two, *plexus* L. a. = braid, plait or interwoven, referring to previous confusion between *Mesanopin bismarckburgensis* (ENDERLEIN, 1924), *M. biplexus* sp. nov. and *M. palaga* sp. nov.

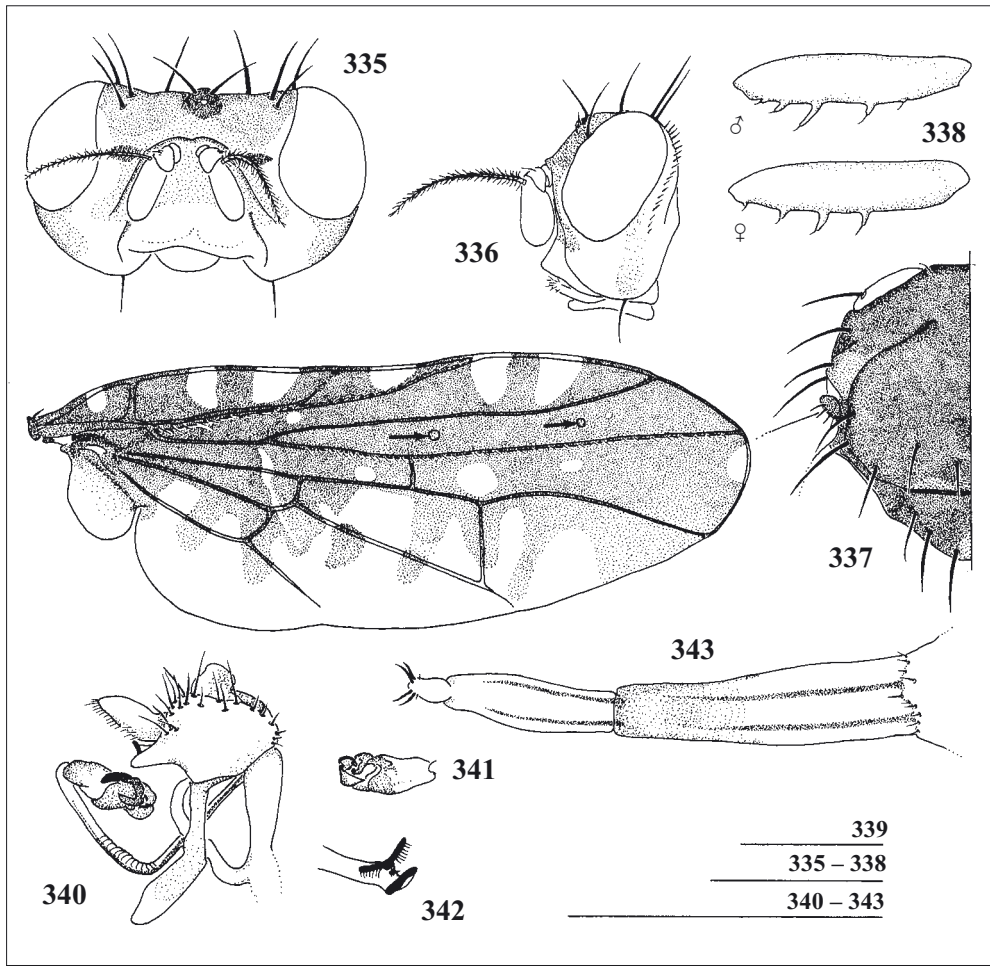
Description

Dimensions: ♂ Holotype. Body length 3.8 mm, wing length 4.5 mm. **Colour/Vestiture**: Ground-colour pale buff-yellow. Head with orange-brown tinge between antennal sockets (Fig. 335). Parafacial area with small pale brown spot beside antennal insertions (Fig. 335). Frons pruinose orange-brown; ocellar triangle brown; vertex glossy pale-brown (Figs 335 & 336). Occiput dark brown, medial occipital sclerite (and hind margin of vertex) pale yellow-buff. Antennae buff, flagellomere 1 with pale ventral margin; arista pale buff basally, brown distally. Thorax laterally with shortened anterior diagonal band and complete posterior diagonal band (broken over the dorsal katepisternal margin). Notum dark brown (Fig. 337), postpronotal lobe pale buff, notopleural callus buff. Scutellum dark brown with a medial pale buff-yellow triangle (Fig. 337). Subscutellum and mediotergite dark brown. Apex of fore femur with small indistinct brown spot, spines pale (Fig. 338). Mid and hind femora with dark brown apex, continuous with basal dark brown band on tibia. All tibiae with dark brown pre-apical band. Distal three tarsomeres on fore leg darker than ground colour (tinged brown). Wing densely marked with dark brown on apical half, becoming blurred posteriorly; marked with hyaline spots and incisions (Fig. 339). Calypter dirty creamy-white basally, smoky grey distally and margined with dark brown. Halter pale creamy-white. Abdomen: T_{1+2} with narrow dark brown lateral mark, T_3 dark brown laterally and medially, with two bands of ground colour between, T_4 and T_5 glossy dark brown. S_{1-5} pale buff. Genitalia glossy, pale brown. Fine silver microtrichia sparsely distributed on face; dense and noticeable on notum and pleurites.

Head: Distance between inner margin of eyes less than width of thorax, but outer dimension across eyes exceeding thorax width. Gena (in frontal view) with curved margin between lower margin of eye and subcranial cavity (Fig. 335). Postgena weakly swollen (Fig. 336). Setulae mostly pale, but a few short black setulae on occiput (intermingled with postocular row). Supracervical setulae not visible on holotype. Postocular row brown, intermingled with brown setulae of occiput and gena.

Thorax: Setulae short and reclinate, pale. Postpronotal seta present (Fig. 337). Two anepimeral setulae present. **Legs**: Front femur with 1 long and 2 small spines and 2 small tubercles (Fig. 338). Fore coxa with 2 pale apical setae. Mid and hind coxae with 2 pale dorsal setae. Setulae mostly pale coloured, long on apices of coxae; occasional brown setulae on apical third of mid and hind femora. **Wing**: R-M a little beyond midway along dm; dm rectangular, longer than twice greatest width; membrane patterned as in Fig. 339.

Abdomen: Setulae sparse pale on T_{1+2}, but brown along hind margin and on T_3 to T_5. Genitalia (♂) – compact and small. Epandrium sub-square, with numerous marginal setulae (Fig. 340). Proctiger rounded, raising above margins of epandrium (Fig. 340). Hypoproct with ventral fringe of stout setulae (Fig. 340). Surstyli stout, lateral surstylus apically blunt. Medial surstylus bifurcate at apex – outer processes



Figs 335–343: *Mesanopin biplexum* sp.nov. ♂ Holotype and ♀ Paratype. – **335**: Male head, frontal view; – **336**: Male head, profile; – **337**: Thorax, dorsal half view; – **338**: Left fore femora, ♂ & ♀, lateral view; – **339**: Right wing, dorsal view (Arrows indicate variable hyaline spots); – **340**: Male genitalia, right lateral view; – **341**: Male genitalia, detail of glans, left side; – **342**: Medial surstylus, apical view (scale bar = 0,5 mm); – **343**: Female ovipositor, dorsal view.

terminating as a vertical sclerotised bar, inner processes divided into two vertical arms, fringed along outer margin with fine setulae (Fig. 340). Glans bulbous, with paired apically square terminal processes (Figs 340 & 341). Ejaculatory apodeme large and narrowly spatulate. Vanes of phallapodeme and hypandrium broad, apical lobes poorly developed, but spatulate on phallapodeme (Fig. 340).

Variation: Body length 3.3–4.1 mm, wing length 3.8–4.7 mm. Supracervical setulae sparse and weak. Pale mark on the scutellum varies from almost non-existent, through a triangle (as described for Holotype) to a narrow band across full width of scutellum. Occasionally anepisternal seta may be double and sometimes three anepimeral setae are present. Spines on fore leg may be dark brown, but are more commonly pale buff. Some specimens have two extra small hyaline dots in r_{2+3} (Fig. 339, arrows) and one of the female specimens in AMSA has an apical hyaline incision in cell r_{2+3} on the left wing (thus this specimen may be confused with *M. tephritinum*). The two pale bands on T_3 are sometimes reduced to two slight curves on basal margin. Ovipositor (♀) – eversible membrane a little longer than oviscape. Taeniae almost as long as eversible membrane (Fig. 343). Apex of aculeus blunt; 4 apical setulae (Fig. 343). Spermathecae with apical "button" poorly defined – apex slightly dimpled.

Material examined: **Holotype**: KENYA: ♂ (BMNH) "van Someren / Ngong [01°22'S; 36°39'E, ca.2000 m] 8.44" [handwritten in blue ink on white card]; "HOLOTYPE / *Mesanopin / biplexum* / sp.nov. ♂ / Det. WHITTINGTON" [first and last lines printed, middle three hand written on red card]. In good condition, front left orbital seta missing, genitalia in glycerine, in microvial on same pin as specimen.
Other material — **Paratypes**: **KENYA**: 1♂ 2♀♀ Nyeri (S.) [00°25'S; 36°56'E, ca.1789m], x.1948, V.G.L. VAN SOMEREN (BMNH); 2♀♀ Nairobi [01°17'S; 36°50'E, ca.1500 m], ix.1937, V.G.L. VAN SOMEREN (BMNH); 1♂ 3♀♀ Nairobi [01°17'S; 36°50'E, ca.1500 m], 31.v.1973 (1♂) and 2.vi.1973 (3♀♀), D. K. MCALPINE (AMSA); 10♂♂ 6♀♀ Ngong [01°22'S; 36°40'E, ca.2000 m], V.G.L. VAN SOMEREN, 1♀ iv.1939; 1♀ i.1943; 1♀ x.1943; 2♂♂ 1♀ vii.1944; 8♂♂ 1♀.viii.1944 (BMNH; 2♂♂ 1♀ NMSE).

Discussion. The holotype was collected in August 1944. It and all the Ngong material were collected on the 30 acre family plot of indigenous forest near Karen, while the Nyeri locality consisted of a mixed habitat of farms and small holdings growing coffee, pyrethrum and other minor crops. and some indigenous forest (Dr G.R. CUNNINGHAM–VANSOMEREN, *in litt.* 17 October 1996).

Distribution. *Mesanopin biplexum* is known only from Nairobi, Ngong and Nyeri in central Kenya (Fig. 687).

Mesanopin bismarckburgensis (ENDERLEIN, 1924) comb. nov.

(Figs 344–349, 687)

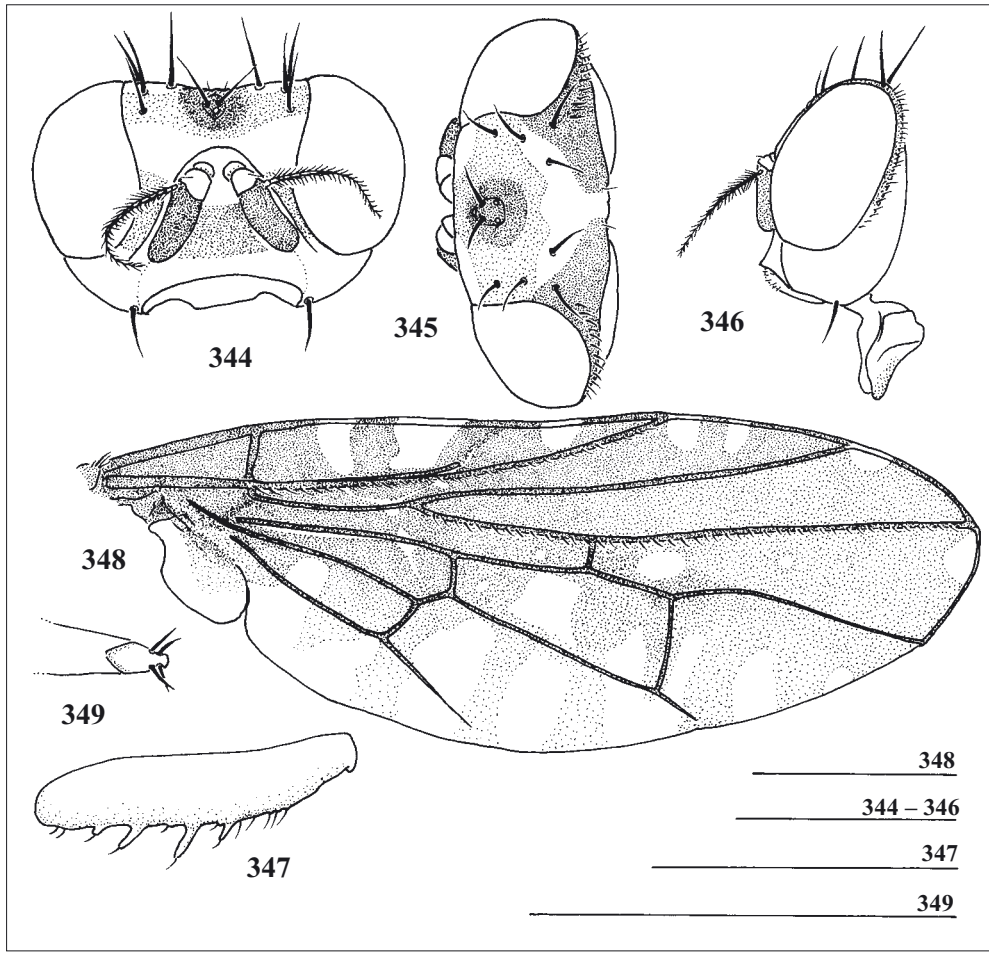
***Agrochira bismarckburgensis* ENDERLEIN, 1924** – ENDERLEIN (1924: 151) [description] FREY (1932: 258) [key], FREY (1932: pl.VII, fig. 22); STEYSKAL (1980: 564) [catalogue].

Diagnosis. Distance between inner margin of eyes less than width of thorax. Face with distinct brown horizontal band continuous with parafacial band; flagellomere 1 dark in colour and co-incident with facial band. Frons russet to orange-brown, finely pubescent (velvety). Gena and postgena not enlarged. Anterior portion of anepisternum black; katepisternum completely pale. Postpronotal seta present. Scutellum predominantly dark brown to black, at most a narrow medial pale orange-brown stripe between apical setae; subscutellum and mediotergite dark brown. Fore femur with 4 long spines (about as long as tibial width). All legs distinctly banded on femora and tibiae. Cell r_{2+3} brown, with apical hyaline incision at margin across costal vein at the apex of R_{2+3}.

Etymology. Latinised form of the place name of Bismarckburg (08°12'N; 00°47'E; 710 m), type locality of this species.

Description

Dimensions: ♀ Holotype. Body length 3.3 mm, wing length 3.4 mm. **Colour/Vestiture**: Ground-colour pale buff-yellow. Face with distinct brown horizontal band continuous with parafacial band (Fig. 344). Frons russet to orange-brown, finely pubescent (velvety), darkening toward ocellar triangle which is glossy dark-brown (Fig. 344). Occiput black, medial occipital sclerite (and hind margin of vertex) buff (Fig. 345). Scape and pedicel buff, flagellomere 1 dark-brown (co-incident with brown band on face), arista pale-brown. Notum mottled with combination of black and pale buff (no obvious pattern discernible). Thoracic pleurites with anterior portion of anepisternum, entire anepimeron and katatergite black. Katepisternum completely pale. Scutellum predominantly dark brown to black, at most a narrow medial pale orange-brown stripe between apical setae; subscutellum and mediotergite dark brown. Spines of fore femur pale (Fig. 347). Mid and hind femora with dark brown apex, continuous with basal dark brown band on tibia. Hind tibia with basal band. Wing densely marked dark brown on apical half, becoming blurred posteriorly; marked with hyaline spots and incisions (Fig. 348). Calypter dirty creamy-white basally, smoky grey distally and margined with dark brown. Halter pale creamy-white. Abdomen: T_{1+2} dark brown only as narrow lateral mark, T_3 dark brown laterally and medially, with two bands of ground colour between, T_4 and T_5 glossy dark brown. S_{1-5} pale buff. Ovipositor glossy, dark brown. Fine silver microtrichia sparsely distributed on face, narrow lines beside eyes, dense and weak on occiput, but noticeable on thorax and abdomen.
Head: Distance between inner margin of eyes less than width of thorax, but outer dimension across eyes exceeding thorax width. Gena (in frontal view) with curved margin between lower margin of eye and



Figs 344–349: *Mesanopin bismarckburgensis* (Enderlein, 1924). ♀ Holotype. – **334**: Head, frontal view; – **335**: Head, dorsal view; – **336**: Head, profile; – **337**: Left fore femur, lateral view; – **338**: Right wing, dorsal view; – **339**: Aculeus tip, dorsal view.

subcranial cavity (Fig. 344). Postgena not enlarged (Fig. 346). Setulae mostly pale, but a few short black setulae on occiput (intermingled with postocular row). Supracervical setulae sparse. Weak, divergent postocellar setulae present. Postocular row weak, intermingled with black setulae of occiput and gena. **Thorax**: Setulae short and recumbent on notum, pale. Postpronotal seta present. 1 small hair-like presutural dorsocentral and 1 anepimeral seta differentiated. **Legs**: Fore femur with 1 long and 3 small spines and 6 small tubercles (Fig. 347). Fore coxa with 2 pale apical setae. Mid and hind coxae with 2 pale dorsal setae. Setulae pale coloured, intermingled with brown setulae on apical third of mid and hind femora; long on apices of coxae. **Wing**: R-M a little beyond midway along dm; dm rectangular, longer than twice greatest width; membrane patterned as in Fig. 348.

Abdomen: Setulae sparse pale brown on T_{1+2}, black on T_3 to T_5. Ovipositor (♀) elongate, with eversible membrane only slightly longer than oviscape; finely and densely covered with rugose denticles, apex of aculeus blunt with 4 apical setulae (Fig. 349). Spermathecae with an apical dimple.

Variation: ♂ unknown.

Material examined: **Holotype**: TOGO: ♀ (ZMHB) "TOGO / Bismarckburg [08°12'N; 00°47'E 710 m] / 27.VII – 10.VIII.[18]93. / L. Conradt S." [printed on blue card]; "TYPE" [printed on dusky orange card]; "*Agrochira* ♀ / *bismarckburgen* / *sis* / Type [two or three illegible letters] det. / Dr. Enderlein det.1924" [hand written except for last

line, all of which is printed except for the "24" of the year, on white card, stained by the orange label above]; "Zool. Mus. / Berlin" [printed on pale yellowish card]; "HOLOTYPE / *Mesanopin* / *bismarckburgensis* / (ENDERLEIN, 1924) ♀ / Det. WHITTINGTON" [first and last lines printed, middle three hand written on red card]. In poor condition, left eye collapsed, aristae adhered to eyes; right postpronotal seta broken, wings slightly furled, genitalia in glycerine, in microvial on same pin as specimen.

Discussion. The type locality (Bismarckburg) does not appear on modern maps, but is shown on older German maps (STIELER 1923). The town has undoubtedly changed its name and is situated near modern day Brewanaise on the border with Ghana. The year of collection of the holotype is evidently 1893. Some specimens previously identified as *Agrochira bismarckburgensis* are now considered to be the Kenyan and South African species, *M. biplexum* sp. nov. and *M. palaga* sp. nov.

Distribution. *Mesanopin bismarckburgensis* is known only from the type locality (Bismarckburg) in Togo (Fig. 687).

Mesanopin bvumba sp. nov.

Figs 350 – 357, 687

Diagnosis. Distance between inner margin of eyes less than width of thorax, but outer margin of eye exceeding thorax width. Face pale, at most with faint smoky band. Flagellomere 1 pale. Vertex and most of frons uniformly brown and glossy, but frons pale brown immediately adjacent to ptilinal fissure, (Fig. 350) and spotted with small dark alveoli, from which arise short dark setulae. Postpronotal seta present. Pleurites of thorax broadly brown. Legs distinctly banded on femora and tibiae; spines on fore femur pale and long. Brown colour of wing membrane predominating over hyaline spots.

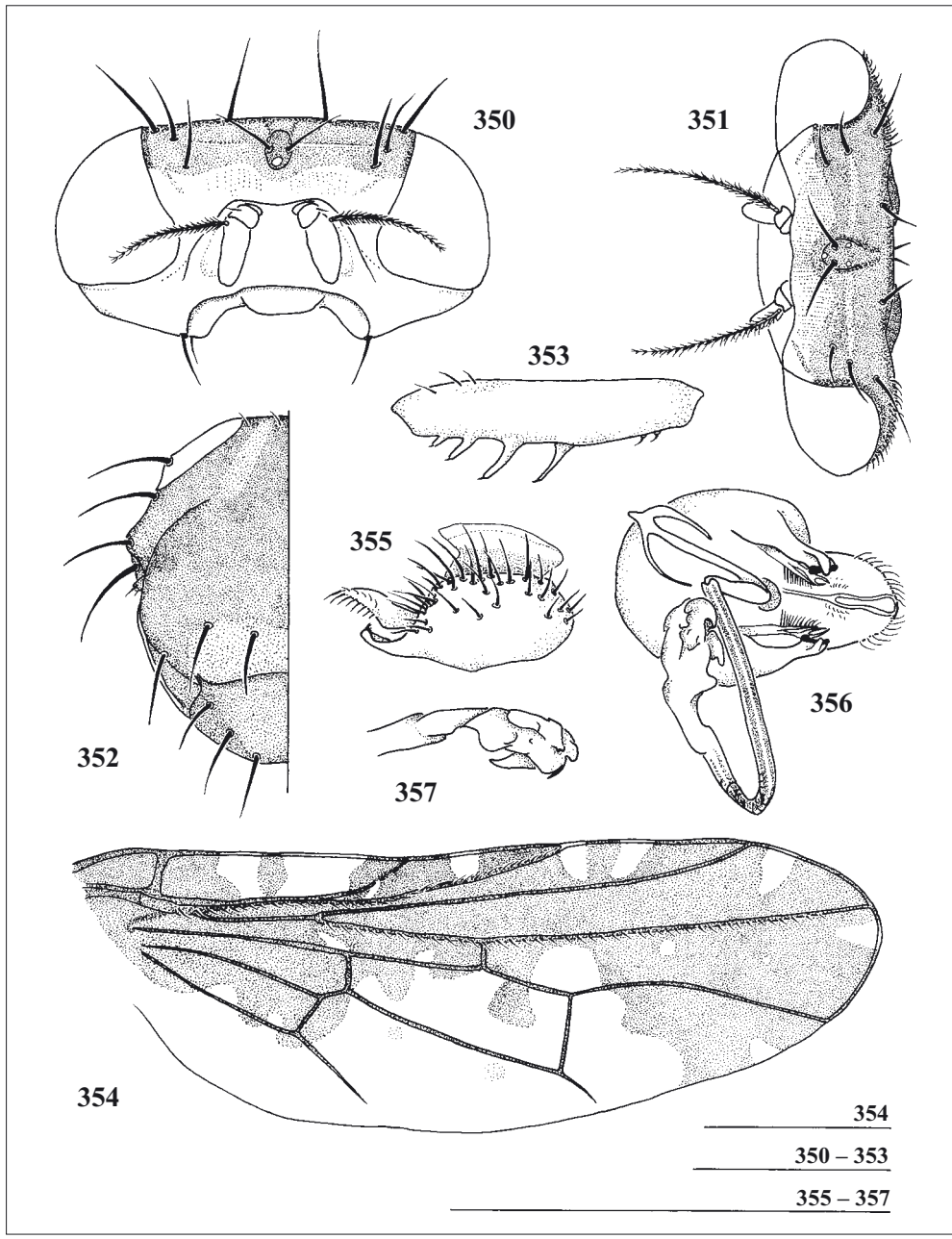
Etymology. *bvumba* Shona, v. – drizzle. 'Vumba' (a town situated in the Eastern Highlands of Zimbabwe, which is in the mist-belt climatic zone) is a European mispronunciation of the Shona verb 'bvumba' meaning drizzle (KAREN DONNAN, *in litt.* 3 November 1995).

Description

Dimensions: ♂ Holotype. Body length 3.5 mm; wing length 4.2 mm. **Colour/Vestiture**: Ground-colour pale brown dorsally, pale creamy-white ventrally. Face with pale creamy-white band across full width below level of eyes (Fig. 350); an indistinct dark-brown elliptical spot level with base of flagellomere 1. Frons immediately adjacent to ptilinal fissure, pale brown and spotted with small dark alveoli, from which arise short dark setulae (Figs 350 & 351). Vertex and remainder of frons uniformly brown and glossy (Fig. 351). Ocellar triangle brown. Flagellomere 1 smoky grey, with a little ground colour basally. Thorax pale creamy-white on coxae, proepimeron, lower margin of anepisternum and ventral sternites. Notum glossy, weakly marked anteriorly with two pale (almost imperceptible) stripes and pale on posterior margin (Fig. 352). Scutellum brown laterally limited to junction where it joins scutum, buff medially. Subscutellum and mediotergite pale medially. Legs pale creamy-white with dull black to dark-grey-brown bands as follows: at apex of each femur, apex and basal fifths of hind tibia; poorly defined on base of mid tibia and anterior dorsal mark on apex of fore femur and base of front tibia. Spines of fore femur pale (Fig. 353). Anterior half of wings marked with smoky brown; hyaline in posterior half (Fig. 354). Calypter smoky brown with darker brown margin. Halter pale creamy-white. Abdomen: T_{1+2} and baso-medial T_3 tinged pale creamy-white, remainder of T_3 to T_5 glossy brown. S_{1-5} pale creamy-white. Male genitalia glossy, brown. Fine silver microtrichia visible where there is ground colour, most prominent on anepisternum.

Head: Distance between inner margin of eyes less than width of thorax, but outer margin of eye exceeding thorax width. Frons with a fine parallel-grooved texture and spotted with small dark raised alveoli, from which arise short dark setulae. Gena (in frontal view) with curved margin between lower margin of eye and subcranial cavity (Fig. 350). Setulae mostly pale, a few short black setulae on glossy parts of frons and vertex. Divergent pale postocellar setulae present (Fig. 351). Postocular row weak, black.

Thorax: Setulae short; recumbent on notum; brown, long on proepimeron. Postpronotal seta present (Fig. 352). Small, pale presutural acrostichal and dorsocentral scapular setulae (Fig. 352) and 2 black anepimeral setulae present. **Legs**: Fore femur with 2 very short basal, 3 long and curved medial and 1



Figs 350–357: *Mesanopin bvumba* sp.nov. ♂ Holotype. – **350**: Head, frontal view; – **351**: Head, dorsal view; – **352**: Thorax, dorsal half view; – **353**: Left fore femur, lateral view; – **354**: Right wing, dorsal view; – **355**: Genitalia, right lateral view (excluding distiphallus); – **356**: Genitalia, oblique ventral view; – **357**: Detail of glans, right side.

short apical spines (Fig. 353). Setulae long and pale basally and on pale ground-colour, but short and brown on dark coloured bands. Pre-apical setulae in a loose group medially on second and third tarsomere of middle leg. **Wing**: R-M a little beyond midway along dm; dm rectangular, longer than twice greatest width; membrane patterned as in Fig. 354.

Abdomen: Setulae pale brown on T_{1+2}, black on T_3 to T_5. Genitalia (♂) – Epandrium shallow and elongate (Fig. 355). Proctiger, hatchet-shaped and raised above margin of epandrium, microtrichose basally (Fig. 355). Hypoproct fused basally, membranous between apical halves (Fig. 356), strongly setose along outer margin on dorsal and ventral surfaces (Figs 355 & 356). Lateral surstylus short (approximately half length of hypoproct), bifurcate and inwardly curved at apex; outer process narrow and simple, curving in over broader inner process; inner process terminating in sclerotised vertical bar. Medial surstylus distally forked into two spiked branches; outer process forked at apex; inner process simple, but having a dorsal, striated membrane connecting to ventral side of hypoproct, becoming shorter toward apex. Distiphallus narrow; elongate, cylindrical portion at apex (= preglans?) (Figs 356 & 357). Glans bulbous, seemingly hollow on ventral surface; postero-clinate vesicle present on ventral surface (Fig. 357). Arms of phallapodeme and hypandrium narrow (Fig. 356).

Variation: ♀ unknown.

Material examined: **Holotype**: ZIMBABWE: ♂ (NMSA) "N. VUMBA [19°06'S; 32°43'E; ca. 1200 – 1800 m] / S. RHODESIA / 22.i.1966 / D. COOKSON"; "HOLOTYPE / *Mesanopin bvumba* / sp.nov. ♂ / Det. WHITTINGTON" [first and last lines printed, middle two hand written on red card]. A teneral specimen, head and posterior third of thorax collapsed. Genitalia dissected and stored in glycerine, in a microvial on same pin as specimen.

Discussion. The type locality is an area with a large number of endemic species and is certainly an area of high biodiversity (WHITTINGTON 1998). On some maps this area is shown as Vumba [Botanical] Gardens, on others it is given National Park status.

The similarity of the male genitalia with those of *M. clavigrum* and *Mesanopin tridens*, suggests that these species share a close affinity, possibly arising from a common ancestor. All three are known from high altidude tropical rain forest to mist-belt montane forest habitats. Thus it may be suggested that the present distribution of these three species could represent relict populations of previously more widespread species.

Mesanopin bvumba and *M. clavigrum*, are distinguished by minor differences in the male genitalia (such as the setation on the epandrium and on the medial surstylus), wing patterning and body markings. More importantly, *M. clavigrum* has slightly stalked eyes and a clearly marked frons, compared to the narrower head and unmarked frons of *M. bvumba*. *M. tridens* is distinct in that the wing has large parts of the wing membrane hyaline and dark brown legs.

Distribution – *Mesanopin bvumba* is known only from the type locality of N. Vumba, Zimbabwe (Fig. 687).

Mesanopin clavigrum sp. nov.

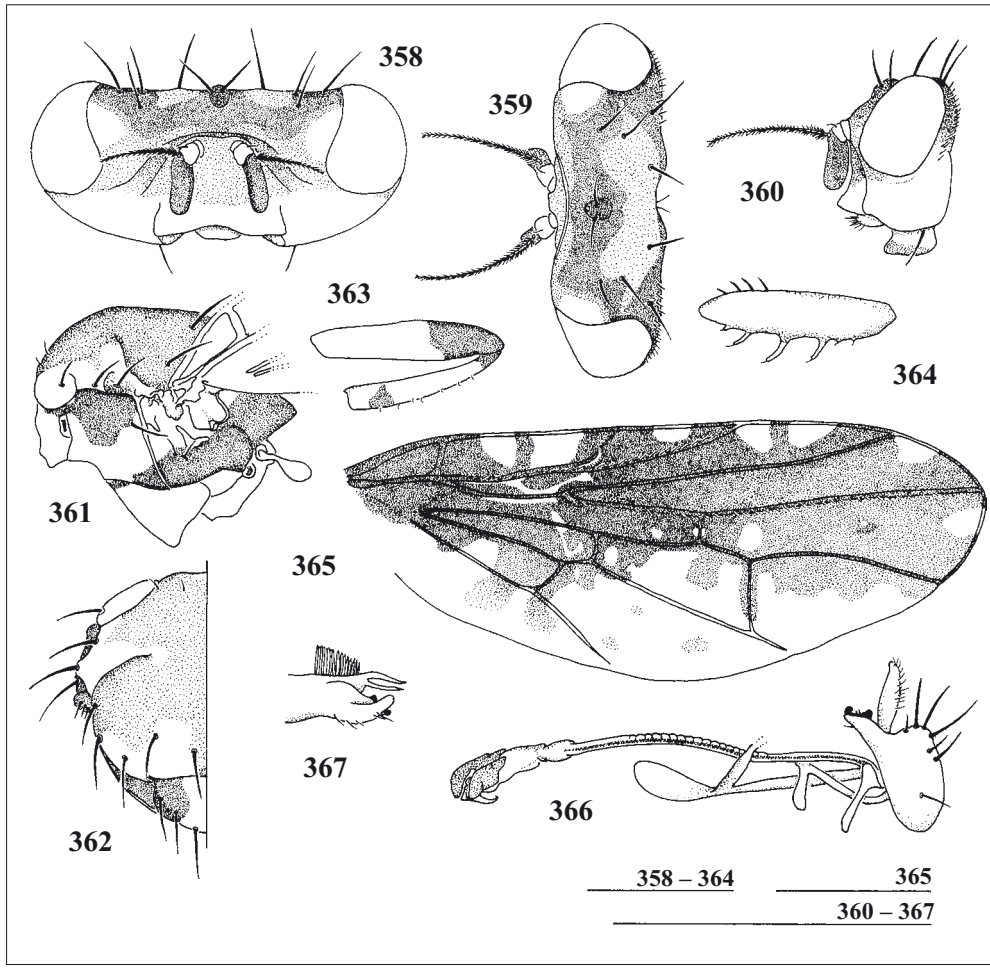
(Figs 358 – 367, 687)

Diagnosis. Distance between inner margin of eyes greater than width of thorax. Face and parafacial area broadly brown. A w-shaped dark brown glossy band across frons. Postpronotal seta present. Notum broadly brown or black on paler background. All femora brown to black at apices; spines of fore femora pale. Male genitalia dorso-ventrally compressed.

Etymology. *claviger* L. a = club-bearing, referring to the shape of the head.

Description

Dimensions: ♂ Holotype. Body length 3.9 mm; wing length 3.8 mm. **Colour/Vestiture**: Ground-colour creamy-white. Face and parafacial area broadly brown. W-shaped dark brown glossy band across frons (Figs 358 & 359). Gena and lower facial margin whitish (Figs 358 & 360). Ptilinal fissure deeply incised. Medial occipital sclerite yellowish-buff (Fig. 359). Ocellar triangle dark brown. Occiput brown (Fig. 359). Flagellomere 1 brown, with ground colour basally. Notum glossy (slightly dulled by microtrichia), marked with combination of black and orange-brown (Fig. 361). Thoracic pleurites with black apical and medial diagonal bands, katepisternum black along dorsal margin (Fig. 361). Scutellum black laterally, yellow-buff medially (Fig. 362). Legs with brown bands at apex of each femur, and basally on tibiae (vaguely defined on fore leg); subapical band not fully encircling tibiae (Fig. 363). Spines of fore femur pale (Fig. 364). Anterior half of wings dark brown; hyaline in posterior half (Fig. 365). Calypter



Figs 358–367: *Mesanopin clavigrum* sp. nov. ♂ Holotype. – **358**: Head, frontal view; – **359**: Head, dorsal view; – **360**: Head, profile; – **361**: Thorax, lateral view; – **362**: Thorax dorsal half view; – **363**: Left hind femur and tibia; – **364**: Left fore femur; – **365**: Right wing, dorsal view; – **366**: Genitalia, lateral view; – **367**: Apex of surstyli, ventral view, inner margin of medial surstylus to top (scale bar = 0,5 mm).

smoky brown fringed with darker brown margin. Halter pale creamy-white. Abdomen: T_{1+2} pale creamy-white, T_3 to T_5 glossy black, with pale creamy-white spots either side of medial line on anterior boarder of T_3. S_{1-5} pale creamy-white. Genitalia (♂) glossy, orange-brown. Fine silver microtrichia on face, frons, notum and pleurites, conspicuous on pale bands of pleurites.

Head: Distance between inner margin of eyes greater than width of thorax (Fig. 358). Frons with fine parallel-grooved texture running between ocellar triangle and ptilinal fissure. Ocellar triangle raised. Gena (frontal view) margin curved between lower margin of eye and subcranial cavity (Fig. 358); gena (lateral view) one third height of head (Fig. 360). Postgena partially enlarged (Fig. 360). Setulae mostly pale, but a few short black setulae laterally on gena. Supracervical setulae poorly defined. Divergent postocellar setulae present (Fig. 359). Postocular row black.

Thorax: Setulae pale; short and reclinate on notum. Postpronotal seta present. Small, pale presutural acrostichal and dorsocentral scapular setulae (Figs 361 & 362), and 2 black anepimeral setulae present.

Legs: Fore femur with 3 long curved spines, short stout apical spine and 2 basal tubercles, each with pale apical seta (Fig. 364). Mid coxa with 2 pale setae. Hind femur with widely spaced anterior-dorsal

setulae projecting beyond background setation. Setulae pale, but intermingled with brown setulae on brown bands. **Wing**: R-M a little beyond midway along dm, M arched forward at R-M; dm rectangular, as long as twice greatest width; membrane patterned as in Fig. 365.

Abdomen: Setulae pale brown on T_{1+2}, black on T_3 to T_5. Genitalia (♂) – epandrium with few setulae; dorsoventrally compressed, oval to rectangular (Fig. 366). Proctiger membranous, not raised above margin of epandrium (Fig. 366). Hypoproct not fully fused along length, linked apically by membrane; strongly setose on dorso-lateral margin. (Fig. 366) Lateral surstylus poorly developed (approximately two-thirds length of hypoproct), inwardly curved at apex and bifurcate; outer process laterally setulose and apically simple (Figs 366 & 367); inner process terminating in sclerotised (slightly concave) bar. Medial surstylus distally forked, inner margin of stem basal to fork linked to lower surface of hypoproct by striated membrane, shorter toward apex; (outer margin may be fused to inner surface of lateral surstylus) (Fig. 367). Glans bulbous, lateral filaments lobe-like; ventral visica present, postero-clinate (Fig. 366). Vanes and spatulate terminal lobes of phallapodeme and hypandrium elongate and narrow (Fig. 366).

Variation: other specimen teneral. ♀ unknown.

Material examined: **Holotype**: KENYA: ♂ (BMNH) "Donyo Sabuk [01°08'S; 37°15'E; 2146m] / 8.45" [hand written in black ink on white card] "VAN SOMEREN / 10 /50" [hand written in pencil on off-white paper] "HOLOTYPE / *Mesanopin* / *clavigrum* / sp.nov. ♂ / Det. WHITTINGTON" [first and last lines printed, middle three hand written on red card]. In good condition, left fore-leg broken off. Genitalia dissected and stored in glycerine, in a micro-vial on same pin as specimen.

Other material – MALAWI: 1♂ Chiroma [= Chiromo? 16°33'S; 35°10'E], R.C. WOOD (BMNH).

Discussion. The full name of the type locality is Ol Doinyo Sabuk. "Ol Doinyo" is Masai for a mountain. This locality is also known as Kilima Mbogo (Hill of the Buffalo) or Sabuk Mountain, which peaks at 2146 metres and has isolated forest near the summit (M. DE MEYER, *in litt.* 21 June 1995 and Dr G.R. CUNNINGHAM – VAN SOMEREN, *in litt.* 17 October 1996). On some maps it is written Ol Doinyo Sapuk National Park, situated near Thika, approximately 27 km North West of Nairobi as the crow flies.

The only other specimen seen, comes from the southern end of the Rift Valley, in the lowlands of a tributary of the Zambezi valley at between 100 and 200 m.a.s.l.. This specimen (in poor condition) has not been given Paratype status.

Mesanopin bvumba, *M. clavigrum* and *M. tridens* share a close affinity and possibly form a species group (see dicsussion for *M. bvumba*). Furthermore, *Mesanopin clavigrum* is one of three species (*M. hendeli* and *M. laticeps*) in this genus with the distance between inner margin of eyes greater than width of thorax. *M. clavigrum* and *M. laticeps* have the postpronotal seta present, distinguishing them from *M. hendeli* which lacks this seta. *M. clavigrum* is distinct from *M. laticeps*, in that the anterior and posterior orbitals are positioned one behind another, while in *A. laticeps* these setae are adjacent along the vertex. Additionally the dissected male genitalia are dorso-ventrally compressed in *M. clavigrum*, but subglobose and compact in *M. laticeps*

Distribution. *Mesanopin clavigrum* is known only two isolated localities: the type locality Ol Doinyo Sabuk, central Kenya and from Chiroma in Malawi (Fig. 687).

Mesanopin hendeli (ENDERLEIN, 1922) comb. nov.

(Figs 368 – 372, 687)

***Agrochira hendeli* ENDERLEIN, 1922** – ENDERLEIN (1922: 4) [description], FREY (1932: 258) [key], FREY (1932: pl.VII, fig. 23); STEYSKAL (1980: 564) [catalogue].

Diagnosis. Distance between inner margin of eyes greater than width of thorax. Frons completely pale, only vertex has small amount of brown as an oval around and behind the ocellar triangle and at bases of anterior orbital setae. Postpronotal seta absent. Pleurites pale, only anatergite is marked with dark brown. Front half of wings dark brown with widespread hyaline spots and incisions. Fore femora entirely pale.

Etymology. Named by ENDERLEIN (1922) after Dr Frederick HENDEL, eminent contributor to Acalyptrate Dipterology and author of the major work *Die Arten der Platystominen* (HENDEL 1914b).

Description

Dimensions: ♀ Holotype. Body length 7,5 mm; wing length 7,6 mm. **Colour/Vestiture**: Ground-colour pale yellowish buff. Head yellowish with brown markings: face marked with a pale, indistinct glossy brown horizontal band below line across lower margins of eyes; small spot of brown at bases of anterior orbital setae and over ocellar triangle trailing off to a point behind vertex (Figs 368 – 370). Flagellomere 1 pale buff. Thorax laterally with no bands, but katatergite and anatergite with brown smudge and spot of brown at base of wing. Notum with supra-postpronotal arrow-shaped brown marking at dorsocentral position and spot ventral to scutellar bridge (Fig. 368). Scutellum dark-brown, orange-brown medially; this pattern repeated on mediotergite. Fore femur pale (Fig. 371). Wings – anterior half dark brown, marked with hyaline patches, darker toward anterior margin of wing; paler and less distinct brown marks in posterior half (Fig. 372). Calypter smoky grey with brown margin. Halter pale creamy-white. Abdomen: T_{1+2} pale buff, T_3 with two buff coloured hour-glass shaped marks either side of medial brown diamond shape, T_4 and T_5 glossy dark-brown. S_{1-5} pale brown. Ovipositor – oviscape glossy, brown; base of eversible membrane glossy orange-brown. Fine silver microtrichia as small, indistinct patch on parafacial area adjacent to eye.

Head: Distance between inner margin of eyes greater than width of thorax (Fig. 368). Frons abruptly angled at front when viewed laterally (Fig. 370). Face, glossy. Gena with curved diagonal margin, slanting from lower margin of eye to subcranial cavity (Fig. 369). Postgena slightly swollen (Fig. 370). Setulae mostly pale brown, short on gena and occiput, but pale and long on postgena and supracervical callus. Dense patch of short tawny-brown setulae on inner dorsal side of pedicel. Divergent postocellar setulae present. Postocular row absent.

Thorax: Setulae short and reclinate, pale brown. A single long brown scapular setula at anterior margin of postpronotal lobe (Fig. 368). Postpronotal seta absent (Fig. 368). Two anepimeral setae (surrounded by numerous pale setulae). **Legs**: Front femur with three large medial, four small apical and one small basal ventral spines, each with a pale apical seta and four apical setulae on dorsal surface (Fig. 371). Fore coxa with two apical setae and numerous pale ventral setulae. Mid coxa and ventral extremity of katepisternum with long pale setulae. Setulae pale, some brown on tarsomeres. **Wing**: R-M beyond midway along dm at about two-thirds, slightly oblique toward apex; dm rectangular, longer than twice greatest width; membrane patterned as in Fig. 372.

Abdomen: Setulae pale brown, dark brown on posterolateral margin of T_{1+2}. Ovipositor (♀) – base of eversible membrane rugose (tip damaged; not dissected).

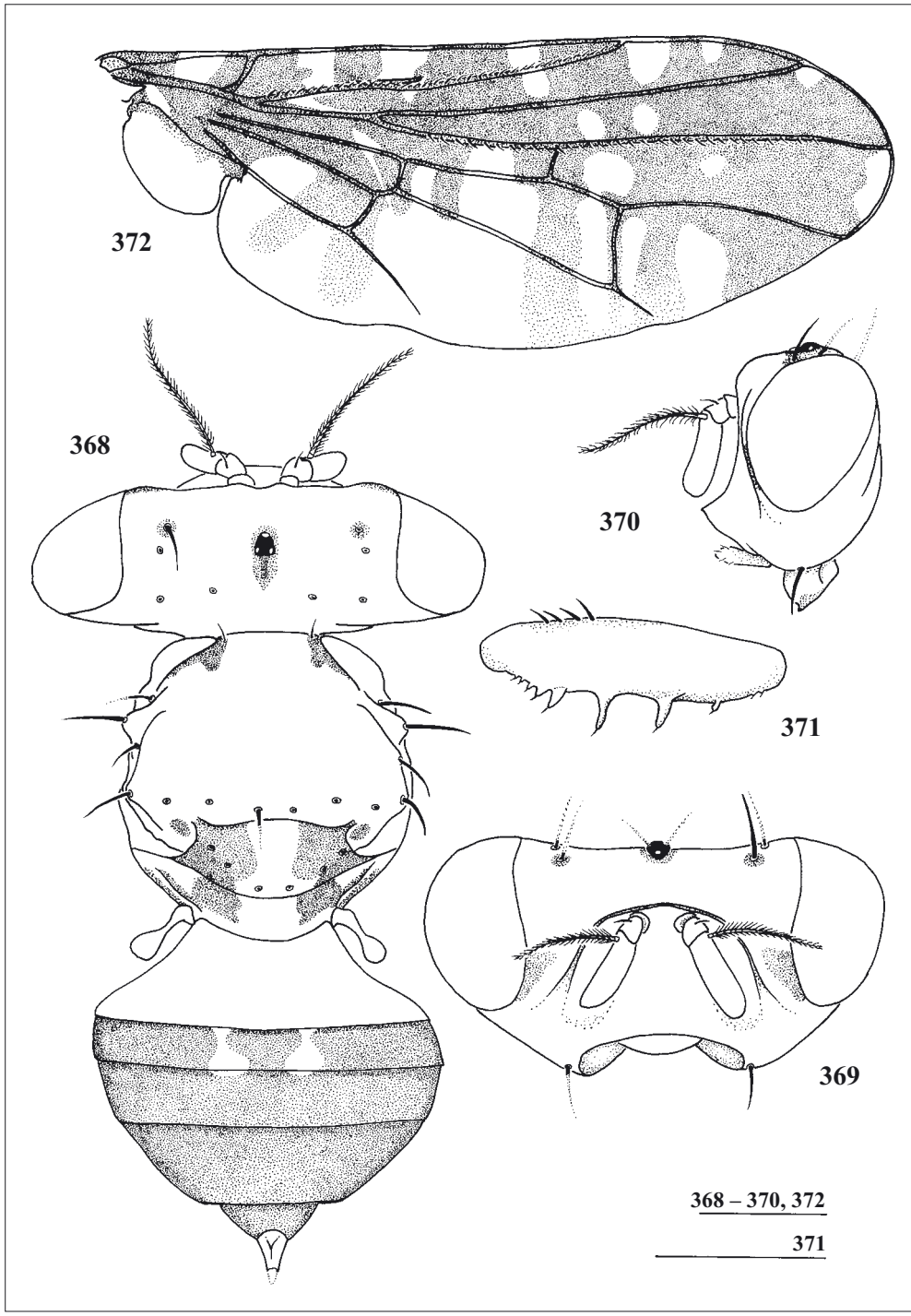
Variation: ♂ unknown.

Material examined: **Holotype**: CAMEROUN: ♀ (ZMHB) "5.3.96 [sideways on left side of label] / N.Kamerun / Johann.Albrechtshöhe [=Kumba? 04°38'N; 09°25'E; ca.200 – 500 m] / 5[smudged].3.1896 / L.CONRADT S6" [printed on blue card with dates hand written in black ink]; "Type" [printed on orange card]; "*Agrochira* / *Hendeli* / Type ENDERL. ♀ / Dr. ENDERLEIN det:1920" [hand written on white card with last line printed up to 19 (i.e. 20 is hand written)]; "Zool. Mus. / Berlin" "HOLOTYPE / *Mesanopin hendeli* / (ENDERLEIN, 1922) ♀ / Det. WHITTINGTON" [first and last lines printed, middle two hand written on red card]. All setae of the head (except left fore-most orbital and left genal) missing; fore-most left notopleural and left postsutural acrostichal broken in half; other postsutural, intra-alar and scutellar setae absent; aculeus tip missing.

Discussion: The genitalia of this Holotype were not dissected, since the tip of the ovipositor is missing. The male of this species is not known, but, based on the female head shape and dimensions, is likely to have stalked eyes.

The dimensions of this unique holotype are large for this genus and have been listed above as an outlier. The body and wing size range, excluding this outlier, for *Mesanopin* are 2.5 – 4.1 mm and 2.6 – 4.7 mm respectively. Dimensions for this *Mesanopin hendeli* specimen are 7,5 mm and 7,6 mm respectively. These measurements are more like the upper range of *Agrochira* (body size: 3.7 – 7,5 mm; wing size: 3.7 – 7,8 mm). In the absence of dissected male and female genitalia, the possibility that this species belongs in *Agrochira* cannot be altogether ruled out. I have placed *hendeli* in *Mesanopin*, because the general morphology matches that genus better than it matches *Agrochira*.

M. hendeli is one of three species (*M. clavigrum* and *M. laticeps*) in this genus with the distance between inner margin of eyes greater than width of thorax. The distinguishing features of these species are discussed under *M. clavigrum* above.



Figs 368–372: *Mesanopin hendeli* (ENDERLEIN, 1922). ♀ Holotype. – **368**: Head, thorax and abdomen, dorsal view (except wings and aculeus tip); – **369**: Head, frontal view; – **370**: Head, profile; – **371**: Left fore femur, lateral view; – **372**: Right wing, dorsal view.

Distribution. *Mesanopin hendeli* is known only from the type locality of Johannes Albrechtshöhe in North Cameroun, which is probably the same location as the town called Kumba (Fig. 687).

Mesanopin laticeps (Enderlein, 1922) comb. nov.

Figs 373 – 382, 687

***Agrochira laticeps* Enderlein, 1922: 5.** – Enderlein (1922: 5) [description].
***Acanthoneuropsis laticeps*:** Frey (1932: 258, pl. VII, fig. 21), Steyskal (1980: 563) [catalogue].

Diagnosis. Distance between inner margin of eyes greater than width of thorax. A discrete dark brown band present across face and parafacial area. Anterior and posterior orbital setae inserted adjacent, in line across head. Notum vittate. Postpronotal seta present. Femora pale except a faint smudge at apex of hind femur; spines of fore femora pale. Male genitalia distinctly compact and subglobose.

Etymology. *lati* derived from *latus*, L. a. = broad, wide; *ceps* derived from *caput*, L. n. = head, referring to the broad head resulting in the stalked eyes characteristic of this species.

Description

Dimensions: ♂ Holotype. Body length 3.2 mm; wing length approx. 3.4 mm. **Colour/Vestiture**: Ground-colour pale creamy-white. Head face pale yellow-brown; horizontal dark-brown band from eye to eye at level of lower margin of eyes (Fig. 373). Faint brown elliptical spot on parafacial area, level with middle of flagellomere 1 (Fig. 373). Frons and vertex glossy, pale brown; marked with brown markings (Figs 373 – 375). Occiput and medial occipital sclerite glossy, pale brown. Notum mostly pale, with dark brown stripes (Fig. 376). Scutellum dark brown laterally, pale medially. Thoracic pleurites with apical and posterior diagonal bands absent, medial diagonal band terminates before reaching katepisternum. Fore femur pale (Fig. 377). Anterior half of wings dark brown from costa to midway through dm with small infrequent pale markings along the costal margin; pale smoky brown posterior to midway though dm. Abdomen: T_{1+2} pale creamy-white, T_3 to T_5 pale brown, with dark brown posterior boarders. S_{1-5} and male genitalia pale brown. Fine silver microtrichia on face, frons, vertex, occiput, notum and scutellum, but poorly developed and hardly evident (most noticeable at an oblique angle on occiput and medial occipital sclerite).

Head: Distance between inner margin of eyes greater than width of thorax (Fig. 373). Anterior and posterior orbital setae inserted adjacent, in line across vertex (Figs 373 & 375). Frons spotted with small dark raised alveoli, from which arise short dark setulae. Gena in frontal view with straight diagonal margin, slanting ventrally toward subcranial cavity (Fig. 373). Postgena slightly swollen (Fig. 374). Setulae mostly pale brown, but short dark brown on postocellar and white on gena. Supracervical setulae absent. Postocellar setulae absent. Postocular row black, but weak.

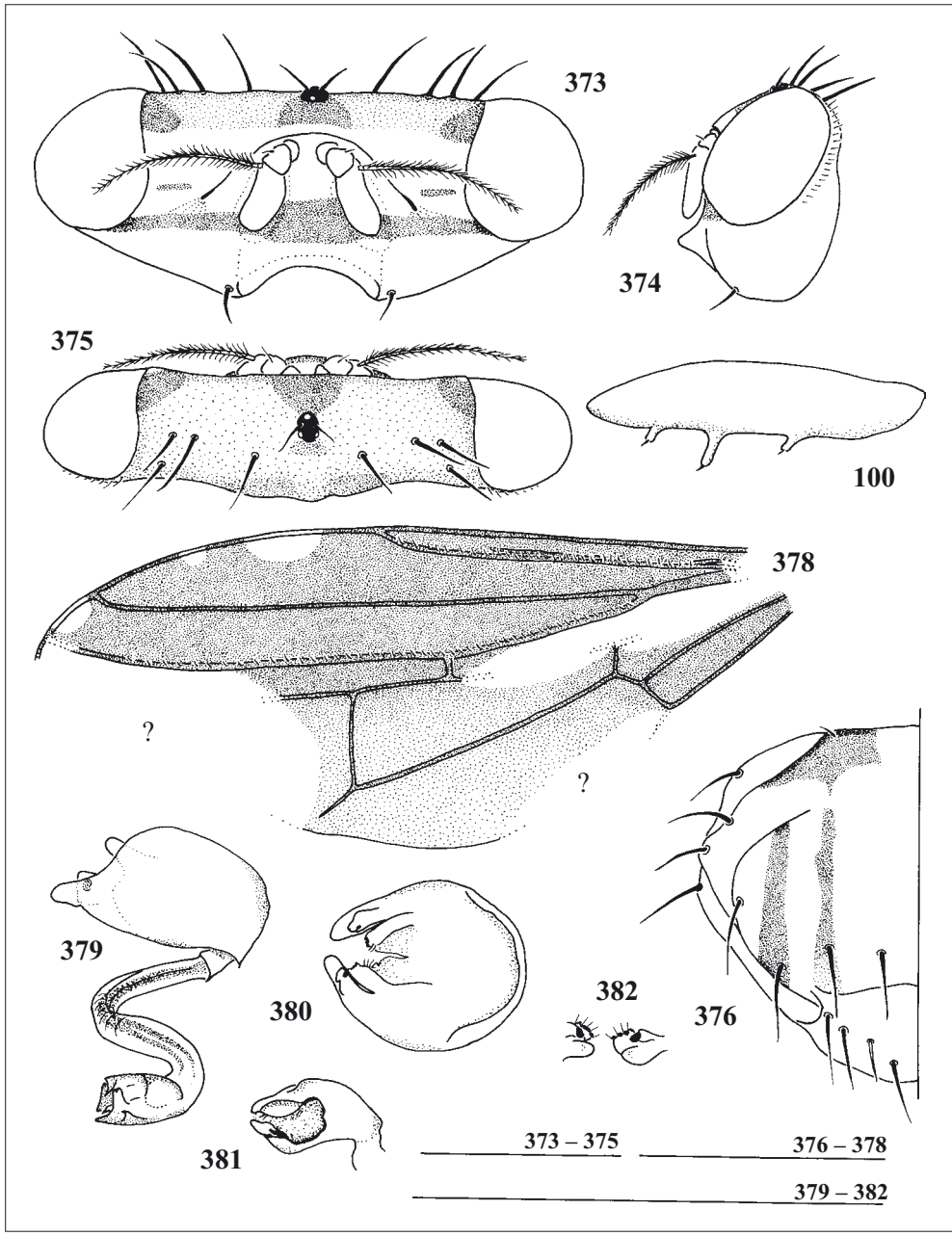
Thorax: Setulae short and reclinate on notum, pale brown to white on pale parts of notum. Postpronotal seta present (Fig. 376). 1 small hair-like presutural scapular seta and 1 well defined anepimeral seta.

Legs: Fore femur 3-spinose; middle spine longest (Fig. 377). Setulae pale and long on apices of coxae, otherwise pale brown, short. Fore-tarsomeres with short black comb of setulae along inner latero-ventral margin. **Wing**: R-M positioned two thirds along dm; dm rectangular, longer than twice greatest width; membrane patterned as in Fig. 378.

Abdomen: Setulae pale brown on T_{1+2}, dark brown on T_3 to T_5. Genitalia (♂) – Epandrium subglobose and compact, setulae short (Figs 379 & 380). Proctiger reduced, not extended above sides of epandrium. Hypoproct, membranous, fused, apically blunt and no more than tip extended beyond epandrium (Fig. 379). Apex of lateral surstylus blunt and curved in toward midline (Fig. 380). Medial surstylus bifurcate; outer process seemingly fused to inner lateral parts of epandrium, slightly digitate at apex (Fig. 380); inner process with dark pigmented spot near blunt apex, which is distally setose and slightly rugose (Fig. 382). Distiphallus stout, poorly annulate (Fig. 379). Glans bulbous, with short blunt lateral filaments, with two minute setulae in apical cleft (Fig. 381).

Variation: ♀ unknown.

Material examined: **Holotype**: CAMEROUN: ♂ (zmhb) "S. Kamerun / Lolodorfe [03°17'N; 10°50'E; ca. 500 m] / L. Conradt S." [pale blue card, no date]. "Type" [orange card]. "*Agrochira laticeps / Type* Enderl. ♂ / Dr. Enderlein



Figs 373–382: *Mesanopin laticeps* (ENDERLEIN, 1922). ♂ Holotype. – **373**: Head, frontal view; – **374**: Head, profile; – **375**: Head, dorsal view; – **376**: Thorax, dorsal half view; – **377**: Left fore femur, lateral view; – **378**: Left wing, dorsal view; ? = damaged areas; – **379**: Male genitalia, lateral view; – **380**: Male genitalia, dorsal view; – **381**: Male genitalia, detail of glans, dorsal view; – **382**: Male genitalia, detail of medial surstylus, apical view.

det 1920" [white card, genus name faded; all except "Dr. ENDERLEIN det 19" hand written]. "Zool. Mus. / Berlin" [white card]. In poor condition, vertical setae and some of those from thorax broken, mouthparts crushed, thorax broken ventrally, both wings off, right-hand one adhered to card onto which specimen is pinned, together with left foreleg. Genitalia in glycerine, in microvial below labels, on same pin as specimen.

Discussion – Although no date is given for this type, other material collected by CONRADT was taken in the years 1893 and 1896, which is an indication of its age. It is regrettable that this unique type specimen (although not in good condition at the time of FREY'S 1932 paper) was damaged (along with others), during transit after loan to myself in South Africa in 1993.

The only remaining wing is that which is illustrated in FREY, 1932 (in poor condition even then). The wing pattern is unusual in the genus, in that the few pale markings on the darkened parts of the wing are restricted to small clear loops on the wing margin. The dark part covers only the anterior half from the costa to midway through dm, while the posterior half of the membrane is slightly smoky. This pattern resembles that of *Agrochira*. The unusual form of the male genitalia, however, matches the general form of genitalia found in *Mesanopin* better than it does the elongate genitalia of *Agrochira*, thus I place *laticeps* in *Mesanopin*. The thorax is also unusual in that it bears a vittate pattern along its length. Most species of this genus have the notum mottled or with a patchy pattern. There is an aberrant pale seta between the lateral and apical scutellar seta in the left hand side of the scutellum (Fig. 376).

Distribution. *Agrochira laticeps* is known only from the type locality in Cameroun (Fig. 687).

Mesanopin londti sp. nov.

(Figs 383 – 391, 687)

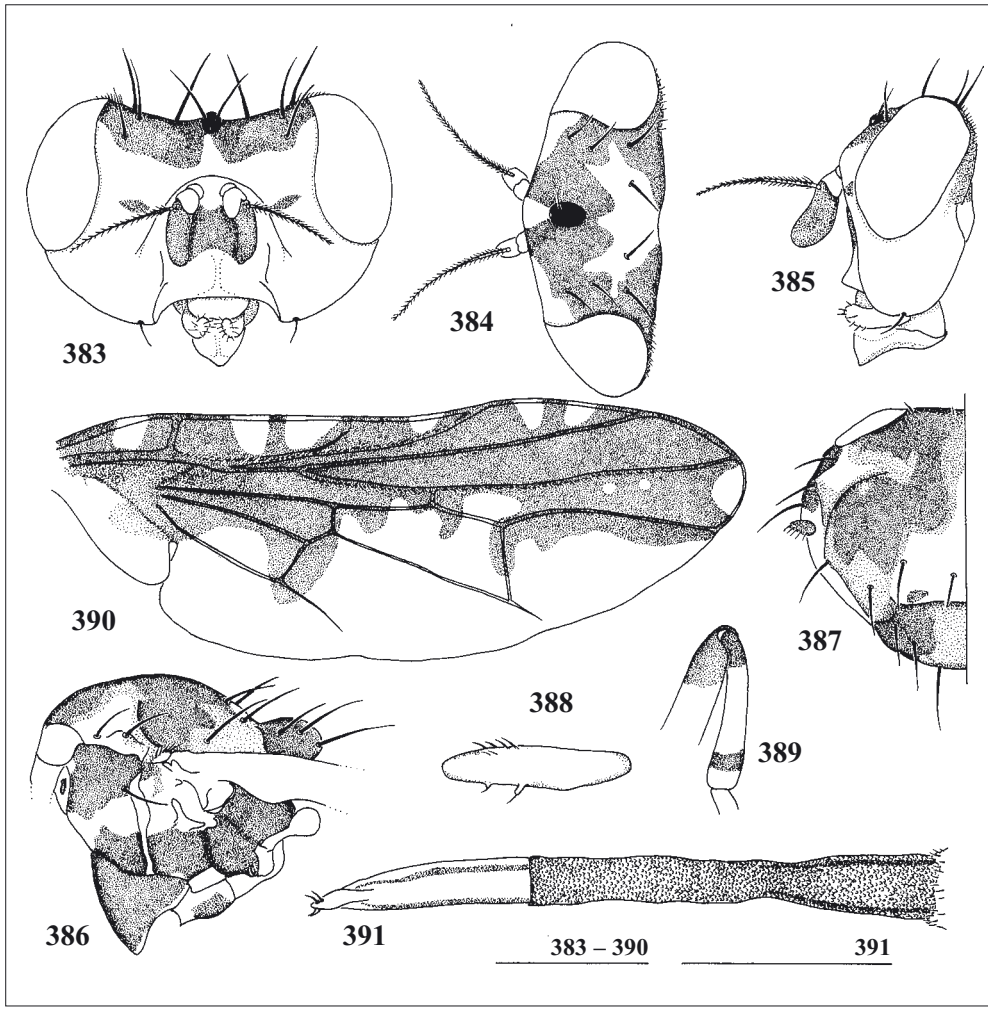
Diagnosis. Distance between inner margin of eyes less than width of thorax, but outer margin of eye exceeding thorax width. Parafacial area with black or dark brown diamond shaped spot between ptilinal fissure and eye margin. Face black directly beneath antennal insertion. Vertex sunken such that ocellar triangle is below upper margins of eyes; marked with irregular dark brown pattern. Postpronotal seta absent. Thoracic pleurites predominantly brown. Brown wing pattern ceasing before posterior margin of wing, terminating in DM-Cu, bcu and cu_1.

Etymology. Named after Dr Jason LONDT, who collected this specimen.

Description

Dimensions: ♀ Holotype. Body length 4.1 mm; wing length 4.2 mm. **Colour/Vestiture**: Ground-colour pale creamy-white. Head with face dark-brown medially below antennae (Fig. 383) and pale brown in antennal grooves, white ventrally along lower facial margin; parafacial area with dark-brown elliptical spot level with base of flagellomere 1 (Fig. 383). Frons marked with glossy dark-brown, vertex darker than ground colour (buff tinged) (Figs 383 & 384). Ocellar triangle black (Figs 383 – 385). Occiput black, medial occipital sclerite buff (Fig. 384). Scape & flagellomere 1 smoky grey, although flagellomere 1 has the ground colour basally. Thorax laterally with black apical and medial diagonal bands, posterior band pale grey on meron; katepisternum black, except narrowly on ventral margins, were the ground colour predominates (Fig. 386). Notum glossy (except where there is ground colour), strongly marked with combination of black and orange-brown superimposed on ground colour (Fig. 387). Scutellum black laterally, orange-brown medially (Fig. 387). Spines on fore femur pale (Fig. 388). Legs with dull black to dark-grey-brown bands at apex of each tibia, in apical third of hind femur and basally on hind tibia (Fig. 389); and an anterior dorsal spot on mid femur and dark grey smudge dorso-basally on front tibia. Anterior half of wings marked with dark brown; hyaline in posterior half (Fig. 390). Calypter and halter pale creamy-white, the former fringed with orange-brown margin. Abdomen: T_{1+2} pale creamy-white tinged with orange-brown, T_3 to T_5 glossy black, with pale creamy-white or pale brown spots either side of medial line on posterior boarders. S_{1-5} pale creamy-white. Ovipositor glossy, black. Fine silver microtrichia on face, where there is ground colour on notum and on sub-scutellum.

Head: Distance between inner margin of eyes less than width of thorax, but outer margin of eye exceeding thorax width. Vertex sunken such that ocellar triangle is below upper margins of eyes (Fig. 383). Gena (in frontal view) with curved margin between lower margin of eye and subcranial cavity (Fig. 383). Postgena slightly enlarged (Fig. 385). Setulae mostly pale, but a few short black setulae on glossy parts of frons and vertex. Supracervical setulae absent (Fig. 384). Genal seta short and weak (Figs 383 & 385). Pale, divergent postocellar setulae present. Postocular row weak, black on dark parts of occiput and pale were ground-colour predominates.



Figs 383–391: *Mesanopin londti* sp.nov. ♀ Holotype. – **383**: Head, frontal view; – **384**: Head, dorsal view; – **385**: Head, profile; – **386**: Thorax, lateral view; – **387**: Thorax dorsal half view; – **388**: Left fore femur, lateral view; – **389**: Left hind femur and tibia, lateral view; – **390**: Right wing, dorsal view; – **391**: Female ovipositor, dorsal view.

Thorax: Setulae short and reclinate on notum, coloured according to background colouring. Postpronotal seta present. 1 presutural dorsocentral scapular setula (Fig. 387) and 1 anepimeral seta present. **Legs**: Front femur with two small spines, each with pale apical seta (Fig. 388). Mid coxa with 2 pale setae. Setulae pale coloured, long on apices of coxae; intermingled with brown setulae on apical third of femora and entire tibiae. **Wing**: R-M a little beyond midway along dm; dm rectangular, longer than twice greatest width; membrane patterned as in Fig. 390.

Abdomen: Setulae pale brown on T_{1+2}, black on T_3 to T_5. Ovipositor — elongate, with eversible membrane slightly less than twice the length of oviscape (Fig. 391). Taeniae a little less than half eversible membrane length (Fig. 391), finely and densely covered with rugose denticles (Fig. 391). Aculeus long, blunt at apex with four apical setulae (Fig. 391). Spermathecae not examined.

Variation: ♂ unknown.

Material examined: **Holotype**: SWAZILAND: ♀ (NMSA) "SWAZILAND #45 / 13 km N. of Ngogolo / 26°19'S; 31°38'E 300 m / Date: 22–24.iv.1991 / J LONDT & L. SCHOEMAN / Panata Ranch/Bushveld" [printed on white card; #45 refers

to a label-database code for retrieval of additional locality data if available]. "HOLOTYPE / *Mesanopin londti* / sp.nov. ♀ / Det. WHITTINGTON" [first and last lines printed, middle two hand written on red card]. In good condition, postpronotal setae broken, genitalia in glycerine, in microvial.

Discussion. The spermathecae were not present in the dissected genitalia and it is assumed that these remain (deeply inserted) in the abdomen. It was deemed undesirable to dissect the specimen further, in favour of retaining some of the abdomen intact.

M. londti is one of three species along with *M. adamanta* and *M. hendeli*, which lacks the postpronotal seta. It is distinct from these species by the combination of narrow head and elliptical brown spot on the parafacial area. The eversible membrane of the female ovipositor is unusually long and extensively ornamented.

The specimen was collected in fairly dry riverine forest, in dense shaded conditions (Dr LONDT, *pers. comm.*).

Distribution. *Mesanopin londti* is known only from the type location Panata Ranch, 13 km N. of Ngogolo in Swaziland (Fig. 687).

Mesanopin minax (ENDERLEIN, 1922) comb. nov.

(Figs 392–401, 687)

***Prionoscelia minax* ENDERLEIN, 1922 –** ENDERLEIN (1922d: 11) [description], FREY (1932: 257) [key], FREY (1932: 259) [discussion]; STEYSKAL (1980: 565) [catalogue].

= ***Prionoscelia undulata* ENDERLEIN, 1924** – ENDERLEIN (1924: 152) [description] – **(*Tessmannella undulata* ENDERLEIN, 1924, by original designation.** [Junior homonym, preoccupied by *Tessmannella* HEDICKE, 1912.]. FREY (1932: 259) [synonymy]; STEYSKAL (1980: 565) [catalogue]. **Syn. nov.**

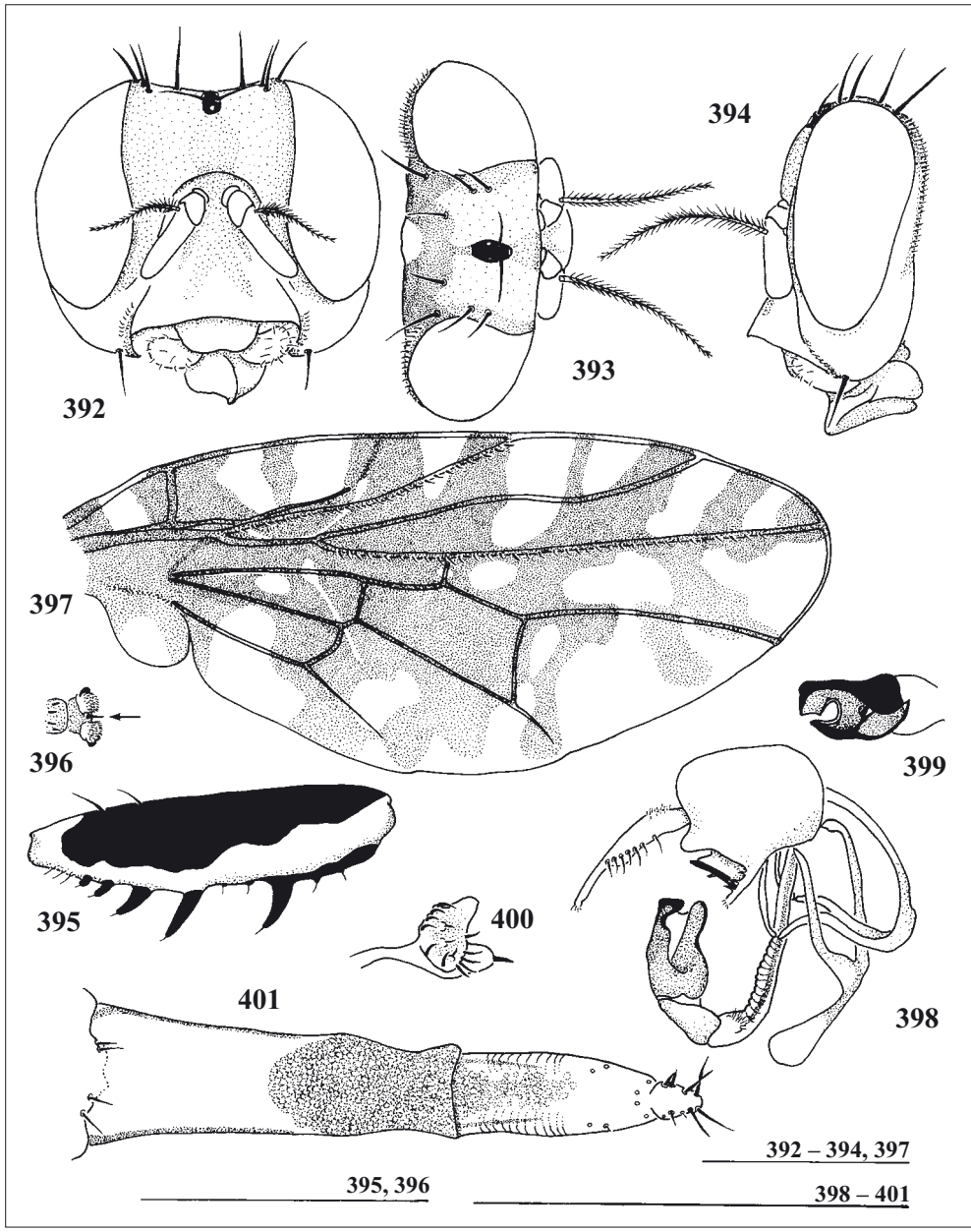
Diagnosis. A darkly coloured species – thorax, legs and abdomen mostly black, but head pale. Distance between inner margin of eyes less than width of thorax. Eye margins and face between antennae strongly white microtrichose. Gena shallow – gena:eye-height ratio approximately 1:4.5. Postpronotal seta present. Dorsal surface and spines of fore femur distinctly black. Width of cell c three times as long as R-M at widest point, R_{2+3} strongly sinuous, dm twice as long as DM-Cu, and R-M situated basad of middle of dm. Eye margins and face between antennae strongly white pruinose, (lacking dark markings except in antennal pits and adjacent to subcranial cavity); body mostly black; spines of fore femora distinctly black.

Etymology. *minax* L. a. = threatening, jutting out, projecting; perhaps referring to the spinose fore femur of this species.

Description

Dimensions: ♂ Holotype. Body length 3.2 mm? (head broken off); wing length 3.4 mm. **Colour/Vestiture**: Ground-colour glossy black. Head almost completely pale, with narrow dark-brown margin to subcranial cavity, pale brown along full length of antennal pits, pale orange-brown either side of a creamy-white patch on frons above antennal insertion and continuing onto pedicel. Ocellar triangle black (Figs 392–394). Palp apically darkened with smoky-grey, labellum grey-brown, prementum black. Thorax mostly glossy black; posterior margin of anepisternum orange-brown; setulae of front spiracle and membrane around base of fore and mid-coxae creamy-white. Legs fore femur dorsally black, yellow-buff ventrally on inner surface, spines black (Fig. 395), fore tibia dark grey-buff with brown apical band, first tarsomere buff remainder of tarsus dark grey. Mid femur and tibia brown, mid tarsomeres pale buff, but the apical two slightly more orange (hind legs missing). Pulvillae and empodia (Fig. 396) creamy-white. Wings dark brown; marked with a pattern of hyaline patches and incisions (Fig. 397). Calypter pale buff, fringed with pale-brown margin. Halter pale creamy-white darkened with orange-brown basally. Abdomen: Tergites and sternites glossy black, pleurites membranous, red-brown. Ovipositor – Oviscape matt, dark grey, eversible membrane matt, pale buff, aculeus glossy orange-brown. Fine silver microtrichia on centre of face and between antennae; bordering eyes as parafacial band; anterior parts of thoracic pleurites and on meron, katatergite and dorsal half of subscutellum; on abdominal sternites and to a lesser extent on oviscape.

Head: Distance between inner margin of eyes less than width of thorax, outer margin of eye approximating thorax width. Gena shallow – gena:eye-height ratio approximately 1:4.5; (in frontal view) with



Figs 392–401: *Mesanopin minax* (ENDERLEIN, 1922). – **392**: Male head, frontal view; – **393**: Male head, dorsal view; – **394**: Male head, lateral view; – **395**: Left fore femur, lateral view; – **396**: Apical tarsomere, pulvilli and claws, arrow indicates setiform empodium, ventral view; – **397**: Right wing, dorsal view; – **398**: Male genitalia, right lateral view; – **399**: Male genitalia, glans, left lateral view; – **400**: Medial surstylus, apical view (scale bar = 0,5mm); – **401**: Female ovipositor, dorsal view.

curved margin between lower margin of eye and subcranial cavity (Fig. 392). Postgena weakly swollen (Fig. 394). Setulae mostly pale, but a few short black setulae on gena, margin of subcranial cavity and median occipital sclerites; vertex asetose. Supracervical setulae sparse and minute. Postocellar setulae absent. Postocular row black, blending with black setulae on median occipital sclerites and gena.

Thorax: Setulae reclinate on notum, brown; well developed on posterior margin of anepisternum, on dorsal margin of anepimeron and sternites; very fine pale setulae on scutellum. Setae strongly developed: postpronotal seta present. 2 anepimeral setulae differentiated. **Legs**: fore femur with three long medial and two short apical spines, and a tuberculate basal spine; each spine with pale apical seta (Fig. 395); setulae on ventral femur raised on small tubercles. Fore coxa with 2 apical setae, mid and hind coxae with 2 lateral and 2 ventral setae. Setulae pale coloured on pale parts of tarsi, otherwise black, long on apices of coxae (intermingling with coxal setae) and on ventral surface of mid and hind femora. Empodium setiform (Fig. 396). **Wings**: Subcosta and R_{2+3} sinuous; width of cell c three times as long as R-M at widest point, dm twice as long as DM-Cu, and R-M situated basad of middle of dm (Fig. 397). **Abdomen**: Setulae long, fairly sparse, brown. Ovipositor (from Nigerian specimen) – eversible membrane one and a half times length of oviscape; finely and densely covered with circular rugose denticles from midpoint to apex. Tip of aculeus blunt with four apical setulae, four sub-apical setulae and eight setulae on stem of aculeus (Fig. 401). Spermathecae not examined.

Variation: Body length 3.2–3.6 mm; wing length 3.2–3.4 mm. Occiput black, medial occipital sclerite creamy-white (Fig. 393). Ocellar setae long, reaching almost to base of anterior orbital. Flagellomere 1 tinged smoky grey dorsally. Fine silver microtrichia also on median occipital sclerites. Notum with two pale creamy-white spots tinged with orange-brown at posterior margin; postalar callus, ventral margins of katepisternum and sternites orange-brown. Legs – fore femur yellow-buff ventrally on inner and outer surfaces, dorsal dark-brown patch not always as extensive. Sometimes two long medial and four short apical spines (last of which is no more than raised tubercle and is buff coloured rather than black), and 1 tuberculate basal spine; each spine with pale apical seta. Fore tibia grey-buff with dull black apical band. First tarsomere grey-buff remainder of tarsus dark grey. Mid femur mostly grey-buff with longitudinal, elongate brown bands dorsally and ventrally. Mid tibia dark brown and black with narrow elongate grey-buff band ventrally, first two mid tarsomeres pale buff, remainder grey-buff. Hind leg black except first two tarsomeres, which are pale buff. All pulvillae creamy-white. Wing pattern on specimen from Zaïre fades distally until it is not visible at wing apex. Calypter and halter pale creamy-white. Abdominal pleurites membranous, orange-brown. Genitalia (♂) – Epandrium subglobose, evenly covered with numerous setulae (not illustrated), distally produced into stout dorsal lobe above base of lateral surstylus (Fig. 398). Proctiger reduced and not extended beyond sides of epandrium. Hypoproct fused, elongate and curved, strongly setose along latero-ventral margin and minutely setulose at apex and dorsally toward base (Fig. 398). Lateral surstylus long and thin, bearing three distinct setulae along its dorsal margin and minute setulae at apex (Fig. 398). Medial surstylus bifid apically. Outer process blunt at apex with an elongate sclerotised bar, bearing spine on middle of outer surface. Inner process terminating in medio-clinate flat disc and lateral rounded lobe: flat disc bearing two distinct marginal rows of closely placed stout setulae around circumference and some stout setulae scattered on disc; lateral rounded lobe bearing a single apical seta (Fig. 400). Distiphallus narrow, slightly swollen distally, bearing short fine setulae just before apex (Fig. 398). Glans elongate, with square-ended terminal processes, which turn inward toward inner cavity (Figs 398 & 399). Ejaculatory apodeme, poorly sclerotised, narrowly spatulate, with large flat proximal plate. Lateral sclerite and vanes of phallapodeme and hypandrium narrow, apex of hypandrium not sclerotised and poorly spatulate (Fig. 398), sclerotised membrane strengthening inner arc.

Material examined: **Holotype**: EQUATORIAL GUINEA: ♀ (ZMHB) "Span. Guinea / Alcu. Benitogbt. [= Alcu – Benito Gebiet (= district); ca. 01°34'N; 10°24'E] / 16 – 30 ix 06 / G. Teßmann S. G." [printed on blue card]; "360."; "Type" [printed on orange card]; "*Prionoscelia* / *minax* / Type ENDERL. ♀ / Dr.ENDERLEIN det 1920" [hand written, except for "Dr.ENDERLEIN det 19", on white card]; "Zool. Mus. / Berlin" [printed on white card]; "HOLOTYPE / *Mesanopin minax* / (ENDERLEIN, 1922) ♀ / Det. WHITTINGTON" [first and last lines printed, middle two hand written on red card]. In poor condition; head broken off and glued to white card under the "Zool. Mus. / Berlin" label, antennae missing, front right and both hind legs missing, front left and middle left femora slightly crushed medially, left wing damaged, many setae of head and thorax broken or missing. Some fungal hyphae present (cleaned away). Genitalia of the Nigerian specimen dissected and stored in glycerine, in microvial (on the pin of that specimen), in favour of not further damaging the Holotype.

Other material — NIGERIA: 1♀ Zugurma [09°27'N; 04°52'E, ca. 100 – 200 m], Rt.F210, 100km North Ilorin, 12.xii.1987, FINI & KAPLAN (TAUI). CAMEROUN: 1♂ "S.O. Kamorun / Jaúnde Gebeit [=Yaoundé district] Búschwald [Bushveldt = scrubland] [ca.03° 51'N; 11° 31'E; 500 – 1000 m] / G. Tessmann S.G./ 16 – 24.10./ 1914 [sideways on left

edge]" [all printed on blue card]. "Type" [printed on orange card]; "*Tessmannella* / *undulata* / Type ENDERL. ♂ / Dr.ENDERLEIN det 1924" [hand written, except for "Dr.ENDERLEIN det 19", on white card]; "Zool. Mus. / Berlin" [printed on white card]; "*Mesanopin minax* / (ENDERLEIN, 1922) ♂ / Det. WHITTINGTON" [last line printed, first two hand written on white card] – a greasy specimen with poor coloration and damaged right wing (ZMHB). ZAÏRE: 1♀ Likimi [02°44'N; 20°47'E; ca. 200 – 500 m], 12.viii.1927, A. COLLART (MRAC); 2♂♂ Bomboma [02°23'N; 19°03'E; ca. 200 – 500 m], vii.1935 A. BAL (MRAC); 1♂ Eala [00°02'N; 18°22'E; ca. 200 – 500 m], vii.1936, J. GHESQUIÈRE (KBIN); 1♀ 56 km N. Matadi [05°50'S; 13°32'E], 28.vii.1957, E.S. ROSS & R.E. LEECH (CASC).

Discussion. ENDERLEIN (1922) states that *Prionoscelia* (then a monotypic genus) had 4 setae on the scutellum. Although the setae of the Holotype are missing, there are six distinct sockets; these are, however, difficult to see on the black ground-colour. It may be that at least one pair of setae (perhaps all six) was (were) missing when ENDERLEIN described the genus. The other known specimens examined have six setae present.

In his 1922 key, ENDERLEIN stated that the middle femur was thickened in *Prionoscelia*. This is true for the Holotype only on the left side where the femur is crushed medially, giving the impression of thickening. As he correctly indicated, the fore femur has seven spines. This character is, however, variable – the Nigerian specimen has five distinct spines in slightly different positions, but this is not sufficient reason to warrant description of this specimen as a new species.

Tessmannella ENDERLEIN, 1924 based on the type species *Tessmannella undulata* ENDERLEIN, 1924, is a Junior homonym, preoccupied by *Tessmannella*, HEDICKE, 1912. In 1925, ENDERLEIN proposed *Tessmanniola* as the replacement name for *Tessmannella* ENDERLEIN, 1924. This type was examined by FREY, who commented that "*T. undulata* is even probably only a variety of *P. minax* END.". The type specimen of *Tessmannella undulata* ENDERLEIN, 1924 is greasy and discoloured, but is clearly *Mesanopin minax* (ENDERLEIN, 1922).

The Matadi specimen is abberrant, in that there are two humeral setae on the left hand side.

Distribution. *Mesanopin minax* is known from West and central Africa, from Nigeria, Cameroun and Zaïre (Fig. 687).

Mesanopin palaga sp. nov

(Figs 402 – 412, 687)

Diagnosis. Distance between inner margin of eyes less than width of thorax. Face with distinct brown horizontal band; flagellomere 1 dark brown. Parafacial area with black spot on pale orange-brown background in line with dorsal margin of facial band. Gena broad, postgena swollen. Postocellar setulae and postpronotal seta present. Notum distinctly marked; anepisternum, anepimeron and katepisternum predominantly pale. Scutellum predominantly orange-brown, with dark brown baso-lateral band. All legs patterned; ventral spines on fore femur brown contrasting with pale buff-yellow femur. DM-Cu marked with brown pattern.

Etymology. *palaga* L. f. = an ingot of gold, referring to the yellowish scutellum.

Description

Dimensions: ♂ Holotype. Body length 3.6 mm; wing length 4.1 mm. **Colour/Vestiture**: Ground-colour pale buff-yellow. Portion of face immediately beneath antennae dark-brown; lower facial margin pale buff-yellow (Fig. 402). Frons and parafacial area covered with orange-brown microtrichia. Parafacial area with elliptical dark brown spot adjacent to scape and pedicel (Fig. 402). Subvibrissal setulae pale buff-yellow. Vertex, occiput and medial occipital sclerite glossy pale-brown; ocellar triangle and around bases of setae dark-brown (Fig. 402). Narrow black stripe across medial occipital suture. Scape and pedicel buff, flagellomere 1 dark-brown (co-incident with brown band on face), arista pale-buff (Figs 402 – 404). Thoracic pleurites with anterior, medial and posterior diagonal bands incomplete: anterior band evanescent across anterior spiracle, proepimeron and central anepisternum; medial band extending from anatergite to posterior half of katepisternum; posterior band present only on centre of meron. Notum glossy orange-brown, with dark-brown post-sutural lateral stripe level with intrapostalar seta (Fig. 405); less distinct medial stripe and intermediate stripe visible across whole length of notum.

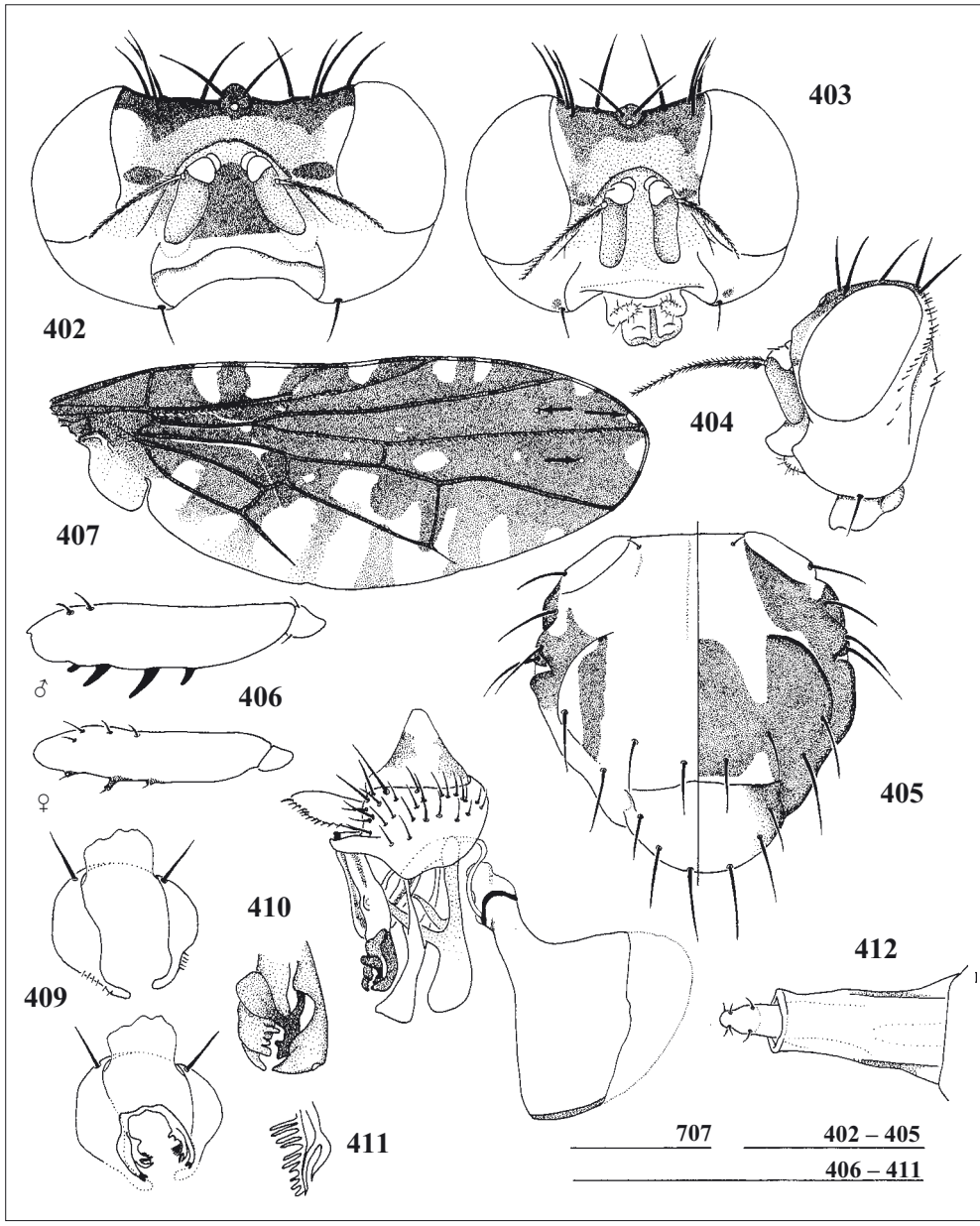
Scutellum glossy orange-brown with restricted dark-brown patch at intersection between scutellum and supra-alar ridge (Fig. 405). Subscutellum and mediotergite glossy orange-brown, anatergite dark-brown. Fore-femur indistinctly darkened toward apex and medio-ventrally, in line with band on fore tarsus when flexed; spines brown (Fig. 406); fore-tibia indistinctly brown basally in line with apical mark on femur and more distinctly marked by dark-brown subapical band. Mid and hind femora with dark brown apex, continuous with basal dark brown band on tibia; and mid and hind tibia distinctly marked by a dark-brown subapical band. Wing densely coloured with dark brown on apical half, becoming blurred posteriorly; marked with hyaline spots and bands (Fig. 407). Calypter smoky grey margined with dark brown. Halter pale creamy-white. Abdomen: T_{1+2} dark brown only as narrow medial band and on extreme lateral margin, T_3 dark brown laterally and medially, with two bands of ground colour in between, trailing off laterally along anterior margin, T_4 and T_5 glossy dark brown. S_{1-5} orange-brown. Male genitalia glossy orange-brown. Fine silver microtrichia sparsely distributed on lower parafacial area, gena and pale buff-yellow areas of subvibrissal setulae adjacent to margin of eye, on scape and pedicel, narrowly around eyes, dense on centre of medial occipital sclerite and more sparse on occiput; dense on thorax and weak, but noticeable on legs; sparse and weak on T_{1+2} and T_3, but absent on remainder of abdomen.

Head: Distance between inner margin of eyes less than width of thorax; outer dimension across eyes exceeding thorax width. Face indented, projecting at lower facial margin about same distance as pedicel (Fig. 404). Gena (in frontal view – Fig. 402) with curved margin between lower margin of the eye and subcranial cavity; broad compared to full head height (Fig. 404); postgena swollen (Fig. 404). Setulae mostly pale, but a few short black setulae on occiput (intermingled with postocular row) and on palp. Supracervical setulae sparse (Fig. 404). Weak divergent, pale postocellar setulae present. Postocular row intermingled with black setulae of occiput and gena.

Thorax: Setulae brown, short and reclinate on notum. Postpronotal seta present (Fig. 405), anepisternum with second weaker seta below strong upper one. Four anepimeral setulae differentiated. **Legs**: Front femur with 3 long and 1 small (apical) spines (Fig. 406). Fore coxa with 2 pale apical setae. Mid and hind coxae with 2 pale dorsal setae. Setulae pale coloured, long on apices of coxae; intermingled with brown setulae over dark-brown coloured parts. **Wing**: R-M a little beyond midway along dm; dm rectangular, longer than twice greatest width; membrane patterned as in Fig. 407.

Abdomen: Setulae sparse pale brown on T_{1+2}, black on T_3 to T_5. Genitalia (♂) – stout and compact. Epandrium subglobose, rounded at distal apex, strongly setose (Fig. 408). Proctiger triangular (lateral view – Fig. 408) sub-square (frontal view – Fig. 409), raising well above sides of epandrium, finely microtrichose. Hypoproct fused except at apex, fringed along entire margin with fine setulae (Fig. 408). Lateral surstylus short and narrow, curving in toward midline, a row of setulae laterally (Figs 408 & 409 – top). Medial surstylus bifurcate (Fig. 409 – bottom), inner process with basal lobe, bifid apex, and fringed with ribbed membrane connecting dorsal margin to ventral side of hypoproct (Fig. 411). Outer process blunt tipped, curved and extending beyond medial surstylus, having paired prensisetae at apex (Fig. 409 (bottom)). Distiphallus stout, small lateral caeca present. Glans bulbous, with paired blunt ended terminal claw-like filaments, apically pointed and toothed, not overlapping one another (Fig. 410). Ejaculatory apodeme broadly spatulate and strongly sclerotised larger than remainder of genitalia, narrow basally end (Fig. 408). Phallapodeme and hypandrium stout and compact with heavy spatulate apex (Fig. 408).

Variation: ♂ Body length 3.3 – 3.8mm; wing length 3.2 – 4.2 mm. ♀ Body length 2.9 – 3.7 mm; wing length 3.1 – 3.8mm. In some female specimens ventral ground colour (including legs) is off-white. Facial brown sometimes pale and indistinct (Fig. 403). Parafacial area brown spot often absent. Setulae on occiput of some females pale. Femoral spines of female foreleg reduced to small tubercles; spines pale buff-yellow. Lateral banding on thorax constant and showing little variation. Most noticeable variation is amount of dark-brown pattern present on notum - holotype represents least patterned form (Fig. 405 (left)), while other specimens have definite medial band, lateral stripes extended anterior to transverse suture and sometimes lateral and medial bands joined post-suturally (Fig. 405 (right)). Restricted brown patch at base of scutellum (Fig. 405 (right)) may reach narrowly round as far as apical seta. Subscutellum and mediotergite is brown instead of orange-brown in some specimens. Thorax sometimes with anepisternal and 2 short anepimeral setae. Medio-ventral brown patch on fore-femur sometimes absent. On T_{1+2} dark brown medial band sometimes missing. Ovipositor – eversible membrane



Figs 402–412: *Mesanopin palaga* sp. nov. ♂ holotype and ♀ paratype. – **402**: Male head, frontal view; – **403**: Female head, frontal view; – **404**: Male head, profile; – **405**: Thorax, dorsal 2 half views showing extent of pattern variation, left = Holotype; – **406**: Left fore femora, ♂ & ♀, lateral view; – **407**: Right wing, dorsal view; arrows = variable spots; – **408**: Male genitalia, lateral view; – **409**: Male genitalia, oblique dorsal view without medial surstyli (top) and with medial surstyli (bottom); – **410**: Male genitalia, detail of glans, right side (scale bar = 0.5 mm); – **411**: Apex of medial surstylus, ventral view, inner margin to left (scale bar = 0.5 mm); – **412**: Tip of aculeus.

one and a half times the length of oviscape with little ornamentation. Aculeus blunt with 2 apical and 2 fine and much smaller basal setulae (Fig. 412). Spermathecae with an apical dimple.

Material examined: **Holotype**: SOUTH AFRICA: ♂ (NMSA): "From coastal / forest" [printed label on off-white card]; " Umhlanga Bush [29°42'S; 31°06'E] / near Durban / Natal, S.Africa / B. & P. Stuckenberg / 9.xi.1962"

[printed label on off-white card – last line written]; "AGROCHIRA / BISMARCKBURG – / ENSIS END. / d.Steyskal '63" [hand-written on white card with thin black frame and all of last line printed (except the '3', which is written)]; "HOLOTYPE / *Mesanopin / palaga* sp.nov. ♂ / Det. WHITTINGTON" [first and last lines printed, middle two hand written on red card]. In good condition, left postpronotal seta missing; genitalia in glycerine, in microvial.
Other material – **Paratypes**: SOUTH AFRICA: 1♀ Umhlanga Bush [29°42'S; 31°06'E,. ca.25m], 9.xi.1962, B. & P. STUCKENBERG, coastal forest (NMSA); 2♀♀ Virginia Bush, 29°46'S; 31°02'E, 27.ii.1992, BARRACLOUGH & WHITTINGTON, 100 m, indigenous forest due West of Airport (NMSA & NMSE); 1♀ Umhlanga Rocks [29°43'S; 31°05'E, ca.25m], 24.x.1971, M.E. IRWIN, Coastal Dune association (TAUI); 1♂ Durban [29°53'S; 31°00'E, ca.20 m], no other data (*ex* BRUNETTI BM 1927–184 BMNH); 1♂ 1♀ Durban, Botanic Gardens [29°51'S; 31°00'E, 20 m], ♂ 17.ii.1902, (CUMZ) and ♀ 17.ii.1903 (NHMW, also with a label "118" and a manuscript name "*Agrochira poeciloptera* H. det Hendel") F. MUIR; 1♀ Durban [29°53'S; 31°00'E, ca.20 m], no date, F. MUIR (CUMZ); 1♀ Durban [29°53'S; 31°00'E, ca.20 m], 16.v.1915, L. BEVIS (BMNH); 1♂ 1♀ Durban [29°53'S; 31°00'E, ca.20 m], vi.1926, E.W. RUST (♂ NMSE; ♀ NMSA); Durban [29°53'S; 31°00'E, ca.20 m], W.E. MARRIOTT, bait traps on the following dates: 4♂♂ 1♀ viii.1930, 1♀ xii.1930, 2♀♀ ii.1932, 1♂ 6.vii – 16.viii.1932 (NMSA & USNM); 2♀♀ Umbilo [29°53'S; 30°58'E, ca.30 m], 2.v.1915, L. BEVIS; 1♂ Port St.John [31°37'S; 29°33'E, ca.25m],, 10–31.vii.1923, R.E. TURNER (BMNH).

Discussion. The Holotype is from densely canopied coastal forest, with a sparse, herb-rich sub-canopy, on consolidated coastal dune (i.e. loose sandy soil, with a dry leafy detritus).

The manuscript name *Agrochira poeciloptera* H. attached to the ♀ Durban, Botanic Gardens specimen from the HENDEL Collection (NHMW), appears never to have been published since there is no record of it in the literature, other than the comment "*Agrochira tephritium* END. = *A. poeciloptera*" (HENDEL 1914b: p.409). Thus the name *A. poeciloptera* exists only as a *nomen nuda*. I assume the "H." after the name implies that HENDEL had intended to publish this name, which means mottled wings. Although a good name for any member of this subfamily, it has not been used here for this species, so as to avoid confusion with the earlier statement of synonym. It should also be noted that HENDEL's inclusion of the 2 male (?) specimens from Cambridge (HENDEL 1914b: p.266) under the name *Agrochira tephritinum* (ENDERLEIN, 1912), collected from Durban, clearly belong to this species and are among the material examined from CUMZ, although they were unlabelled and thus indistinguishable. The *A. tephritinum* specimens mentioned by BEZZI (1918) collected from Durban, 16 May 1915 by L. BEVIS are listed in the materials seen above for *A. palaga*.

Distribution. *Mesanopin palaga* is known only from the Natal KwaZulu coast of South Africa (Fig. 687).

Mesanopin pallidum sp. nov.

(Figs 413–420, 687)

Diagnosis. Distance between inner margin of eyes less than width of thorax. Frons, face and pleurites (except anepimeron and katatergite) pale creamy-white. Gena at obtuse angle ventral to eye. Forelegs pale entirely lacking tibial bands, a few indistinct spots on the inner surface of fore femora and tibiae; ventral spines of fore femur pale. Mid legs marked with indistinct pale brown bands; hind legs with dark brown bands. Postpronotal seta present.

Etymology. *pallidus* L. a. = ashen or pale; referring to the pale coloration of this species.

Description

Dimensions:♂ Holotype. Body length 3.8 mm; wing length 3.6 mm. **Colour/Vestiture**: Ground-colour pale creamy-brown. Head almost completely pale, with a small brown facial triangle below antennae and brown spots on vertex around bases of orbital setae and ocellar triangle (Fig. 413). Ocellar triangle brown Figs 413 & 414). Occiput brown, medial occipital sclerite creamy-white medially and brown laterally (Fig. 415). Palp, labellum and prementum red-brown. Notum predominantly ochre-brown with irregular dark brown lateral marks, off-white postpronotal lobe and notopleural callus (surrounded by narrow brown marks) (Fig. 416). Scutellum laterally dark brown, centre being bright yellowish (Fig. 416); pleurites and sternites pale creamy-brown with slight grey discoloration on anepisternum, katepisternum and meron; brown on anepimeron, katatergite and mediotergite; spiracles white. Legs pale creamy-brown with few brown marks. Fore femur with two apical brown spots, latero-ventral and ventral, on inner surface; spines pale (Fig. 417). Fore tibia (right leg) with small brown medial spot dorso-laterally on inner surface and incomplete faint brown apical band on inner surface. Mid and hind femora with

incomplete pre-apical brown bands; mid tibia with faint basal and pre-apical brown bands (apical more pronounced than basal); hind tibia with distinct basal and pre-apical brown bands. Pulvillae orange-brown (giving slight orange-brown discoloration to apex of all tarsi); with creamy-white apical fringe. Wings dark brown; marked with hyaline patches (Fig. 418); dm entirely dark brown except for a single basal hyaline spot. Calypter pale smoky-white, fringed with pale-brown margin. Halter basally and apically pale orange-brown, stem white. Abdomen: T_{1+2} and T_3 buff brown, but dark brown laterally on distal margin; T_3 with additional dark brown medial band; T_4 and T_5 dark brown, two irregular, hemispherical patches of ground-colour basally on T_4. Pleurites membranous, orange-brown; sternites dull-black. Male genitalia glossy dark brown. Fine silver microtrichia dense and distinct in small patch dorsal to occipital foramen, otherwise poorly developed and difficult to distinguish on clypeus, occiput, fore coxae, notum, pleurites, scutellum and T_{1+2} to T_4; conspicuously absent from mediotergite and all but basal fringe on T_5. Slightly golden microtrichia on frons.

Head: Distance between inner margin of eyes less than width of thorax, outer margin of eye slightly more than thorax width. Margin of gena (in frontal view) at obtuse angle between lower margin of eye and subcranial cavity (Fig. 413) – lower portion being approximately three times length of shorter, upper portion. Antennae short pubescent. Setulae mostly pale, but a few short black setulae on lower gena, margin of subcranial cavity and median occipital sclerites; vertex asetose. Supracervical setulae sparse and white. Postocellar setulae absent. Postocular row black, short, but distinct.

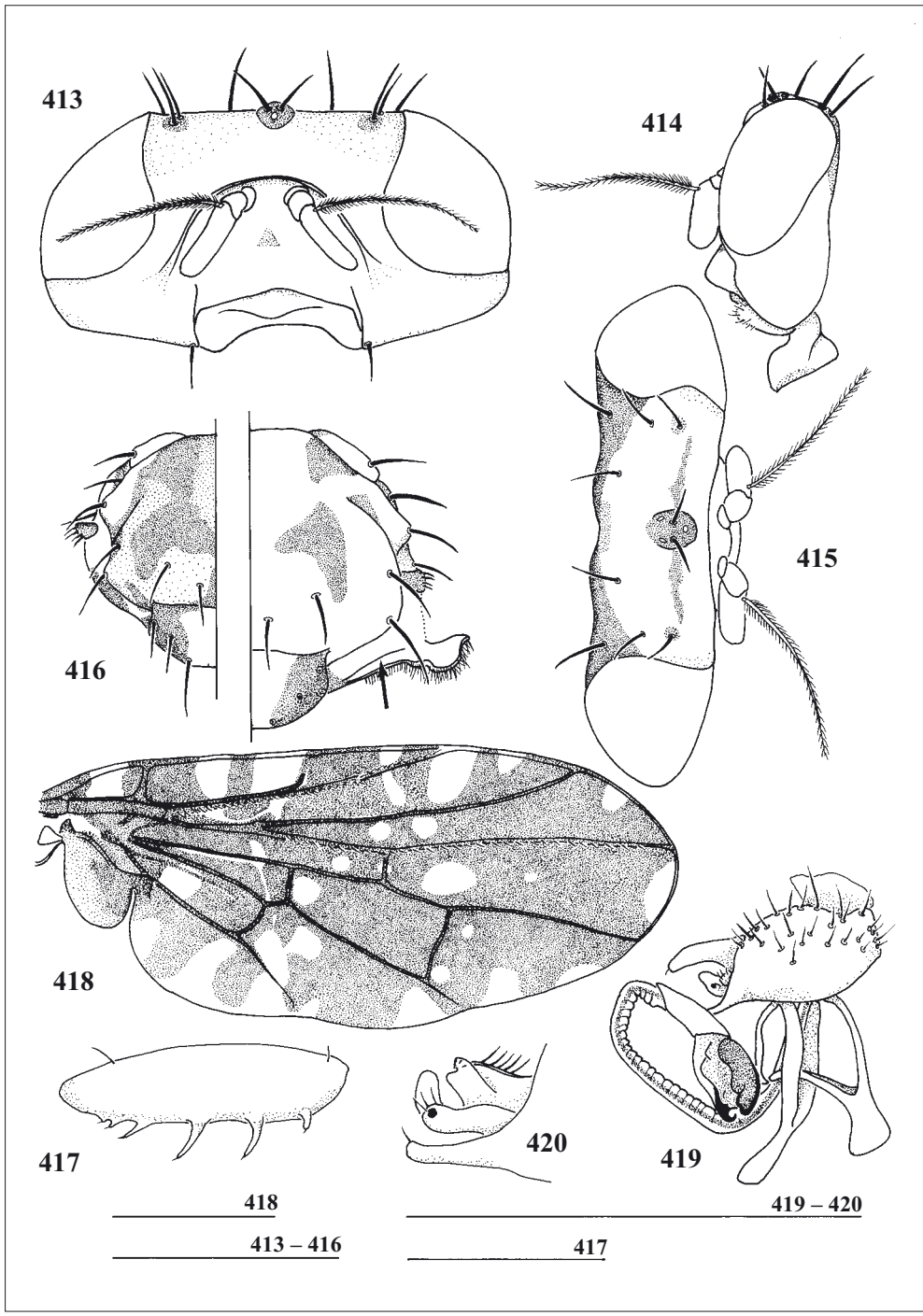
Thorax: Setulae pale-brown and reclinate to erect on notum, longer on sternites. Postpronotal seta present (Fig. 416). 2 anepimeral setulae differentiated. **Legs**: Front femur with three prominent medial, one basal and two apical smaller spines; each spine with pale apical seta (Fig. 417). Fore coxa with two apical setae, mid and hind coxae each with 2 lateral setae. Setulae brown (appearing pale at certain angles of light); in parallel rows on dorsal surface of mid and hind-tibia. First two tarsomeres of each leg with ventral pad of stout, pale setulae. **Wing**: R-M a little beyond midway along dm; dm rectangular, approximately twice greatest width; membrane patterned as in Fig. 418.

Abdomen: Setulae short fairly sparse, pale towards centre of tergites, black laterally. Genitalia (♂) – small; ejaculatory apodeme damaged in dissection. Epandrium rounded, slightly dorso-ventrally compressed, setose dorsally (Fig. 419). Proctiger membranous, hatched shaped, extending above margins of epandrium, finely microtrichose basally (Fig. 419). Hypoproct with single apical setula, down-curved at apex (Fig. 419). Lateral surstylus short and narrow with a single apical setula (Fig. 420). Medial surstylus stout and apically bilobed. Inner process with a dorsal, fringed membrane connecting dorsal margin to ventral side of hypoproct (Fig. 420). Outer process blunt tipped extending beyond inner process; apically setose, with an apical sclerotised spot and an inwardly curved apical projection (Fig. 420). Distiphallus stout, clearly annulated (Fig. 419). Glans bulbous, with paired blunt ended terminal claws, apically rounded and not overlapping one another (Fig. 419). Lateral sclerite, phallapodeme and hypandrium slender; phallapodeme and hypandrium with stout spatulate apex (Fig. 419).

Variation: Body length 2.5–3.8 mm; wing length 2.6–3.6 mm. All other specimens known lack triangular brown mark on face and, all but one, have a pale palp. Thorax usually less distinctly pale over postpronotal lobe and notopleural callus. Dark-brown patterns on notum narrow to broadly banded (Fig. 416). Medial band on pleurites sometimes extending onto ventral margin of anepisternum. Some black setulae present near anepisternal and anepimeral setae. Basal spines on fore femora may be reduced to tubercles. One female (from Isheri) has two hyaline spots in dm. Abdomen: T_{1+2} tinged orange, T_3 evenly pale creamy-white with dark-brown markings, medial spots combined into one medial band. T_4 may lack fine silver microtrichia. Ovipositor – eversible membrane two times length of oviscape; finely and densely covered with circular rugose denticles. Tip of aculeus blunt with four longapical setulae, four shorter sub-apical setulae and two basal setulae. Spermathecae not examined.

Material examined: **Holotype**: NIGERIA: ♂ (NMWC) "347. 4m.N.W. / of Agege [06°14'S; 03°39'E; ca.< 100 m] Lagos/ State Nigeria / 16.33769 / J. RILEY" [hand written on white card]; "NMW.Z. / 1981 – 001." [printed on white card]; "HOLOTYPE / *Mesanopin pallidum* / sp.nov. ♂ / Det. WHITTINGTON" [first and last lines printed, middle two handwritten on red card]. In good condition, apical scutellar setae missing, genitalia in glycerine, in microvial on same pin as specimen.

Other material — **Paratypes**: TOGO: 2♂♂ "~~Akpossa~~ [deleted on label, 07°23'N; 00°48'E; 500–1000 m], Sodo [07°19'N; 00°49'E]" 2 – 21.i.1982, G.J. STECK (TAUI). NIGERIA: 1♀ Isheri [06°38'N; 03°23'E], 24.iii.[19]75, M. A. CORNES, 6316 (USNM); 1♀ Ikorodu [06°37'N; 03°31'E], 29.ix.[19]74, M.A. CORNES, 5487 (USNM); 1♂ same data as Holotype (NMWC).



Figs 413–420: *Mesanopin pallidum* sp. nov. ♂ Holotype and ♂ paratype. – **413**: Head, frontal view; – **414**: Head, profile; – **415**: Head, dorsal view; – **416**: Thorax, 2 dorsal half views, ♂ holotype to right and ♂ paratype to left (arrow indicates reduced lower calypter); – **417**: Left fore femur, lateral view; – **418**: Right wing, dorsal view; – **419**: Genitalia, lateral view; – **420**: Detail of surstyli, lateral view (scale bar = 0.5 mm).

Discussion. The two Nigerian specimens were originally on one pin. After consultation with Dr J. C. DEEMING at NMWC, it was agreed to split these specimens in order to establish one as the Holotype. Thus the Paratype has a new label, bearing the same details as the holotype label, but written in my own hand instead of that of J. RILEY.

Mesanopin pallidum is unusual, along with *M. minax*, in having cell dm only about twice DM-Cu, in all other species in this genus dm is three times the length of DM-Cu.

Distribution. *Mesanopin pallidum* is a West African species, known from Nigeria and Togo (Fig. 687).

Mesanopin tephritinum ENDERLEIN, 1912

(Figs 421 – 424, 687)

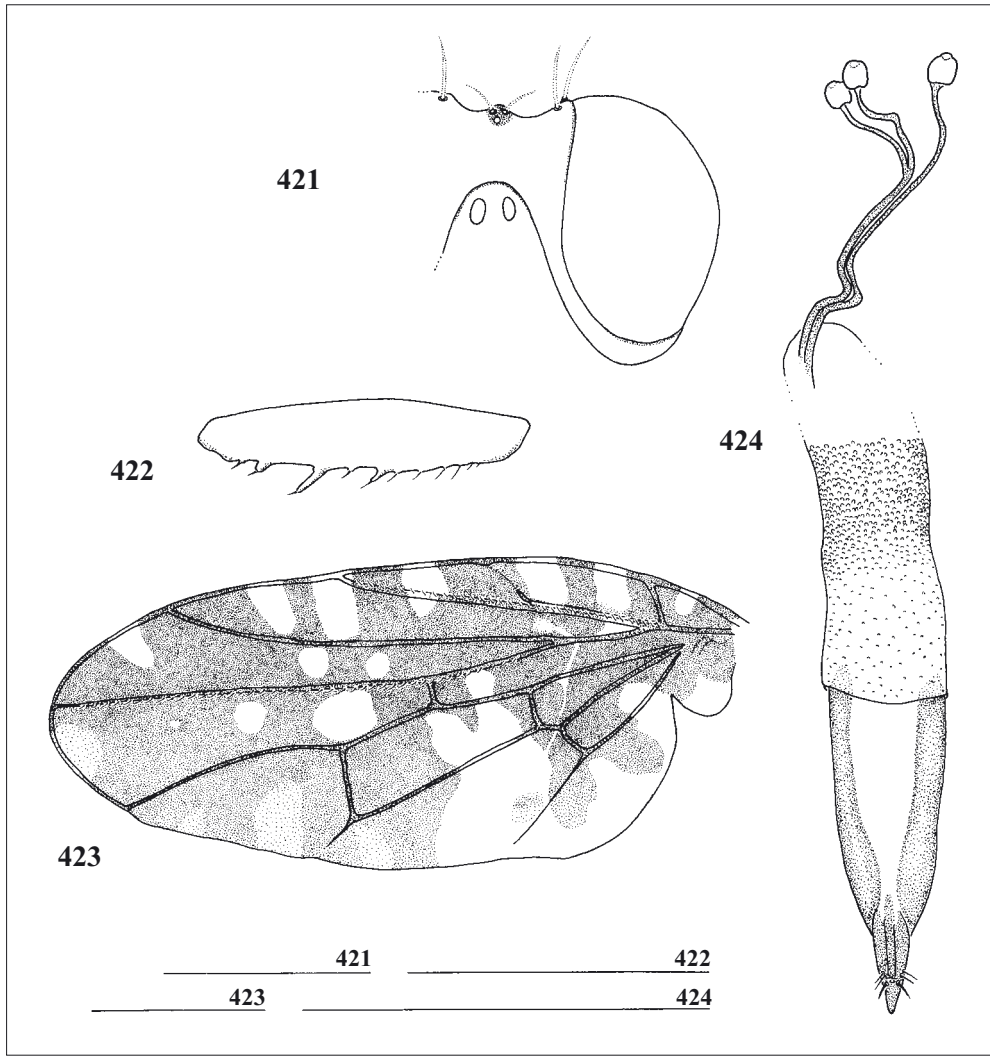
***Mesanopin tephritinum* ENDERLEIN, 1912 –** ENDERLEIN (1912b: 369, Fig. D.) [description]
***Agrochira tephritinum* (ENDERLEIN, 1912)**: HENDEL (1914: 265) [key & description in error – specimens actually = *A. palaga* sp. nov.]. FREY (1932: 258) [key].
***Agrochira tephritina* (ENDERLEIN, 1912)**: STEYSKAL (1980: 564) [catalogue].

Diagnosis. Distance between inner margin of eyes less than width of thorax. Thoracic pleurites mostly dark brown. Forelegs (including spines) entirely pale and hind legs with restricted brown marks; notum black. Postpronotal seta present. Cell r_{2+3} marked with apical hyaline incision and pair of baso-medial hyaline spots with diameter as wide as r_{2+3}. Aculeus tip pointed and extended beyond point of insertion of apical setulae.

Etymology. *tephritis* L. f. = ash-coloured precious stone and *-inus* L. suffix – pertaining to; ENDERLEIN may have been referring to the body coloration.

Description

Dimensions: ♀ Holotype. Body length (without head) 3.2 mm; wing length 4.7 mm. [Note: the head is largely damaged (Fig. 421), thus the following description is compiled from the remaining fragments.]
Colour/Vestiture: Ground-colour dark brown. Vertex dark-brown glossy, ocellar triangle slightly darker almost black; frons, face and gena yellowish-brown. Thorax pale grey over postpronotal lobe and notopleural callus, pale brown or buff on proepimeron, anterior portion of anepisternum and ventral portion of katepisternum. No distinct lateral bands. Notum glossy, strongly marked with two irregularly shaped dark brown lateral stripes, a short brown medial stripe and brown triangle medially in posterior margin. Scutellum with pale grey medial band. Legs pale yellow-ochre, with dull black markings at apex of hind femora, and base of hind tibiae, and as indistinct (almost invisible) bands in apical third of hind tibiae. Ventral spines of fore femur pale (Fig. 422). Wing membrane predominantly dark brown, marked with hyaline spots and incisions (Fig. 423). Calypter pale grey-brown fringed with brown margin. Halter pale yellow-ochre. Abdomen pale-brown on T_{1+2} and baso-medially on T_3. Fine silver- grey microtrichia on parafacial area, pleurites, scutellum and basal two segments of abdomen (view at angle from front).
Head: Distance between inner margin of eyes less than width of thorax. Vertex sunken; ocellar triangle below margin of eye (Fig. 421).
Thorax: Setulae short and semi-erect, directed posteriorly at angle on notum, black (some brown) and mostly longer on pleurites, particularly noticeable on posterior margin of anepisternum, anepimeron and ventral apex of katepisternum. Postpronotal seta present. Three anepimeral setulae differentiated.
Legs: Fore coxae terminating with three pale setulae. Fore femur with distinct outer spines; outer series consisting of 3 conspicuous spines, 1 small tubercle and several small bumps; inner series tuberculate; each with long (but fine) pale apical setulae (Fig. 422). Dorsal surface of fore-femur with line of distinct setulae longer than surrounding setation. Mid coxa with 1 lateral and 1 apical pale setae. Setulae of legs pale, long on fore-femur, on apices of coxae. **Wing**: R-M midway along dm; dm rectangular, longer than twice greatest width; membrane patterned as in Fig. 423.
Abdomen: Setulae pale brown on T_{1+2}, black on T_3 to T_5. Ovipositor – elongate, with eversible membrane about the length of aculeus; finely and densely covered with rugose denticles in the medial section. Aculeus pointed, narrowing considerably at apex, with six apical setulae (Fig. 424). Spermathecae rounded to subsquare, with apical dimple (Fig. 424).



Figs 421–424: *Mesanopin tephritinum* ENDERLEIN, 1912. ♀ Holotype. – **421**: Head, frontal view, damaged; – **422**: Left fore femur, lateral view; – **423**: Left wing, dorsal view; – **424**: Female ovipositor and anterior vagina with 1+2 spermathecae, ventral view.

Variation: ♂ unknown.

Material examined: **Holotype**: CAMEROUN: ♀ (PANZ) "Kamerun / Barombi [04°28'N; 09°15'E] / Conradt" [printed on pale blue card with thin black frame]. "Type" [printed on orange-red card, with thin black frame]; "*Mesanopin / tephritinum* / ENDERL. ♀ / Dr. ENDERLEIN det 1912" [white card, handwritten, except printed last line, which has "12" of date completed in handwriting]; "Mus. Zool. Polonicum / Warszawe / 12/45" [white card, printed and framed (on the edge, but partly cut off) in black]; "HOLOTYPE / *Mesanopin / tephritinum* / ENDERLEIN, 1912 ♀ / Det. WHITTINGTON" [first and last lines printed, middle two handwritten on red card]. In poor condition, head fragmented and adhered to white card with details of identity written on underside (setae, mouthparts and antennae lost), right mid-leg missing, right wing detached and mounted separately (not seen by author), thorax greasy. Genitalia dissected and stored in glycerine, in micro-vial on same pin as specimen.

Discussion – Although the date of collection is not provided on the data label, other material collected by CONRADT, was taken in the years 1893 and 1896, which may be an indication of the age of this specimen. The damage to the head of the type specimen is unfortunate, given that this is the type species for the genus.

Distribution. *Mesanopin tephritinum* is known only from the type locality Barombi in Cameroun. Contrary to HENDEL (1914b), BEZZI (1918) and STEYSKAL (1980) there are no specimens known from South Africa for this species, since these have been assigned to the new species *M. palaga* (Fig. 687).

Mesanopin tridens sp. nov.

(Figs 425 – 434, 687)

Diagnosis. Distance between inner margin of eyes less than width of thorax, but outer margin of eye exceeding thorax width. Face pale, at most with faint smoky band. Flagellomere 1 pale. Vertex yellow ochre and glossy. Frons dark brown and pubescent without pale brown band adjacent to ptilinal fissure, with inconspicuous alveoli and pale setulae. Postpronotal seta present. Pleurites of thorax broadly brown. Legs distinctly banded on femora and tibiae; spines on fore femur pale and long. Hyaline areas on wing predominating more than brown membrane.

Etymology. *tridens* L., f. = fork with three tines; referring to the raptorial forlegs of the male, which have three dominant spines.

Description

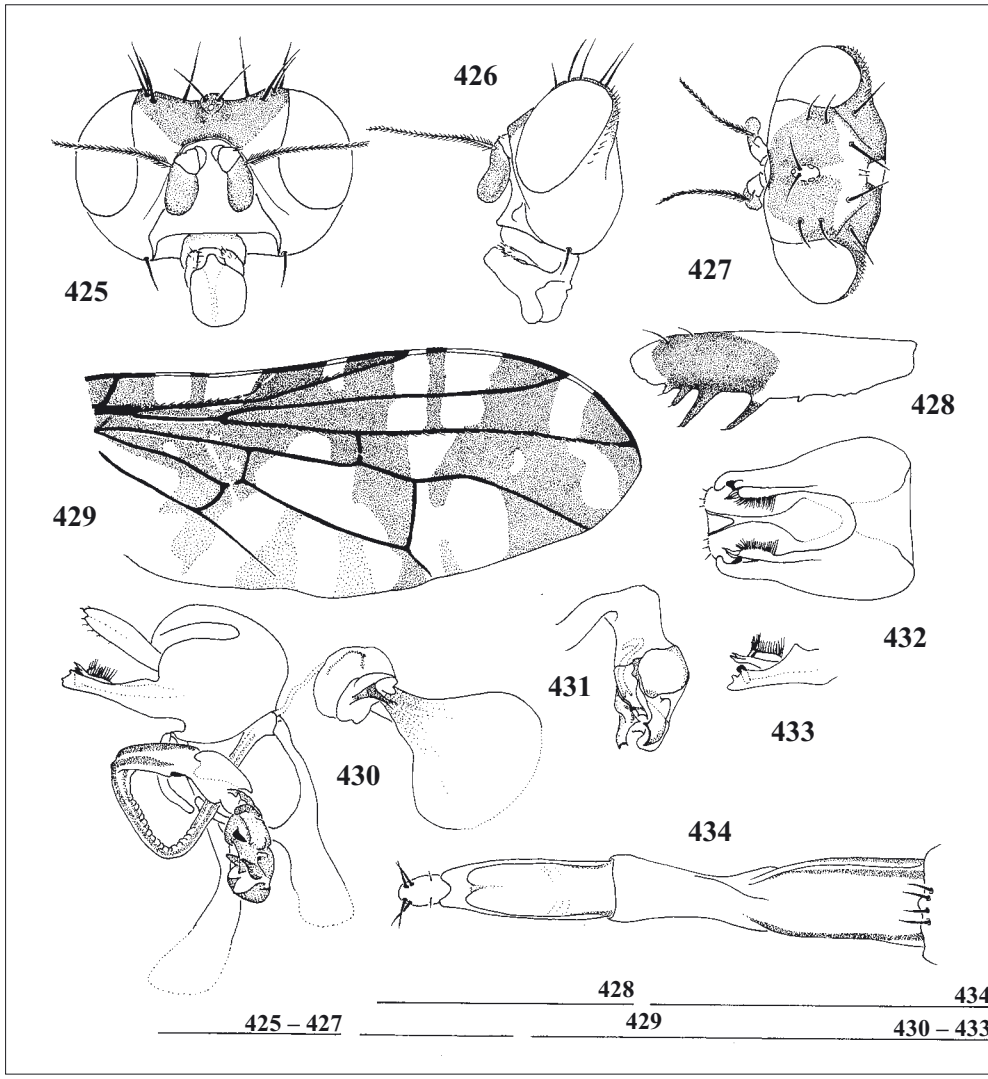
Dimensions: ♂ Holotype. Body length 3.6 mm; wing length 4.1 mm. **Colour/Vestiture**: Ground-colour dark brown dorsally, pale creamy-white ventrally. Face completely pale creamy-white, yellow on gena. Frons dark brown; parafacial pale creamy-white merging into yellow ochre adjacent to brown of frons (Fig. 425). Ocellar triangle, vertex and occiput dark brown; median occipital sclerite yellow ochre. brown. Flagellomere 1 smoky grey, with a little ground colour basally. Arista pale basally, contrasting with black apex beyond point of narrowing. Thorax pale creamy-white on coxae, proepimeron, anterior half of anepisternum, posterior half of postpronotal lobe and notopleural callus. Notum glossy, weakly mottled with yellow ochre patches over transverse suture and around bases of postsutural dorsocentral and intrapostalar setae). Scutellum brown baso-lateral to lateral setae; centrally yellow ochre. Subscutellum and mediotergite yellow ochre medially. Middle legs pale creamy-white with dull black smudge at apex of femur; other legs pale creamy-white with brown marking and tibiae rogressively darker brown distally. Fore femur with oval dark brown mark on apically posterior surface and dark brown spines; distal quarter of hind femur, and basal and apical fifths of hind tibia dark brown. Wings predominantly hyaline, marked with dark brown (increasingly paler toward hind margin) and having very dark brown veins (Fig. 429). Calypter smoky grey-brown with darker brown margin. Halter pale creamy-white. Abdomen: T_{1+2} mottled dark brown and yellow ochre; T_3 to T_5 glossy dark brown, but with two yellow ochre bands either side of median dark brown band on T_3. S_{1-5} pale creamy-white. Male genitalia glossy, yellow ochre. Fine silver microtrichia visible on frons, indistinct on rest of body.

Head: Distance between inner margin of eyes less than width of thorax, but outer margin of eye exceeding thorax width. Frons with a finely pitted to velvety texture caused by microtrichia. Gena (in frontal view) with curved (slightly square) margin between lower margin of eye and subcranial cavity (Fig. 425). Setulae short and pale, a few short black setulae on postgena. Divergent pale postocellar setulae present. Postocular row weak and black, merging into setulae on postgena (Figs 426 & 427).

Thorax: Setulae short; recumbent on notum; generally absent on pleurites. Postpronotal seta present. Three (right) to four (left) black anepimeral setulae present. **Legs**: Fore femur with 3 long and curved medial and single short apical and basal spines (Fig. 428); three basal tubercles present. Setulae pale basally and on pale ground-colour, but short and brown apically and on dark coloured bands and on whole of middle leg. Pre-apical setulae in a loose group medially on tarsomeres 2 – 4 of middle leg.

Wing: R-M a clearly beyond midway along dm; dm rectangular, longer than twice greatest width; membrane patterned as in Fig. 429.

Abdomen: Setulae sparse pale brown on T_{1+2}, brown to black on T_3 to T_5. Black setulae toward apex of sternum. Genitalia (♂) – Epandrium subglobose (Fig. 430). Proctiger, visible above margin of epandrium. Hypoproct fused, membranous apically between divergent halves (Fig. 432), short setulae at apex only (Figs 430 & 432). Lateral surstylus elongate (approximately equal in length to hypoproct), bifurcate and inwardly curved at apex; outer process narrow and apically bilobed, inner process terminating in sclerotised vertical bar (Figs 430 & 432). Medial surstylus distally forked into two spiked branches; outer process forked at apex; inner process simple, but having a dorsal, striated membrane curving



Figs 425–434: *Mesanopin tridens* sp. nov. ♂ Holotype & ♀ paratype. – **425**: Head, frontal view; – **426**: Head, lateral view; – **427**: Head, dorsal view; – **428**: Left fore femur, lateral view; – **429**: Right wing, dorsal view; – **430**: Male genitalia, right lateral view; – **431**: Male genitalia, detail of glans, right side; – **432**: Male genitalia, ventral view; – **433**: Male genitalia, detail of surstyli, dorsal view; – **434**: Female genitalia, ventral view.

dorsally to connect with ventral side of hypoproct, setulae becoming shorter toward apex (Fig. 433). Distiphallus narrow; short, cylindrical portion at apex (= preglans?) (Figs 430 & 431). Glans bulbous, apically bifid, paired triangular backward directed processes midway on surface (Fig. 430 & 431). Arms of phallapodeme and hypandrium narrow (Fig. 430) and weakly slerotised.

Variation: ♂ Body length 3.3 – 3.6 mm; wing length 4.1 – 5.0 mm. ♀ Body length 2.7 – 3.5 mm; wing length 3.6 – 4.3 mm. Width of hyaline apical band and intensity of brown marks along hind margin varies. Ovipositor — elongate, with eversible membrane about one third longer than aculeus; with virtually no sculpturing or markings. Aculeus rounded at apex, with four apical setulae (Fig. 434).

Material examined: **Holotype**: TANZANIA: ♂ (TAUI) "TANZANIA / Mbeya [08°50'S; 33°30'E], 35kmS / RtA345, 2200 M / 1.ix.1996 / A. FREIDBERG"; "HOLOTYPE / *Mesanopin* / *tridens* / sp. nov. ♂ / Det. WHITTINGTON" [first and last lines printed, middle two hand written on red card]. In good condition; a little greasy.

Other Material – TANZANIA: 2♂♂ 2♀♀ same data as holotype (TAUI; 1♂ 1♀ NMSE); 1♂ Ngozi Crater [08°59'S; 33°34'E], nr Rt A345, 1.ix.1996, A. FREIDBERG, 2000 – 2200 m (TAUI); 1♂ 2♀♀ Njombe [ca. 09°15'S; 34°45'E], 10km SE, Rt B4, 27 – 28.viii.1996, A. FREIDBERG, 2000 M (TAUI).

Discussion. *Mesanopin bvumba*, *M. clavigrum* and *M. tridens* share a close affinity and possibly form a species group (see dicsussion for *M. bvumba*).

Distribution – *Mesanopin tridens* is known from two localities in Tanzania (Fig. 687).

Micronesomyia gen. nov

Type species: *Micronesomyia hemihyalina* sp. nov.

Diagnosis. Arista pubescent. Medial vertical setae clearly shorter and weaker than lateral vertical setae. Fore femora distinctly spinose on ventral surface. 3 pairs of scutellar setae. Notum strongly microtrichose. Hind trochanter with setulose ventral lobe; hind tibia bent inwards at apex. Membrane of wing brown in anterior half, with hyaline spots and bars.

Etymology. *μικροσ – mikros* Gr. = small referring to the size of these flies; *νεσοσ – nesos* Gr. = island, referring to the restricted distribution of this genus to Madagascar and *μψια – myia* Gr. f. = a fly (hence Little Island-fly). Gender feminine.

Description

Dimensions: ♂ Body length 4.2 mm; wing length 4.0 mm. ♀ Body length 3.4 mm; wing length 3.6 mm. **Colour/Vestiture**: Ground colour predominantly pale cream, with darker thorax and abdominal markings. Ocellar triangle brown. Antennae pale brown, flagellomere 1 grey towards apex, basal quarter of arista pale buff, distal three quarters dark brown to black. Legs pale cream banded with brown. Halter pale creamy-white. Abdominal Sternites and pleurites pale brown. Male genitalia glossy brown. Microtrichia well defined on notum and to a lesser extent on frons, face, parafacial area, pleurites, subscutellum and abdomen.

Head: Subglobular, slightly anteroposteriorly compressed. Vertex narrow, approximately one third head width; head width slightly less than thorax width. Face projecting at lower facial margin to beyond apex of pedicel. Antennal grooves present, but not distinct. Flagellomere 1 oval, pendulous. Arista finely pubescent. Ocellar triangle situated in front of anterior reclinate orbital. Gena (frontal view) with curved margin between lower margin of eye and subcranial cavity; depth about equal to length of flagellomere 1. Postgena developed posteriorly such that it bulges posterior to eye. Palp longer than wide. Setulae mostly pale cream, but intermingled with short dark brown to black setulae on dorsal part of genal and postocular row. Vertex asetulose. Supracervical setulae sparse and minute. Setae – 1 ocellar (weak), 2 reclinate orbitals, 1 strong and 1 weaker vertical, 1 pale genal. Postocular row black and strongly developed.

Thorax: Longer than broad. Setulae pale cream; strongly reduced and fine on scutellum; thickened on coxae and ventral margin of katepisternum. Scutellum strongly rounded at margin. Setae: 2 notopleural (posterior one raised on callus), 1 supra-alar, 1 postalar, 1 intra-alar, 1 posterior acrostichal and 1 posterior dorsocentral; 1 anepisternal; scutellum with 1 basal, 1 lateral and 1 apical. **Legs**: Fore coxae apically excavate anterior to trochanter insertion. Fore coxa with 2 long, curved apico-dorsal and 1 apico-ventral setae; mid coxa with 1 short lateral seta and hind coxa with 2 short lateral setae. Ventral setulae long on mid and hind coxae. Mid coxal prong distinct, narrow, slightly curved and pointed apically. Fore femora spinose on ventral surface, each spine terminating in pale setula. Apex of hind femur with two long, pale setulae, distinct from shorter background setulae, arising from dorsal surface within brown apical band. Mid tibia with short ventral pre-apical bristle (at most equal to width of tibia). Hind tibia bent inwards toward midline at apex. Setulae pale cream, long and conspicuous ventrally on femora, short, dense and thickened on hind tarsomeres, brown on brown back-

ground markings. Anterior margin of tarsomeres with short, thick, black pre-apical setulae (most numerous on mid-leg). First three tarsomeres of each leg with slightly thickened ventral setulae. Setulae long and conspicuous dorsally on apex of final tarsomere, curving over apex in front of claws. Empodium small, setiform, obscured by rounded and densely setose pulvilli. Claws sharp, smooth and narrow; evenly curved. **Wing**: Costa with pre-humeral and humeral weakenings. Costa ending at apex of M, having progressively shorter black setulae toward wing apex. Costal cell broad (wider than length of crossvein R-M). Subcosta evanescent, weakened at wing flexion. R_{2+3} sinusoidal. Black setulae on entire R_1, and R_{4+5}. Wing flexion noticeable; at an angle basad along sub-costal evanescence, across basal r_1 and RS bifurcation, then at an angle apicad across br, bm, through Cu-bm and across basal cu_1. Crossvein R-M a little beyond midway on dm. Cell bm longer than cell bcu; BM-Cu and Cu_2 approximately equal in length. Fine setulae along posterior wing margin pale. Calypter reduced to setose ridge. Tegula small with long black bristle-like setulae.

Abdomen: Ovate, widest at hind margin of T_{1+2}. Pleurites membranous, matt. Sternites glossy, poorly sclerotised, reduced to about one third abdomen width. Setulae short and sparse, mostly pale coloured, but bronze-brown over dark areas of tergite. Genitalia (♂): epandrium subsquare, dorsally setulose; lacking epandrial-surstylar suture. Proctiger membranous and small. Hypoproct fused forming shield above surstyli, setose along ventral margin and apex. Medial surstylus bilobed, apically setulose on inner lobe, strongly sclerotised at apex of outer lobe. Distiphallus narrow, with annular impressions on dorsal surface. Glans elongate, with much reduced basal caeca. Ejaculatory apodeme sclerotised, broadly spatulate. Arms of phallapodeme and hypandrium narrow. Ovipositor — oviscape conical, slightly shorter dorsally than ventrally. Eversible membrane finely ornamented on apical half. Aculeus blunt ended, setose at apex. Spermathecae and ovaries not observed.

Included species: *Micronesomyia hemihyalina* **sp. nov.**

Discussion. This monotypic genus clearly belongs to the *Agrochira* group of the Agrochirini. There is no sexual dimorphism in head width and the number of scutellar setulae distinguishes *Micronesomyia* from *Furcamyia*. The other diagnostic characters separate *Micronesomyia* from *Agrochira* and *Acanthoneuropsis, viz.* medial vertical setulae weaker and shorter than the more robust lateral verticals; notum more densely pruinose; hind trochanter and tibia modified.

Distribution (Fig. 684) – *Micronesomyia* is only known from Madagascar.

Micronesomyia hemihyalina sp. nov.

(Figs 435 – 448, 684)

Diagnosis. Posterior margin of notum and anepisternum pale. Three ventral spines on fore femur. Inner apical margin of hind trochanter of male with tuft of black setulae. Dark pattern on wing restricted to band along anterior half.

Etymology. *ημι – hemi* = Gr. – derived from *hemisys* – half; and *υαλινοσ – hyalinos* Gr.f. = of glass, hence transparent, referring to the half dark – half clear pattern on the wing.

Description

Dimensions: ♂ Holotype. Body length 4.2 mm; wing length 4.0 mm. **Colour/Vestiture**: Ground-colour pale creamy-white contrasting with dark brown markings on thoracic pleurites and tergites of abdomen and with grey brown notum. Head (Fig. 435) with black spot above centre of ptilinal fissure, orange-brown wavy line across vertex (Fig. 436); occiput ochre, middle of median occipital sclerite brown. Basal third of arista yellow, apical two-thirds pale brown. Postocular row black. Dark grey brown marking across anterior three-quarters of notum; dark brown marks behind transverse suture, at centre of hind margin of notum and at scutellar bridges (Fig. 437). Posterior margin of notum and anepister-

num pale; anterior anepisternum with black spot postero-ventral to anterior spiracle. Katepisternum, anepimeron, and katatergite dark brown; meron grey-brown. Scutellum dark brown with distomedial yellow patch, subscutellum and mediotergite grey brown. Legs: hind femur with apical brown bands. Inner apical margin of hind trochanter of male with a tuft of black setulae. Fore tibia with basal and subapical brown spots. Mid tibia with subapical brown band and hind tibia with basal and apical brown band. First tarsomeres of all legs with brown apical band and terminal two tarsomeres of all legs brown (darker on hind leg). Pulvillae creamy-white with basal orange tint. Wings hyaline; marked with dark brown linear band along anterior half (Fig. 440) broken by a few small marginal, hyaline incisions. Veins pale brown where membrane is hyaline, dark brown where membrane is brown. Calypter white, fringed with pale brown margin. Abdomen: T_{1+2} and T_3 pale creamy-white with lateral brown marks on T_3; T_4 and T_5 black (Fig. 437), hind margin of T_5 glossy. Fine silver pruinescence on vertex and occiput. Silver-grey pruinescence on entire thorax and tergites of abdomen especially dense on notum, less evident on scutellum and hind margin of T_5. Bronze-brown pruinescence present as two small rectangles on presutural notum and as a comma shaped patch posterior to transverse suture

Head: Frons broadest anterior to ocellar triangle (Fig. 435), angled abruptly dorsal to ptilinal fissure (Fig. 436). Medial vertical seta fine (Figs 436 – 437). Face concave below antennal insertion; lower facial margin extending to beyond level of apex of pedicel. (Fig. 436). Ocellar and anterior orbital setae weaker than other setae.

Thorax: Longer than broad, broadest across anepisternum (Fig. 437). Setulae pale, interspersed with brown setulae on dark background coloration. **Legs**: Fore femur with one long, one medium and two short ventral spines with strongly developed pale apical setae and two pale ventral setae, almost indistinguishable from background setulae. Inner apical margin of hind trochanter of male with tuft of black setulae (Fig. 438). Apex of hind femur with one long, pale dorsal seta. Apex of hind tibia bent inwards at apex toward midline (Fig. 439). **Wing** (Fig. 440): Subcosta evanescent at flexion line, continuing to apex as fold in wing membrane. R_{2+3} sinuous. Distal part of R_{4+5} nearly straight. R-M short, situated midway on dm. M angular at R-M, curved beyond DM-Cu. RS slightly weakened at bifurcation by flexion line. Flexion terminating cu_1 close to Cu-bm.

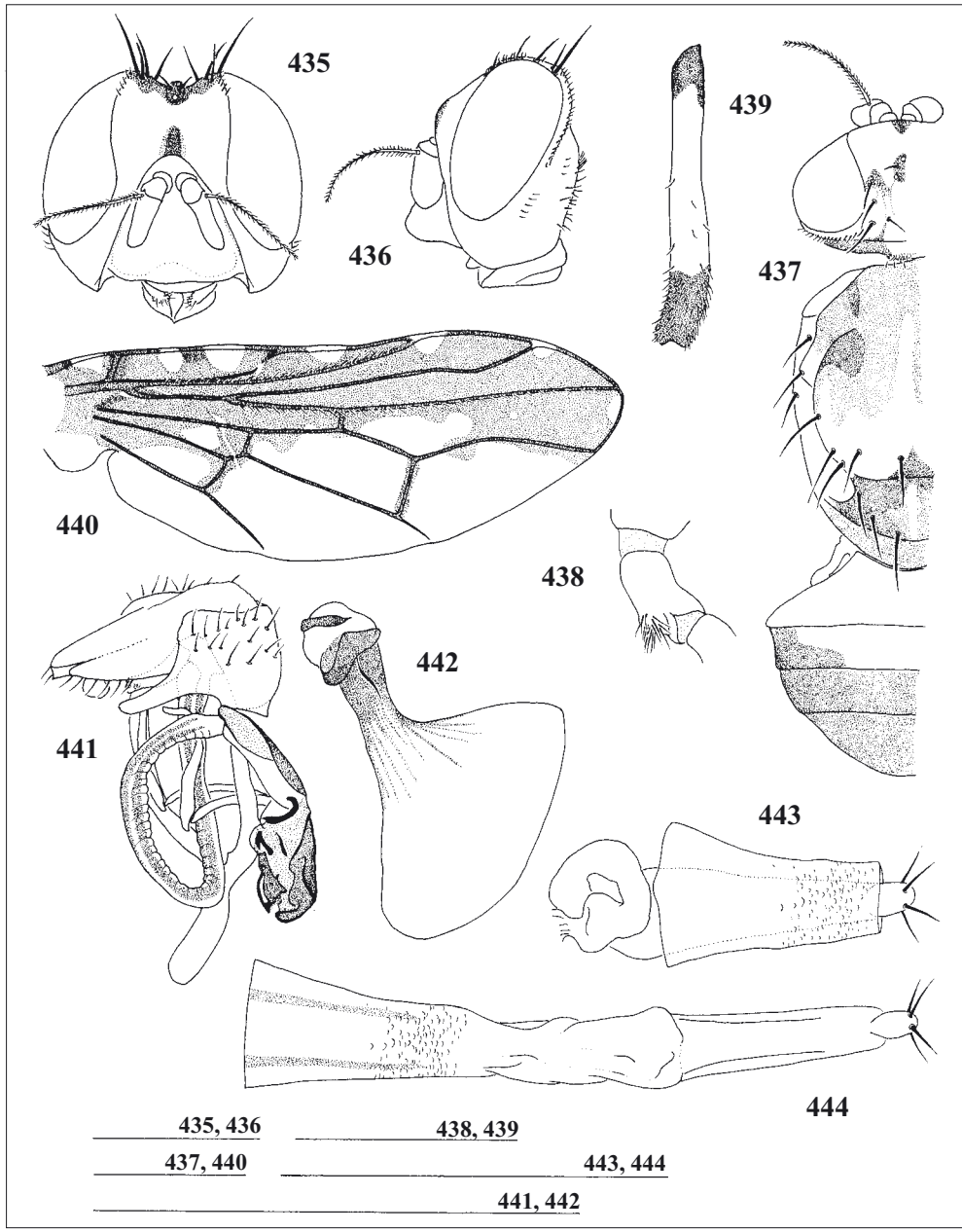
Abdomen: As for generic description. Genitalia (♂) – Epandrium subsquare and small, with short setulae (Fig. 441). Proctiger membranous, small, not extended beyond sides of epandrium. Hypoproct enlarged, as dominant as epandrium, apically pointed, fringed ventrally with stout setulae (Fig. 441). Lateral surstylus blunt apically and curved sharply around in front of medial surstylus (Fig. 441). Medial surstylus stout, bilobed with outer lobe apically sclerotised and inner (shorter) lobe apically setulose. Base of glans elongate, partially sclerotised; basal caeca elongate (Fig. 441). Apex of glans with lateral sclerite apically toothed (Fig. 441). Ejaculatory apodeme large and spatulate, poorly sclerotised, basal lobe small (Fig. 442).

Variation: ♀ Body length ca. 3.4 mm (abdomen folded), wing length 3.6 mm. Single ventral spine present on fore femur of female; bend at apex of hind tibia less pronounced; and T_5 pale with anterolateral margin brown. Ovipositor – Middle portion of eversible membrane finely rugose (Figs 443 & 444). Taenia elongate, narrow, reaching one-third length of eversible membrane (Fig. 444). Tip of aculeus with 4 long apical setulae (Figs 443 & 444).

Material examined: **Holotype**: MADAGASCAR: ♂ (MNHN) "MADAGASCAR / BEKILY [24°12'S; 45°20'E, 900 m] / REG. SUD DE L'ILE" [printed on white card, with black boarder partly cut away]; "MUSEUM PARIS / I.37 / A. SEYRIG" [printed on blue card, with middle sentence hand written]; "HOLOTYPE / *Micronesomyia / hemihyalina* / sp. nov. ♂ / Det. WHITTINGTON" [first and last lines printed, middle three hand written on red card]. Double mounted on white card. Left anterior orbital damaged, left tarsi missing; right mid leg adhered to mount and left legs re-adhered to body; genitalia dissected and stored in glycerine, in a microvial pinned on same pin as specimen.
Other material – MADAGASCAR: 1♀ **Paratype** (MNHN) same data as Holotype, but with month of date indistinctly written (possibly "II").

Discussion. The lack of good series of specimens of Plastotephritinae from Madagascar is a taxonomic impediment, but *M. hemihyalina* is sufficiently different to other species in this genus group to warrant a separate (monotypic) genus for it.

Distribution. *M. hemihyalina* is known only from the type location in Madagascar (Fig. 684).



Figs 435–444: *Micronesomyia hemihyalina* sp. nov. ♂ Holotype and ♀ Paratype. – **435**: Head, frontal view; – **436**: Head, profile; – **437**: Head, thorax and abdomen, left half, dorsal view; – **438**: Right hind trochanter, inner surface, lateral view; – **439**: Right hind tibia, dorsal view; – **440**: Right wing, dorsal view; – **441**: Male genitalia, right lateral view; – **442**: Ejaculatory apodeme; – **443**: Female ovipositor, protracted; – **444**: Female ovipositor, extended.

Oeciotypa Hendel, 1914

***Oeciotypa* Hendel, 1914 – Hendel (1914a**: **131 [1914b**: **11])** [description]. **Type species**: *Oeciotypa parallelomma* Hendel, 1914, by original designation. Frey (1932: 256) [discussion & key], Frey (1932: 258) [discussion]; Steyskal (1980: 564) [catalogue].

Diagnosis. Body colour generally dark blue-black; pale markings on legs and/or head; wing barred. Abdomen strongly sclerotised and sculptured, hemispherical in shape (tergites arching around laterally and distally to form concave shell; base of setulae surrounded by circle of smooth cuticle devoid of microtrichia.

Etymology. *oeco* – or *oeci* – derived from *οικοσ* – *oikos* Gr. m. = house, home or dwelling and *typo* – derived from *τψποσ* – *typos* Gr. m. = form, impression, shape or mark (as effected by a blow). Relevance of name unknown. Gender masculine.

Description

Dimensions: Body length 3.0 – 3.7 mm; wing length 2.8 – 3.9 mm. **Colour/Vestiture**: Body colour generally dark blue-black; pale markings on legs and head; wing barred. Eyes reddish-brown. Antennae buff to brown. Mouthparts brown; margin of palp buff. Calypter and halter white. Abdominal pleurites matt brown. Setulae silver-white, short and generally reclinate. Silver microtrichia weak on frons and lateral vertex; strong on centre of vertex, on parafacial area and on occiput, on inner side of fore coxae and two dorso-central stripes longitudinally on notum; across posterior margin of notum, on ventral half of anepisternum, entire katepisternum, katatergite, scutellum and mediotergite; on abdomen in some species (Fig. 445).

Head: Elongate and anteroposteriorly compressed, distinctly narrow dorsal to neck. Vertex much narrower than thorax in dorsal view. Face indented slightly under antennae, but lower facial margin projects little at margin. Eyes elongate, oval. Low, poorly developed tubercle ventral to eye. Frons narrowing dorsally. Ocellar triangle positioned forward of orbitals. Antennae pendulous, scape set midway down length of head; arista plumose. Ventral-lateral fringe of long white setulae on pedicel. Middle of vertex slightly sunken below level of top margin of eye; orbital lobes weakly swollen. Gena shallower (frontal view) than distance between apex of antenna and lower facial margin. Postgena slightly swollen, roughly equal to width across lower quarter of eye. Palp flattened, strongly setulose. Supracervical setulae evenly spaced, silver in colour. Setae: 1 on pedicel, 1 divergent ocellar, 1 (*O. hendeli* and *O. disjuncta*) or 2 (*O. parallelomma*, *O. rotundiventris O. skaia* and *O. splendens*) reclinate orbitals, 2 verticals (medial verticals convergent considerably weaker than outer divergent verticals and sometimes pale brown), 1 pale genal; postocellar pair divergent. Postocular row indistinct from background setulae.

Thorax: Setulae silver-white, short to long, recumbent, and quite dense; strongly developed on posterior margin of mesonotum and ventral half of katepisternum. Notum strongly pitted, broader than long, broadest across wing bases. Setae: 1 weak postpronotal, 2 notopleural (posterior one raised on a callus), 1 supra-alar, 1 long postalar, 1 long intra-alar, 1 postsutural dorsocentral, 1 postsutural acrostichal, (both the latter along posterior margin of scutum), 1 basal, 1 lateral and 1 apical scutellar. **Legs**: 2 long pale apical setulae on fore coxa; single long dorsal setae on mid and hind coxae. Mid coxal prong weakly developed. Mid coxa protruding ventrally as flat fringe, curving under trochanter and setulose at apex. Base of fore femur with patch of fine setulae on interior surface. Mid tibia with strong ventral pre-apical seta at least as long as width of tibia at apex. Setulae of legs pale, conspicuous and long basolaterally on fore femur and dorsally on apex of final tarsomere (curving over apex in front of claws). First two tarsomeres of each leg with ventral pad of stout, pale setulae; all tarsomeres with short black preapical setulae on ventral margins, most strongly developed on mid tarsomeres, where these setulae extend in slightly converging lines toward tarsomere base. Empodium setiform, small and inconspicuously situated between large, pale pulvilli. Claws strongly developed. **Wing**: Costa with pre-humeral weakening (but not distinctly broken) marked by stronger setulae basad and weaker setulae apicad. Subcosta sinuous, ending in a small node of hyaline wing membrane before turning toward costa. Setulae dorsally on entire length of R_1 and R_{4+5}. R_1 slightly sinuous; R_{4+5} and M arching forward slightly, before curving posteriad to terminate at wing margin. First basal cell nar-

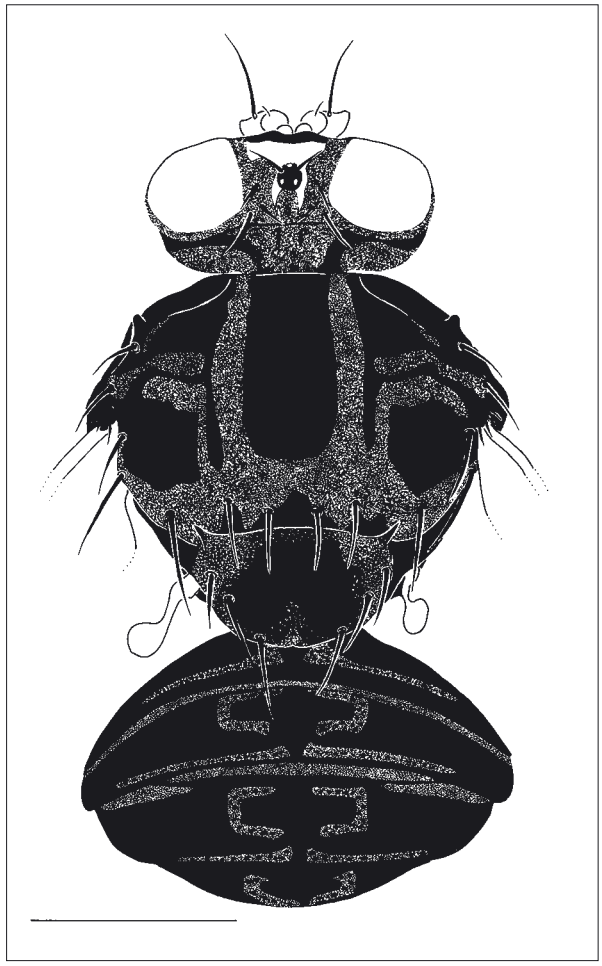


Fig. 445: Dorsal body pattern of *Oeciotypa hendeli* LINDNER, 1957.

rowed at midpoint by strong broadening of second basal cell at apex. Discal cell rectangular, slightly pointed along anterior margin where R-M joins. Apical crossvein of bcu angled backwards towards posterior margin and making an acute angle at anterior apex. CuA_1 and A_1+CuA_2 terminating just before posterior margin.

Abdomen: Strongly sclerotised and pitted, hemispherical in shape (tergites arching around laterally and distally to form a concave shell). Setulae silver, evenly spaced and erect, long at base and apex of abdomen. Sternites narrow, about one sixth as wide as tergites. Pleurites membranous and broad, slightly wrinkled. Male genitalia – S_7 with long dorsal spur midway along its length. Epandrium small, somewhat compressed; ejaculatory apodeme, distiphallus, phallapodeme and hypandrium stout and strongly produced. Small hooks and claws present inside an apical hood on glans. Base of ejaculatory apodeme membranous and large, bulbous. Ovipositor (Fig. 446) – T_6 and oviscape tucked under T_5; T_6 strongly reduced. Oviscape conical, shorter dorsally than ventrally; eversible membrane ornamented on apical half with fine wrinkles. Aculeus blunt ended, finely ornamented with wrinkles, setulose on main body with 4 long apical, 2 fine small medial and 2 long basal setulae. Three barrel-shaped spermathecae. Ovaries elongate, finely spinose, basally flat, but apically rounded.

Included species : *Oeciotypa disjuncta* **sp. nov.**
Oeciotypa hendeli LINDNER, 1957
Oeciotypa parallelomma HENDEL, 1914
Oeciotypa rotundiventris FREY, 1932
Oeciotypa skaia **sp. nov.**
Oeciotypa splendens **sp. nov.**

Discussion. The shield like form of the abdomen in this genus is unusual among Plastotephritinae. In most genera, the abdominal tergites are moderately sclerotised. The two exceptions are *Oeciotypa* with heavy sclerotisation and *Rhegmatosaga* FREY, 1930, in which the

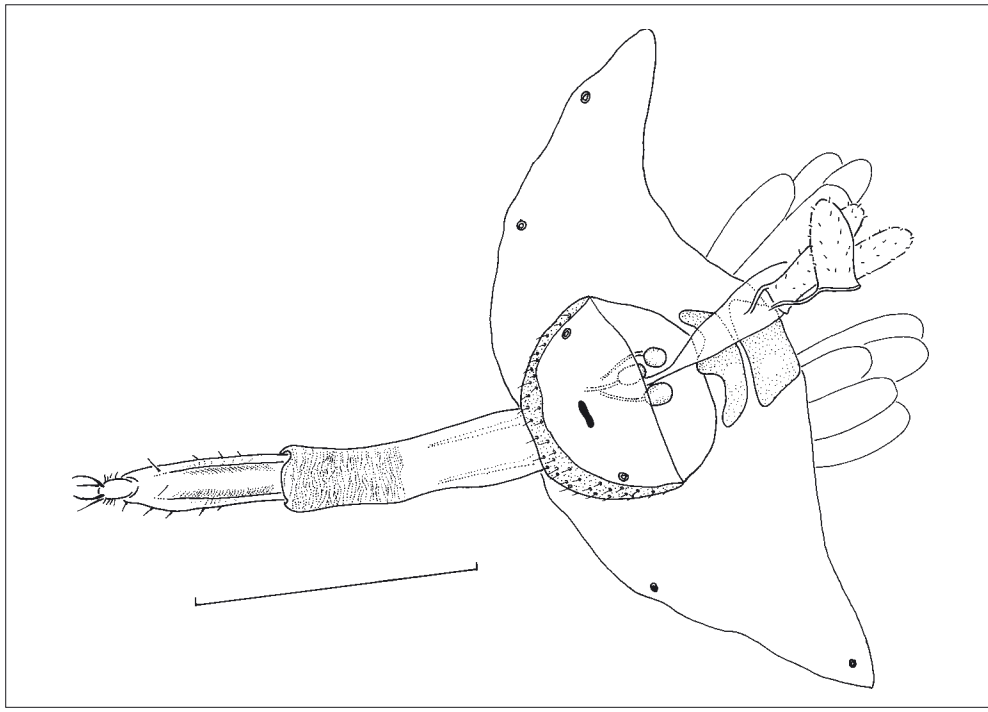


Fig. 446: *Oeciotypa rotundiventris* FREY, 1932, dissected female abdomen, dorsal view.

abdominal tergites are so thinly sclerotised, that they are prone to collapse in dried specimens. These two genera may represent the extremes at either end of a cline of variation. FREY (1932) noted "owing to the strongly chitinized circular abdomen and the shortened subcosta, which is not curved up, it approaches the typical Platystomatinae". Thus he may have considered this a transitional genus between Plastotephritinae and Platystomatinae, but at present the evidence for this is flimsy.

Two species groups can be recognised: *O. disjuncta – O. hendeli – O. parallelomma* and *O. rotundiventris – O. skaia – O. splendens*. These two groups are clearly separated in the key below. Female genitalia vary little interspecifically and have not been found to be diagnostic. On the contrary, wing patterns have been found to vary little intraspecifically and are interspecifically distinct. Thus the presently known species can be distinguished almost entirely by a combination wing pattern and a few other characters (e.g. the microtrichia on the abdomen and the pattern on the frons).

Distribution (Fig. 688): An entirely Afrotropical genus, more widely distributed than other Afrotropical Plastotephritinae, known from the eastern seaboard of South Africa, north to East Africa as far as Kenya and westwards to northern Namibia, Uganda, Zaïre and into West Africa as far as Liberia.

Key to the species of *Oeciotypa*

1 Frons with a black mark on pale buff background (Figs 447, 452 & 460); scutellum flat on dorsal surface (Figs 450 & 462); setulae absent from M and ventrally from R_{4+5} **2**

– Frons pale buff with pale creamy-yellow medial mark (Figs 466, 474 & 479); scutellum lobate on dorsal surface with a broad, but shallow, median furrow (Figs 468 & 476); setulae present on M and ventrally on R_{4+5} **4**

2 Subapical band on wing fully developed (Figs 451 & 465) frons broadly black on pale buff background, pointed on outer dorsal margin such that the apicies of the black mark extending to level with ocellar triangle **3**

– Subapical band on wing broken or incomplete (Fig. 455); black mark on frons in two patches (on pale buff background), usually linked in middle (Fig. 452), sometimes pointed on outer dorsal margin (hence sub-triangular), but then not extending to level with ocellar triangle ..... ***O. hendeli*** **Lindner, 1957**

3 Subapical band linked to discal and radial-medial bands and continuing apically along costal margin to apex of r_{4+5} (i.e. joined to anterior apical band) (Fig. 463); no clear patches in costal cell at or near apex of RS (Fig. 463); face and frons black (Figs 460 & 461); legs predominantly black (only apical tarsomeres buff) ..... ***O. parallelomma*** **Hendel, 1914**

– Subapical band free, not linked to discal band and not continuing around costa to form anterior apical band (Fig. 451); hyaline band present in costal cell across base of RS (Fig. 451); face black with two small yellowish-orange marks touching lower facial margin below antennae (Figs 447 & 448); frons with two sub-triangular black marks (on pale buff background), linked medially and extending to level with ocellar triangle (Figs 447); legs with bi-coloured tibiae of brown and buff markings, mid-tibia mostly buff with basal and apical dark brown bands ..... ***O. disjuncta*** **sp. nov.**

4 Radial-medial band restricted to apex of R_1 (Fig 471), sometimes extending faintly into r_1; subapical band present at apex of R_{2+3} and as single small spot in r_{4+5} (Fig 471); apex of wing clear, at most with faint shadow around apex of R_{4+5} ..... ***O. rotundiventris*** **Frey, 1932**

– Radial-medial band at apex of R_1 extending across r_1 (Fig. 477), sometimes also with mark over R-M; subapical band broadly extending into r_{2+3} and as isolated elongate spots in r_{4+5} and over DM-Cu (Fig. 477); anterior apical band present as a spot at apex of R_{4+5} **5**

5 Black band on face narrow, tapering toward lower facial margin (Fig. 474); legs predominantly pale buff with brown marks and bands; radial-median and subapical brown marks on wing membrane over R-M and DM-Cu faint (seldom present) ..... ***O. skaia*** **sp. nov.**

– Black band on face broad, widening toward lower facial margin (Fig. 479); femora and hind tibia dark brown; radial-median and subapical brown marks on wing membrane over R-M and DM-Cu distinct ..... ***O. splendens*** **sp. nov.**

Oeciotypa disjuncta **sp. nov.**

(Figs 447 – 451, 688)

Diagnosis. Face black with two small yellowish-orange marks touching lower facial margin below antennae. Frons with two sub-triangular black marks (on pale buff background), linked medially and extending to level with ocellar triangle. Scutellum flat on dorsal surface. Legs with bi-coloured tibiae of brown and buff markings, mid-tibia mostly buff with basal and apical dark brown bands. Hyaline band present in costal cell across base of RS. Subapical band free, not linked to discal band and not continuing around costa to form anterior apical band.

Etymology. *disiunctus* L. a. – disunited, separate, referring to the free subapical band of the wing; name suggested by Steyskal, but never published, used here in respect for his work.

Description

Dimensions: Holotype ♀. Body length 3.2 mm; wing length 3.5 mm. **Colour/Vestiture**: Head, thorax and abdominal tergites predominantly dark brown to black. Face glossy dark brown, marked with small dark yellowish mark touching lower facial margin below antennae (Figs 447 & 448). Buff on parafacial area, lunule, gena and ocellar triangle. Brown 449). Scape & pedicel brown except for buff apical patch on pedicel, flagellomere 1 buff, slightly grey dorsally. Ocellar triangle black and surrounded by oval black mark on vertex. Occiput dark brown. Postgena partially buff on margin of eye, but not extending as far as vertex; mouthparts dark brown except posterior band of buff. Coxae dark brown except lateral part of mid coxa which is buff; femora and fore and hind tibiae dark red-brown, femora pale buff apically; mid tibia buff with dark brown basal and apical bands; tarsomeres 1-3 whitish, tarsomere 4 tinged orange-brown and tarsomere 5 brown. Wing hyaline with dark brown markings, veins pale or brown where markings cross them (Fig. 451): basal bands parallel to longitudinal veins; hyaline band present in costal cell across base of RS; discal band broad and protruding into apex of anal cell, joined along apical margin of bcu to sub-basal band, with minute clear spot at apex of bm and bcu; subapical band free, not linked to discal band and not continuing around costa to form anterior apical band. Calypter white. Halter pale whitish-buff. Abdominal pleurites dark buff to brown, sternites brown. Course silver microtrichia conspicuous on: vertex; parafacial area, between ptilinal fissure and antennal insertion; immediately below antennal insertion; flagellomere 1; gena and occiput; margin of subcranial cavity; clypeus; a dense round patch dorsal of occipital foramen, less dense as a broad band to vertex; two dorso-central stripes on notum; margins of transverse suture; posterior margin of notum and post alar wall; baso-lateral margin of scutellum; as a well defined pattern on abdominal tergites (as in *O hendeli*, Fig. 445, but lacking markings on T_5) consisting of open rectangles in middle of abdominal T_3 and T_4.

Head (Figs 447–449): Width of plumosity on arista wider than width flagellomere 1. Lateral parts of vertex weakly raised. Setulae white, generally short, longer on gena and occiput.

Thorax: Setulae silver-white (bronze on brown parts of legs), generally short, but long on anepisternum, anepimeron and katepisternum (especially on ventral margin). Scutellum evenly curved along apical margin; shallowly convex on dorsal surface (not lobate) (Fig. 450); finely covered in silver setulae. **Legs**: Long setulae on apex of coxae and trochanters and laterally on femora and tibiae. Mid coxa with fringe around lateral and ventral margin; mid trochanter with single short apical seta. Fore femur strongly setulose baso-laterally and ventrally, setulae becoming shorter towards apex; well defined oval patch of short setulae basally on inner surface. **Wing**: Setulae on entire length of R_1 and R_{4+5} (dorsal only). Cu_2 curved towards base of wing at junction with Cu. BM-cu and Cu-bm forming sharp angle at apex of bcu (Fig. 451).

Abdomen: As in generic description. Ovipositor – as in generic description.

Variation: Body length: 3.2–3.7 mm; wing length: 3.5–3.6 mm. Male unknown.

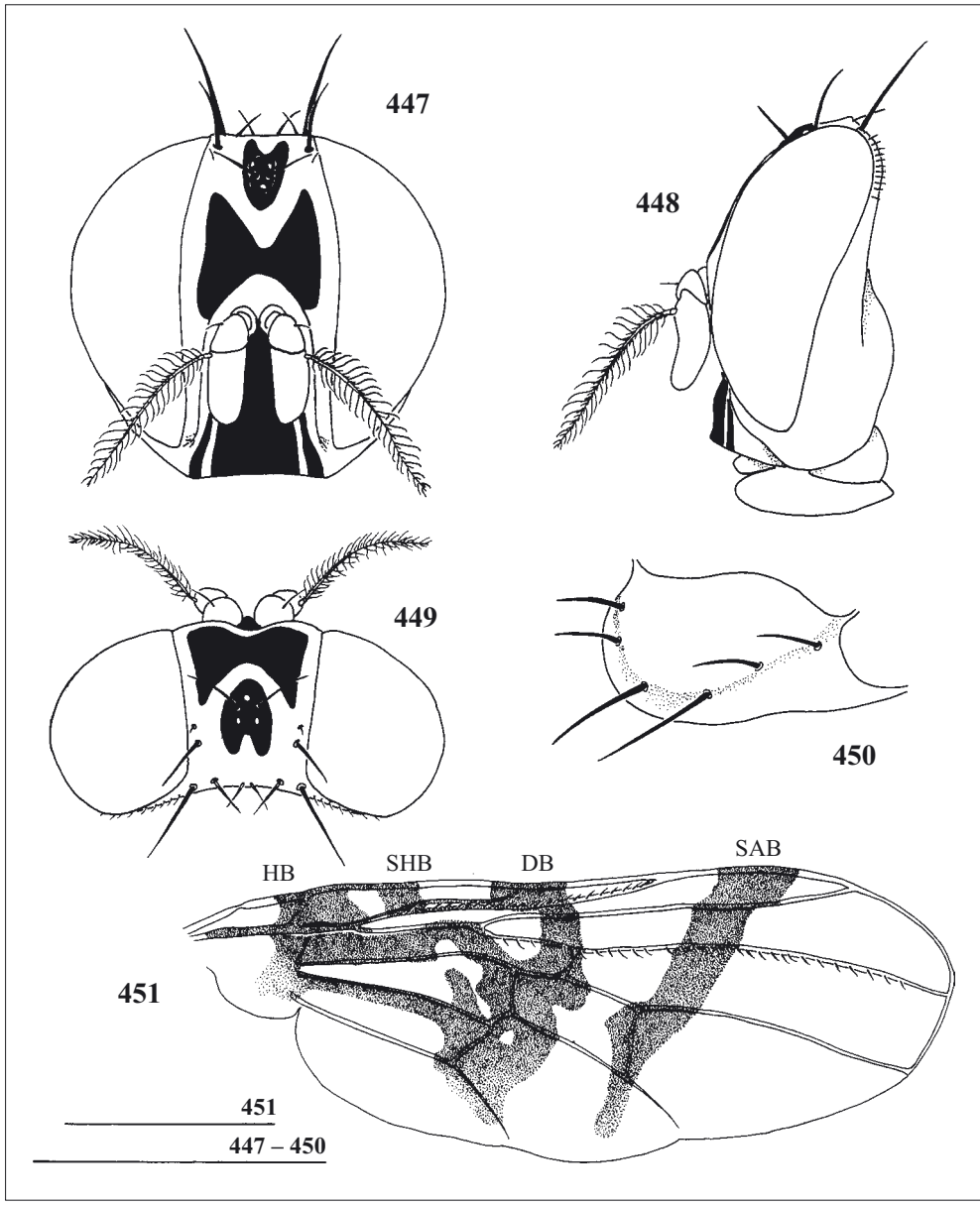
Material examined: **Holotype**: SOUTH AFRICA: ♀ (NMSA) "GWALAWENI FOREST [27°08'S; 31°59'E; ca.500–1000 m] / INGWAVUMA DIST. / LEBOMBO. ZULULAND / STUCKENBERG / February 1957" [printed on white card]; "PARATYPE / [solid line across label] / OECIOTYPA DISJUNCTA / STEYSKAL" [Manuscript name; handwritten, on red card]; "HOLOTYPE / *Oeciotypa* / *disjuncta* / ♀ sp.nov. / Det: A.E. WHITTINGTON" [first and last lines printed, middle three handwritten on red card]. In good condition. Staged on a rectangular piece of polyporous. Genitalia dissected and placed in glycerine in microvial on same pin as specimen.

Other material – **Paratype**: SOUTH AFRICA: 1♀: Durban [29°51'S; 31°00'E, ca. 0–130 m], 4–21.viii.1933, W.E. MARRIOTT (bait trap) (NMSA).

Discussion. Only two specimens are known and these were recognised by STEYSKAL (unpublished manuscript) as a distinct species. His manuscript labels remain on the pins and the name has been retained in respect for his work.

The species is sympatric with the southern limits of the distribution of *O. hendeli*. The two species can easily be distinguished by the key characters given above and especially by the complete subapical band on the wing of *O. disjuncta*.

Distribution. *O. disjuncta* is only known from the type locality in KwaZulu–Natal, South Africa (Fig. 688).



Figs 447–451: *Oeciotypa disjuncta* sp. nov. – **447**: Head, frontal view; – **448**: Head, lateral view; – **449**: Head, dorsal view; – **450**: Scutellum, oblique posterior view; – **451**. Right wing, dorsal view. HB = humeral band; SHB = subhumeral band; DB = discal band; SAB =subapical band.

Oeciotypa hendeli Lindner, 1957

(Figs 445, 452 – 459, 688)

***Oeciotypa hendeli* Lindner, 1957** – Lindner (1957: 32.) [description] Steyskal (1965: 172) [list]; Steyskal (1980: 564) [catalogue].

Diagnosis. Face broadly black with two yellowish-orange lateral stripes touching lower facial margin below antennae sometimes meeting at midpoint along lower facial margin. Frons black

in two patches (on pale buff background) usually linked in middle sometimes pointed on outer dorsal margin (hence sub-triangular), but then not extending to level with ocellar triangle. Ocellar triangle black. Scutellum flat on dorsal surface. Subapical band on wing broken or incomplete; discal band touching R-M and joined along costa to radial-medial band; radial-medial band truncated and subapical band faint across r_1 and DM-Cu. Tibiae dark brown, marked with indistinct pale buff patches, sometimes mid tibia pale buff with narrow basal medial and apical bands. Pattern of open rectangles of silver microtrichia present on T_3 and T_4.

Etymology. Named by Erwin LINDNER (Stuttgart) on behalf of the eminent Dipterist and author of this genus, Friedrich HENDEL from Vienna.

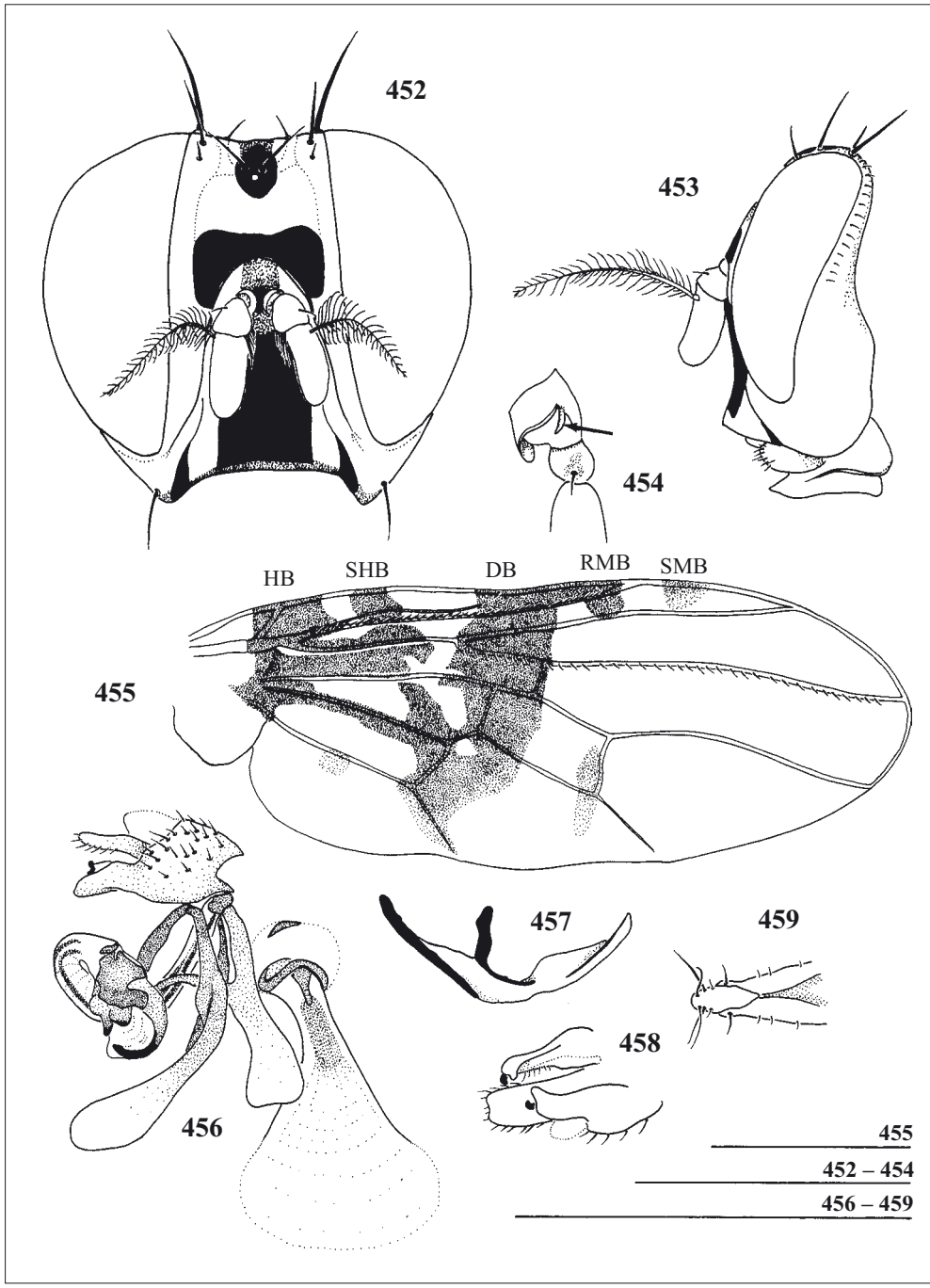
Description

Dimensions: Holotype ♂. Body length 3.3 mm; wing length 3.4 mm. **Colour/Vestiture**: Head buff; thorax and abdominal tergites black. Face glossy dark brown, with two yellowish-orange lateral stripes touching lower facial margin below antennae sometimes meeting at midpoint along lower facial margin (Fig. 452). Supra-ptilinal hemisphere pale orange-brown marked with two dark brown subtriangular patches (Fig. 452). Lateral part of vertex pale orange-brown. Scape and pedicel orange-brown, flagellomere 1 tinged grey-brown dorsally and apically; ocellar triangle black and surrounded by oval black mark on vertex; occiput dark brown, but pale creamy-white adjacent to margin of eye; medial vertex and parafacial area adjacent to margin of eye pale whitish. Posterior surface of gena and mouthparts brown (palp pale at apex). Coxae and femora dark red-brown, pale buff apically. Fore and hind tibiae dark brown with sub-apical and sub-basal yellow-buff bands; mid tibia yellow-buff with sub-apical and sub-basal dark brown bands and a narrow apical dark brown fringe. All tarsi yellow-buff. Wing hyaline with brown veins and dark brown markings (veins darker where markings cross them). Humeral and sub-basal bands joined in br, separate again across bm and joined along anterior edge of bcu; discal band broad and reaching into anal cell, joined along apical margin of bcu to sub-basal band; minute clear spot at apex of bm and bcu; small feint patch midway along posterior margin of bcu; discal band crossing R-M and joined along costa to radial-medial band; radial-medial band truncated and subapical band faint across r_1 and DM-Cu (Fig. 455). Calypter white. Abdominal pleurites buff, sternites brown. Male genitalia dark brown. Course silver microtrichia conspicuous (Fig. 445) on: vertex; parafacial area; lunule; immediately below antennal insertion; gena and occiput; clypeus; in dense patch around occipital foramen; two dorso-central stripes on notum; margins of transverse suture; posterior margin of notum; dense tuft on apical margin of scutellum giving impression of an indentation; well defined pattern on abdominal tergites consisting of open rectangles in middle of abdominal T_3 and T_4 (Fig. 445). Short setulae on postero-ventral anepisternum, anepimeron, medial and ventral katepisternum, postalar bridge and scutellum. Scutellum finely covered in silver setulae.

Head (Figs 452 & 453): Width of plumosity on arista about as wide as flagellomere 1. Lateral parts of vertex weakly raised. Setulae white, generally short, longer on gena and occiput.

Thorax: Setulae silver-white, generally short, long on katepisternum (especially on ventral margin). Scutellum evenly curved along apical margin, but appearing indented because of pruinescent tuft; evenly convex on dorsal surface (not lobate). **Legs**: Long setulose, especially on apex of coxae and trochanters and laterally on femora and tibiae; mid coxa fringed by lateral and ventral margin, lateral prong present (Fig. 454); mid trochanter with single short apical seta, surrounded by patch of fine setulae (Fig. 454); fore femur strongly setulose baso-laterally and ventrally, some black setulae towards apex; an irregularly shaped basal patch of short setulae on inner surface of fore femur; mid femur strongly setulose laterally and ventrally; hind femur slightly humped dorsally beyond midpoint and having dense fine setulae on ventral surface mixed with widely spaced long setulae. **Wing** (Fig. 455): Setulae on entire length of R_1 and R_{4+5} (dorsal only). Apical crossvein of bcu curved towards base of wing at junction with Cu.

Abdomen (Fig. 445): As in generic description. Genitalia (♂) – Epandrium small, subsquare, evenly covered with numerous setulae (Fig. 456). Proctiger subsquare, projecting forward across hypoproct (Fig. 456). Hypoproct fused, square at apex, strongly setulose dorsally and along outer margin (Fig. 458). Lateral surstylus apically blunt (Fig. 456) and curved around apex of medial surstylus, with a small apico-ventral projection (Fig. 458). Apex of medial surstylus sclerotised, bilobed (Fig. 456); stem of medial



Figs 452–459: *Oeciotypa hendeli* Lindner, 1957. – **452**: Head, frontal view; – **453**: Head, lateral view; – **454**: Mid-coxal prong (arrow); – **455**: Right wing, dorsal view; – **456**: Dissected male genitalia, lateral view; – **457**: Male sternite 7+8, ventral view; – **458**: Dissected male genitalia, ventral view; – **459**: Apex of female aculeus. HB = humeral band; SHB = subhumeral band; DB = discal band; RMB = radial-medial band; SAB =subapical band.

surstylus narrow and setulose on inner surface (Fig. 458). Distiphallus stout. Glans bulbous, with blunt apical cap (Fig. 456). Ejaculatory apodeme, broadly spatulate, with a large flat distal plate (damaged in dissection) and a large bulbous unsclerotized basal lobe attached to short, unsclerotized ejaculatory duct (Fig. 456). Arms of phallapodeme and hypandrium broadly developed, apices spatulate and poorly sclerotised (Fig. 456). S_7 with a long dorsal spur midway along its length (Fig. 457).

Variation: ♂ Body length: 3.1–3.4 mm; wing length: 3.1–3.5 mm. ♀ Body length: 3.0–3.4 mm; wing length: 2.8–3.4 mm. Shape of markings on frons and extent of dark coloration of face may vary. For example, male specimen from Kutu [KBIN] has face almost entirely black. Tibiae of mid leg are sometimes paler than fore and hind legs. In some specimens there is a second (lower) fronto-orbital socket (without well developed seta) on one side of the frons or the other. Female specimen from Moto [= Watsa, Northern Zaïre; (MRAC)] has lateral parts of vertex brown and the female from Diani Beach [Kenya; (BMNH)] has the face, and frons extensively brown. Pruinescent tuft on apex of scutellum sometimes indistinct, sometimes acutely developed. Dorsal surface of scutellum flattened in some specimens. Some specimens, most particularly female specimen from Moto [= Watsa; (MRAC)], and male from Kutu [KBIN] have an indistinct rectangular pruinescent pattern on T_3 and T_4, other specimens have distinct and abundant microtrichia with rectangles linked proximally and distally to basal and apical bars. Halter pale whitish-buff. ♀ Genitalia (Fig. 13.15) as for generic description.

Material examined: **Holotype**: TANZANIA ♂ (SMNS) "Kware b[ei = near]. Moshi [03°21'S; 37°19'E; ca.500–1000 m] / 27.XII.–13.I.1952 / D.O. Afrika Exp." [printed on dark blue label]; "3.I." [handwritten, slightly blurred, on white paper; face-down on pin]; "*Oeciotypa* / *Hendeli* / LIND. / LINDNER det." [handwritten except for printed last line on whitish card with black boarder]; "Typus / LINDNER. 1956" [handwritten in red ink on whitish card, year sideways]; "HOLOTYPE / *Oeciotypa hendeli* ♂ / LINDNER, 1957 / Det: A.E. WHITTINGTON" [on white card with red boarder, first line printed in red ink, remainder handwritten with 1 and 9 of date spaced by pin hole]. In good condition, halter missing. Staged on a rectangular piece of card. Genitalia dissected and placed in glycerine in microvial on same pin as specimen.

Other material – ZAÏRE: 1♀ Haut, Uelé [Haut–Zaïre – i.e. Upper or Northern Zaïre] Moto [= Watsa; 03°02'N; 29°33'E, 1080 m], 1920, L. BURGEON (MRAC); 2♂♂ Bangala District, Kutu [02°42'S; 18°10'E; ca. 200–500 m], 17 & 25.vi.1935, G. SETTEMBRINO (KBIN). UGANDA: 1♂ Chobe [02°15'N; 32°10'E; ca. 500–1000 m], 23.i.1972, A. FREIDBERG (TAUI). KENYA: 1♂ Ukamba [District], Kitonyoni River [01°58'S; 37°40'E], viii.1947, VAN SOMEREN (BMNH); 3♂♂ 4♀♀ and 1? Nairobi [01°17'S; 36°50'E, ca.1500 m], Zone H,HZS 3181, 13.x.1951 (1♀), 14.x.1951 (1♀), 17.x.1951 (1♂), 21.xii.1951 (1♀, 1?), 31.xii.1951 (2♂♂ 1♀) L.C. EDWARDS, B.M. 1952–403 (BMNH); 1♀ Diani Beach [04°19'S; 39°33'E; ca 20 m], vii.1951, N.L.H. KRAUSS, B.M. 1951–541 (BMNH). TANZANIA: 1♀ Uluguru mountains, Kimboza forest [07°02'S; 37°47'E], 18.vii.1981, M. STOLTZE & N. SCHARFF, 250 m (UZMC). ZIMBABWE: 1♀ Gota Gota, Urungwe [16°17'S; 29°04'E], 7.x.1938, W.L. WILLIAMS, Department of Agriculture (BMNH). NAMIBIA: 1♂ 5♀♀ East Caprivi Zipfel, Katima Mulilo [= Ngweze 17°27'S; 24°10'E; ca. 1000 m], 22–26.x.1970, H.D. BROWN (SANC). SOUTH AFRICA: 1♀ Umhlanga Rocks [29°44'S; 31°05'E, 20 m], 4.i.1955, E. CALLAN (USNM); 2♀♀ Durban [29°51'S; 31°00'E, 0–130 m], vi.1926, E.W. RUST (NMSA); 1♀ Durban [29°51'S; 31° 00'E, 0–130 m], 30.v.1936, W.E. MARRIOTT (USNM).

Discussion. A large amount of variation occurs in some specimens of this species. The specimens from Zaïre have the rectangular pruinescent pattern on the tergites less well developed (almost entirely absent in two of the specimens) and the orbital plate dark brown. The pin of the Moto (Zaïre) specimen bears a Det. label from G.A. MARSHALL identifying the fly as *O. rotundiventris*, which is incorrect. Thus at present this specimen and the two deposited in KBIN from Kutu (Zaïre) represent the most westerly extent of the distribution of *O. hendeli*.

The female from Diani Beach [Kenya; (BMNH)], which has the face and frons extensively brown, has colour characters transitional between *O. disjuncta* and *O. parallomma*. Nevertheless, the other morphological characters of this specimen agree with *O. hendeli*.

The pattern of open rectangles of silver microtrichia on T_3 and T_4 is also found in the partly sympatric species *O. disjuncta*. Superficially these two species are morphologically similar. They can be easily separated by the pattern of the frons and wing.

Distribution. *O. hendeli* is known from central, East and southern Africa, from Zaire, Uganda, Kenya, Tanzania, Zimbabwe, Namibia and South Africa (Fig. 688). STEYSKAL (1965) listed a specimen from Zimbabwe, which I have not examined: Matetsi [18°14'S; 25°59'E; ca. 900 m], 1.xii.1933, R.H.R. STEVENSON (AMNH). The Namibian specimens are unusual in that few Plastotephritinae are known from Angola and Namibia. As is to be expected, these specimens come from the moister North-eastern district of Caprivi.

Oeciotypa parallelomma Hendel, 1914

(Figs 460–465, 688)

***Oeciotypa parallelomma* Hendel, 1914** – Hendel (1914b: 281) [description] Speiser (1915: 99) [discussion]; Frey (1932: 258) [discussion]; Steyskal (1963: 133) [list]; Steyskal (1980: 564) [catalogue].

Diagnosis. Face and frons black. Parafacial area dull brown. Scutellum flat on dorsal surface. Subapical band on wing fully developed across the wing, linked to discal and radial-medial bands and continuing apically along costal margin to apex of r_{4+5} (i.e. joined to anterior apical band); no clear patches in costal cell at or near apex of RS. Legs predominantly black (only apical tarsomeres buff).

Etymology. *παραλλελοσ – parallelos* Gr. = side by side, equidistant; and *λομα – loma* Gr. n. = fringe. The inference of this combination is not clear, but it may refer to the colour pattern of the parafacial area or to the distinctive wing pattern.

Description

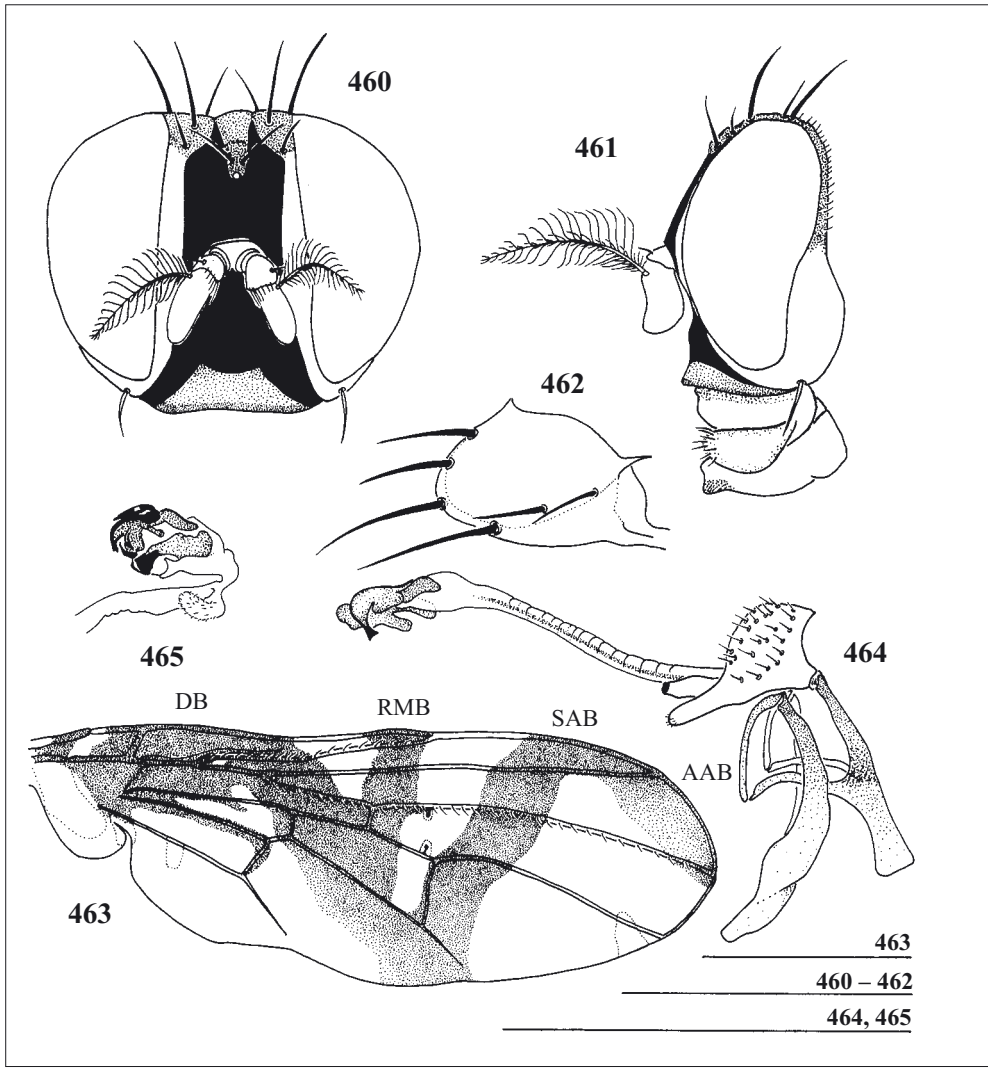
Dimensions: Holotype ♀. Body length 2.7 mm (head missing); wing length 3.2 mm. **Colour/Vestiture** [Head details added from other specimens]: [head], thorax (including legs) and abdominal tergites predominantly dark brown to black. [Parafacial area, upper gena and post ocular region dull brown; flagellomere 1 pale brown; small spot under antennal insertion, apex of palp and dorsal ridge of labium buff-yellow (Fig. 460)]. Tarsomeres one to four of each leg pale buff-yellow (base of first tarsomere brown). Wing veins pale, except brown where markings cross them. Wing membrane hyaline with dark brown markings: subapical band linked to discal and radial-medial bands and continuing apically along costal margin to apex of r_{4+5} (i.e. joined to anterior apical band) (Fig. 463). Calypter white. Halter pale cream-coloured. Abdominal pleurites dark buff to brown, sternites brown. Fine silver microtrichia widespread on body surface, conspicuous on: vertex; parafacial area, between ptilinal fissure and antennal insertion; immediately below antennal insertion; flagellomere 1; gena and occiput; margin of subcranial cavity; clypeus; postpronotal lobe and notopleuron; posterior margin of notum and post alar wall; baso-lateral margin of scutellum. Short setulae on: postero-ventral anepisternum, anepimeron, medial and ventral katepisternum. Conspicuously absent from centre face and occipital foramen; no dorso-central stripes on notum; no defined pattern on abdominal tergites.

[**Head**: Description derived from other material. Width of plumosity on base of arista wider than width flagellomere 1 (Fig. 461). Lateral parts of vertex weakly swollen into lobes (Fig. 460). Setulae white, generally short, longer on gena and occiput.]

Thorax: Setulae silver-white; with bronze sheen on notum and brown parts of legs; generally short, but long on anepisternum, anepimeron and katepisternum (especially on ventral margin). Scutellum not lobate, evenly and moderately curved along apical margin, and dorsally flattened (Fig. 462); finely covered in silver setulae. **Legs**: Long setulae on apex of coxae and trochanters and ventrally on mid and hind femora. Mid coxa fringed with lobe around lateral and ventral margin. Mid trochanter with single short apical seta. **Wing** (Fig. 463): Setulae on entire length of R_1 and R_{4+5} (dorsal only). Apical crossvein of bcu straight.

Abdomen: As in generic description. Genitalia – see variation.

Variation: ♂ and ♀ Body length: 3.0–3.5 mm; wing length: 2.9–3.5 mm. Teneral specimens tend to be brown rather than black and some also have facial marks more restricted. Pale or yellow-buff may be more widespread on mouthparts, occurring on posterior lobe as well as on anterior parts. Occasional specimens have faint brown spot in cells r_{4+5} and m centred near apex of vein M. Last tarsomere sometimes pale. Genitalia (♂) – Epandrium small, subsquare, evenly covered with numerous fine setulae (Fig. 464). Proctiger membranous, poorly developed. Hypoproct fused, setulose along margin. Lateral surstylus curving slightly in front of and under medial surstylus, blunt ended and apically setulose (Fig. 464). Medial surstylus distally bent inwards, terminating in elongate sclerotised bar, u-shaped in cross section. Distiphallus stout, strongly annulate; unsclerotised finger-like caeca (Fig. 465), covered in fine setulae at apex. Glans elongate, apically blunt (Fig. 464 & 465). Ejaculatory apodeme, strongly sclerotised, broadly spatulate, with a large flat distal plate and a large bulbous partially sclerotised basal lobe. Vanes of phallapodeme broadly developed, apices narrowly spatulate and poorly sclerotised (Fig. 464). Hypandrium broadened laterally into flat lateral flange, apically broad, less strongly sclerotised than phallapodeme (Fig. 464).



Figs 460–465: *Oeciotypa parallelomma* HENDEL, 1914. – **460**: Head, frontal view; – **461**: Head, lateral view; – **462**: Scutellum, oblique posterior view; – **463**: Right wing, dorsal view; dotted lines = variable brown marks; – **464**: Dissected male genitalia, lateral view; – **465**: Glans in detail 90° to figure 464. DB = discal band; RMB = radial-medial band; SAB = subapical band; AAB = anterior apical band.

Material examined: **Holotype**: GHANA: ♀ (BMNH) "♀ / Type" [printed, round label with red boarder]; ""Caught in bush"" [handwritten on white card]; [printed on white card]; "*Oeciotypa* / det. F. HENDEL / *parallelomma* / H." [handwritten on white card, except for printed second line]; "Obuasi, / Ashanti, W.Africa. [06°12'N; 01°40'W; ca.200 m] / 29.v.1907. / Dr. W.M. GRAHAM. / 1908 – 245." [printed on white card]. "HOLOTYPE / *Oeciotypa* / *parallelomma* ♀ / HENDEL, 1914 / Det: A.E. WHITTINGTON" [first and last lines printed, middle three handwritten on red card]. In poor condition. Staged on a rectangular piece of celluloid, head missing, only right mid and hind legs present, right fore leg adhered to right katepisternum; wings slightly crumpled, right wing broken near pterostigma. Genitalia not dissected because of poor condition of this specimen.
Other material – LIBERIA: 1♀ Mt. Coffee [6°29'N; 10°39'W], iv. 1897, R.P. CURRIE (USNM). IVORY COAST: 2♂♂ 1♀, 1? Taí region [05°15' – 06°07'N; 07°25' – 07°54'W, 80 – 623m], vicinity of the Tropical Ecology Station, 28 – 30.i.1985, G. COUTURIER & V. VAN ZEIJST, ORSTOM – Paris Mission UNESCO, Biotype 23, on foliage in dense, humid rain forest (TAUI; 1♂ NMSE); 1♂ 3♀♀, Taí region [05°15' – 06°07'N; 07°25' – 07°54'W, 80 – 623m], vicinity of

Gouleako, 23–25.i.1985, G. Couturier & V. van Zeijst, ORSTOM–Paris Mission UNESCO, Biotype 21, secondary forest (TAUI); 3♂♂ 4♀♀ with same data as previous, but dated 14–19.ii.1985 (TAUI; 1♀ NMSE); 1♀ Taí region [05°15'–06°07'N; 07°25'–07°54'W, 80–623m], vicinity of Gouleako, 13.ii.1985, G. Couturier & V. van Zeijst, ORSTOM–Paris Mission UNESCO, Biotype 26, on foliage (TAUI); 1♂ 1♀ Taí region [05°15'–06°07'N; 07°25'–07°54'W, 80–623m], vicinity of Gouleako, 18–22.iii.1985, G. Couturier & V. van Zeijst, ORSTOM–Paris Mission UNESCO, Biotype 24, under *Macarnaga hurifolia* (TAUI). TOGO: 1♂ Akpossa Sodo [07°23'N; 00°48'E; 500–1000 m], 2–21.I.1982, G.J. Steck (TAUI). NIGERIA: 1♀ West State, Ile–Ife [07°28'N; 04°34'E], 16.iii.1975, J.T. Medler (NMWC); 1♀ Lagos State, Lagos [06°27'N; 03°28'E], Isheri, 18.xi.1973, M.A. Cornes (NMWC). CAMEROUN: 1♀ Ebolowa–Nkuemvone, Rocher d'Akouakas [02°38'N; 11°21'E, ca. 500–1000 m], 22.viii.1967, L. Matile (MNHN).

Discussion. This species is easily distinguished by the wing pattern, which is more widespread across the membrane that any other species in this genus, and by the other key characters mentioned in the key and diagnosis.

In the Nigerian female specimen from Ile–Ife (NMWC), the shading of the wing is strongly developed, being darker than most specimens. Furthermore it shows an interesting aberration in the wing venation. On the left wing there are two venational nodes in r_{4+5} emanating from R_{4+5} and M, distad of crossvein R-M (Fig. 13.21). There is a further undeveloped node on M, distad of crossvein DM-Cu. These are all surrounded by dark brown patches. On the right wing the r_{4+5} nodes are linked to form a second R-M crossvein, which is shaded along its full length. The node distal to DM-Cu is not present on the right wing.

Distribution. *Oeciotypa parallelomma* has an entirely West African distribution, known from Liberia, Ivory Coast, Ghana, Togo, Nigeria and Cameroun (Fig. 688). Speiser (1915) lists a female specimen from Soppo [04°09'N; 09°17'E] and Steyskal (1963) lists 2 specimens from Lolodorf [03°17'N;10°50'E; ca. 500 m], 8.vii.1911 and 28.ii.1921, A. I. Good (CMNH), both places in Cameroun. I have not examined these specimens.

Oeciotypa rotundiventris Frey, 1932

(Figs 446, 466–473, 688)

***Oeciotypa rotundiventris* Frey, 1932** – Frey (1932: 257, pl.VII, fig. 20) [description] Steyskal (1980: 564) [catalogue].

Diagnosis. Face pale buff with narrow glossy dark brown medial band (narrowing towards lower facial margin) and with small black marks at distal edges of lower facial margin. Frons pale buff with pale creamy-yellow ptilinal mark. Ocellar triangle black. Scutellum lobate on dorsal surface with a broad, but shallow, median furrow. Discal band curved away from R-M toward A_1+Cu_2. Radial-medial band free from discal band, restricted to small spot at apex of R_1. Subapical band present at apex of R_{2+3} and as single small spot in r_{4+5}. Apex of wing clear, at most with a faint shadow around apex of R_{4+5}. Setulae present on M and ventrally on R_{4+5}.

Etymology. *rotundus* L. – circular, spherical; *venter* L. m. – belly; perhaps referring to the strongly concave abdomen.

Description

Dimensions: Lectotype ♂: Body length 3.4 mm; wing length 3.9 mm. **Colour/Vestiture**: Head buff; thorax and abdominal tergites black. Face glossy, marked with vertical dark brown medial stripe, narrowing at lower facial margin (Fig. 466); hemispherical supra-ptilinal mark pale creamy-yellow. Scape and pedicel orange-brown, flagellomere 1 tinged grey-brown dorsally. Ocellar triangle black. Occiput dark brown, but pale creamy-white adjacent to margin of eye. Medial vertex pale whitish, orbital plate orange-brown. Posterior surface of gena and mouthparts brown (palp pale at apex). Notopleural callus and apical margin of scutellum dark red-brown. Coxae and femora dark red-brown (fore femur yellow-buff at apex). Fore tibia yellow-buff with lateral oval brown marks; mid tibia yellow-buff with broad basal dark brown ring; hind tibia dark brown. All tarsi yellow-buff, with final tarsomeres slightly darkened. Wing hyaline with brown veins and dark brown markings (veins darker where markings cross them): humeral and sub-basal bands joined in br, with sub-basal not continued beyond br; discal band broad and reaching into anal cell, joined along anterior margin of bcu to humeral band, with minute clear spot at apex of bm and bcu; radial-medial band restricted to apex of R_1; subapical band existent only at apex of R_{2+3} and a small spot midway along anterior margin of r_{4+5}; apex of wing clear, at most

with faint shadow around apex of R_{4+5} (Fig. 471). Calypter white. Halter pale whitish-buff. Abdominal pleurites buff, sternites brown. Male genitalia dark brown. Course silver microtrichia conspicuous on: occiput as margin to eye, vertex; parafacial area and gena; clypeus; line from vertex to occipital foramen; two dorso-central stripes on notum (Fig. 468); posterior margin of notum; postero-ventral anepisternum; medial and ventral katepisternum; base and broad medial furrow of scutellum; and to lesser extent on other parts of occiput, thorax, abdomen and legs; intermixed with short setulae on postalar bridge and scutellum.

Head: Width of plumosity on arista about as wide as flagellomere 1 (Fig. 467). Orbital plates slightly raised. Setulae white, generally short, longer on gena and occiput.

Thorax: Setulae silver-white, generally short, long on anepisternum, katepisternum (especially on ventral margin) and anepimeron. Scutellum distinctly lobate with margin and dorsal surface with slight bulbous callus laterally, separated by broad, but shallow furrow; this furrow being densely filled with vestiture and broadening across base of scutellum (Fig. 468). **Legs**: Coxae terminating laterally and ventrally in pale setulae; mid coxa fringed around lateral and ventral margin; laterprong present. Fore and mid trochanters with single short apical seta. Fore femur strongly setulose baso-laterally and ventrally, becoming shorter towards apex and with a well defined basal patch of short setulae on inner surface (Fig. 469). Mid femur strongly setulose ventrally. Hind femur bent slightly upwards beyond midpoint and bearing strongly developed setulae apico-dorsally; apical and medial rows of black setulae ventrally on tarsomeres, especially noticeable on mid tarsus. **Wing**: Setulae on entire length of R_1 and R_{4+5} (evenly spaced and on both surfaces of R_{4+5}) and on M between cross-veins R-M and DM-Cu (Fig. 471). Apical crossvein of bcu evenly curved along its length.

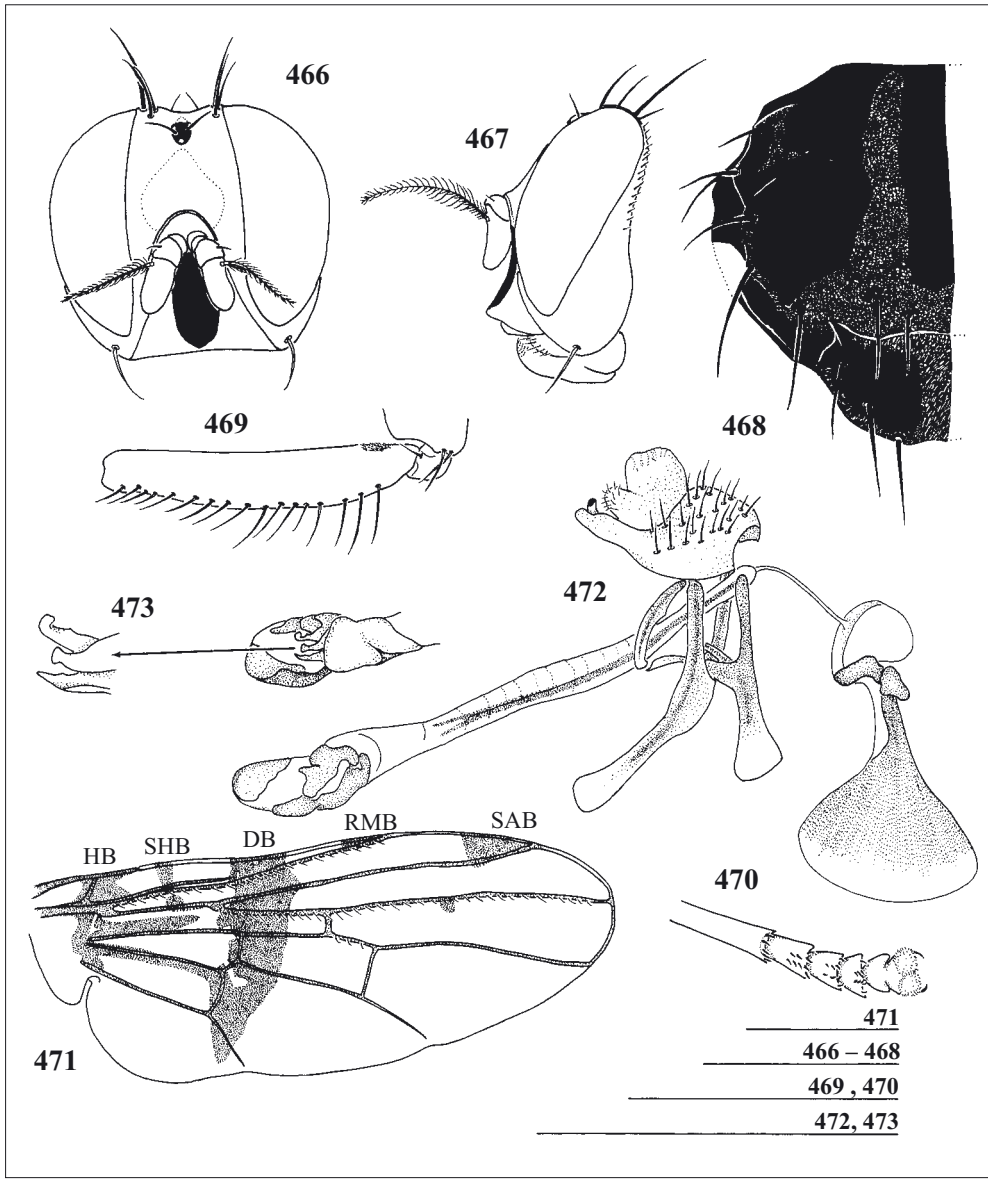
Abdomen: As in generic description. Genitalia (♂) – Epandrium small, subsquare, evenly covered with numerous setulae. Proctiger subsquare (Fig. 472), projecting forward across hypoproct; finely setulose around base. Hypoproct strongly setulose dorsally and along outer margin. lateral surstylus blunt ended and curved around front of surstyli. Medial surstylus with elongate sclerotised bar at apex, fused basally to lateral surstylus. Distiphallus stout. Glans elongate, with blunt-ended apex; inside inner cavity are 2 curved and pointed appendages (terminal filaments?) either side of central blunt ended acrophallus (Fig. 473). Ejaculatory apodeme, strongly sclerotised, broadly spatulate, with large flat distal plate and large bulbous unsclerotized basal lobe attached to short, unsclerotized ejaculatory duct (Fig. 472). Arms of phallapodeme and hypandrium broadly developed, apices narrowly spatulate and poorly sclerotised.

Variation: ♂ Body length: 3.1–3.5 mm; wing length: 3.3–3.8 mm. ♀ Body length: 3.1–3.6 mm (head poorly adhered to thorax); wing length: 3.5–3.9 mm. In some male specimens vertex completely orange-brown and/or lacking any red-brown in the scutellum. Subapical band on wing sometimes developed more darkly at apex of R_1 and then faintly in r_1. Discal and anterior apical bands may extend further in r_1 and r_{2+3} in specimens from western extension of distribution range. Head of female specimen appears to have been glued in place and may have been from a specimen of *Oeciotypa parallelomma* HENDEL, 1914, since it has characters of this species. Ovipositor – as for generic description.

Material examined: **Lectotype**: MALAWI ♂ (BMNH) "Type" [printed, round label with red boarder]; "Pres. by / Imp. Inst. Ent. / Brit. Mus. / 1931–56." [printed on whitish card]; "*Oeciotypa* / *rotundiventris* / FREY / FREY det." [handwritten except for printed last line on whitish card]; "Nyasaland: / Limbe. [15°50'S; 35°03'E] / 24.ix.1916. / 4000 ft. / R.C. WOOD." [handwritten on whitish card]; "At flowers of / mango" [handwritten on large round label of whitish card, with:] "24.9.16 / Limbe / Nyasaland. / 4000' (R.C.W.) / 671" [handwritten on underside]; "Spec.typ.No".. / ....." [printed in red paper, with:] "phot." [handwritten on white paper and adhered to the red paper below the dotted line]; "LECTOTYPE / *Oeciotypa* / *rotundiventris* ♂ / FREY, 1932 / Det. WHITTINGTON" [first and last lines printed, middle three handwritten on red card]. Left vertical seta and right ocellar seta missing, right ocellar and fronto-orbital broken in half, left notopleural seta missing, all but three scutellar setae broken or missing and left wing slightly damaged at junction of R_1 and C. Staged on a rectangular piece of celluloid plastic, yellowed with age. Genitalia dissected and placed in glycerine in microvial on same pin as specimen.

Other material — **Paralectotypes**: MALAWI: 3♂♂ (BMNH), 2♀♀ (on one pin; UZMH) Limbe [15°50'S; 35°03'E], 24.ix.1916, 4000 ft. [1220 m], R.C. WOOD; 1♂ 1♀ Limbe [15°50'S; 35°03'E], Chiromo [16°33'S; 35°10'E], Ruo River [15° 54'S; 035° 39'E], 24.ix.1916, R.C. WOOD (BMNH).

Other material — ZAÏRE: 1♀ Bambesa [03°25'N; 25°43'E; ca. 500–1000 m], 15.v.1938, P. HENRARD (MRAC); 1♀ Stanleyville [= Kisangani 00°33'N; 25°14'E; ca. 500 m.] 4.iii.1928, A. COLLART (MRAC); 1♀? P.N.A. Secteur Nord, riv. May ya Moto, affl.g. Talya [= Talia 00°31'S; 29°20'E], 17.v.1957, P. VANSCHUYTBROECK, 1180 m, VS 30 (MRAC); 1♂ 1♀ Kivu [province] Rutshuru [01°11'S; 29°28'E], 6 or 8.vi.1934, G.F. DE WITTE, 1285m, 431 (MRAC); 1♀ P.N.A.



Figs 466–473: *Oeciotypa rotundiventris* Frey, 1932. – **466**: Head, frontal view; – **467**: Head, lateral view; – **468**: Notum and scutellum, left hand-side dorsal view; – **469**: Left fore-femur, lateral view; – **470**: Left mid-tarsus, ventral view; – **471**: Right wing, dorsal view; – **472**: Dissected male genitalia, lateral view; – **473**: Glans in detail 90° to figure 472. HB = humeral band; SHB = subhumeral band; DB = discal band; RMB = radial-medial band; SAB =subapical band.

Rumangabo [01°20'S; 29°21'E; ca. 1500 m] (Kyniantuku), 6.iv.1945, G.F. de Witte, 22 (mrac); 1♂ Lake Kivu, Ruabungu [ca. 01°35'S; 29°05'E; ca. 1500 m] 17.x.1935, H. Damas (mrac); 1♂ North Lake Kivu, Rwankwi [ca. 01°35'S; 29°05'E; ca. 1500 m] 15.ii.1952, J.V. Leroy (mrac); 1♂ Bangala District, Kutu [02°42'S; 18°10'E; ca. 200 – 500 m], 25.vi.1935, G. Settembrino (kbin); 1♂ P.N.U. Ganza [unknown co-ordinates, but within 08° – 10°S; 27° – 28°E (gazetteer co-ordinates fall outside the park boundary)], 4 – 6.vii.1949, G.F. de Witte, 860 m, 2758a (mrac).

Discussion. Lectotype designation: The material examined for the original description of this species was stated by FREY (1932) to be: "NYASALAND: Limbe, Chiromo, 4000 ft., 24.ix.1916, numerous ♂ ♀ (R.C. WOOD)". There is some confusion resulting from this, since Limbe [15°49'S; 35°03'E] and Chiromo [16°33'S; 35°08'E] are clearly not the same place. The material from the Imperial Institute of Entomology, London is now deposited in the Natural History Museum, London (BMNH) and 2 further specimens are in the University Zoological Museum, Helsinki, Finland (UZMH). In total, there are eight specimens (5♂♂ 3♀♀) with these data, although the data is not always in the exact form given by Frey (1932). Four ♂ and 2♀♀ specimens have the locality as given, but lacking the line "Chiromo", while the remaining two (1♂ 1♀) have an additional line "Ruo R." after "Chiromo" and the ♂ has the "671" number written along the top of the label. The label for the to UZMH specimens also has "671" written sideways on the right hand side. Two of the specimens lacking "Chiromo" have red bordered circular labels stating Type. This is a standard designation for BMNH type specimens and almost certainly did not originate from Frey, while the specimens from UZMH have a red "Paratypus" label added. Four of the specimens bear det labels by FREY, but two (the 671 – numbered ♂ and the ♀ from Chiromo) have the phrase "n.sp.", while the another two (those with the round BMNH type labels) give the authority as "Frey" and the final four have no det. label. In addition one of the specimens with the round BMNH type label has a larger round label stating that it was "at flowers of mango", beneath which is a red paper label stating "Spec.typ.No". To this lower label is adhered a small piece of white paper with "phot." handwritten in black ink, which indicates that this is the specimen used for the wing photograph in FREY (1932). All five BMNH specimens have the label: "Pres. by Imp. Inst. Ent. Brit. Mus. 1931–56.".
This evidence suggests that all eight specimens were examined by FREY. He provided no specific number of specimens and excluded none from the type series, thus I accept that all eight represent the syntype series. Neither the round BMNH type labels, nor the rectangular UZMH "Paratypus" labels can be construed as evidence that either one of the specimens bearing them is *the* type (ICZN, 1999: Art. 72.4.7), thus I designate the ♂ specimen bearing the label "Spec.typ.No" and "phot." here as the lectotype, with the remainder (4♂♂ 3♀♀) given paralectotype status. No other material is known at present. The type locality is Limbe [15°50'S; 35°03'E] as expressed verbatim in "Material examined: Lectotype" above.
General – This species shares a close affinity with *O. skaia* and *O. splendens*. An unusual and diagnostic aspect of this species group is the presence of setulae on the dorsal and ventral surface of R_{4+5} and on M between cross-veins R-M and DM-Cu. The other species group in this genus (*O. disjuncta*, *O. hendeli* and *O. parallelomma*) have no ventral setulae and lack setulae on M. Care should be taken in the use of these setae as a diagnostic feature, because they are frequently broken off. Nevertheless high magnification will reveal the sockets of broken setulae.
The species pair *O. skaia* and *O. splendens* are similar to *O. rotundiventris* in a number of aspects of gross morphology, most noticeable in the wing and legs as well as in the form of the male genitalia (Figs 472 & 473 compared with 478). There are slight differences in the amount of setulae on the proctiger and hypoproct; in the width of the blades of the ejaculatory apodeme, the phallapodeme and the hypandrium; and in the form of the glans.
The pattern on the wing membrane of the *O. rotundiventris* specimen from Kutu (Zaïre; KBIN) is somewhat transitional between this species and the *O. skaia – O. splendens* pair, being bolder in colour and having the R_1 and R_{2+3} bands extending from the costal margin through into cells r_1 and r_{2+3} respectively. In all other characters this specimen is consistent with *O. rotundiventris.*

Distribution. *Oeciotypa rotundiventris* is known from the central African countries Zaïre and Malawi (Fig. 688).

Oeciotypa skaia sp. nov.

Figs 474 – 478, 688

Diagnosis. Face pale buff with narrow glossy dark brown medial band (narrowing towards lower facial margin) and with small black marks at distal edges of lower facial margin. Frons pale buff with pale orange-yellow ptilinal mark. Ocellar triangle black. Scutellum lobate on dorsal surface with a broad, but shallow, median furrow. Discal band curved away from R-M

toward A_1+Cu_2. Radial-medial band free from discal band, restricted to small spot at apex of R_1 extending across r_1 and sometimes also with mark over R-M. Subapical brown band broadly extending into r_{2+3} and as isolated elongate spots in r_{4+5} and over DM-Cu faint (seldom present). Anterior apical band present at apex of wing as distinct brown spot at apex of R_{4+5}. Setulae present on M and ventrally on R_{4+5}.

Etymology. *skaios* Gr. a. – western, referring to the West African distribution of this species.

Description

Dimensions: Holotype ♂. Body length 3.5 mm; wing length 3.5 mm. **Colour/Vestiture**: Head buff; thorax and abdominal tergites black. Face glossy, marked with dark brown medial vertical stripe, narrowing at lower facial margin and with narrow lateral dark brown triangles (Fig. 474); hemispherical supra-ptilinal mark orange-buff. Scape and pedicel orange-buff. Ocellar triangle black; occiput dark brown laterally; pale whitish medially, across vertex, and around eye margin. Gena and mouthparts brown (palp pale at apex). Dark red-brown on notopleural callus and posterior parts of anepisternum and katepisternum. Legs mostly yellow-buff. Fore femur having faint apical band of brown; mid femur mostly brown (only basally pale); hind femur brown in apical half, but pale buff at apex. Mid tibia with brown basal band; hind tibia with basal and apical brown band. Wing hyaline with veins in basal half brown and clear in apical half, but shaded over dark markings. Dark brown markings as follows: humeral and sub-basal bands joined in br, with sub-basal faintly continued in anal cell; discal band broad and curved away from R-M toward A_1+Cu_2, joined along anterior margin of bcu to humeral band, with minute hyaline spot at apex of bm and bcu; radial-medial band present only at apex of R_1 and in r_1 as a short bar; subapical band broadly extending into r_{2+3}, with a small spot just before midway along anterior margin of r_{4+5}; anterior apical band at apex of R_{4+5} (Fig. 477). Calypter white. Halter pale whitish-buff. Abdominal pleurites buff, sternites and ♂ genitalia brown. Fine silver microtrichia conspicuous on: occiput as margin to eye; frons; parafacial area; gena; clypeus; as a line from vertex to occipital foramen; two dorso-central stripes on notum; posterior margin of notum; ventral anepisternum; medial and ventral katepisternum; broad medial furrow of scutellum; and to a lesser extent on other parts of occiput, thorax, abdomen and legs.

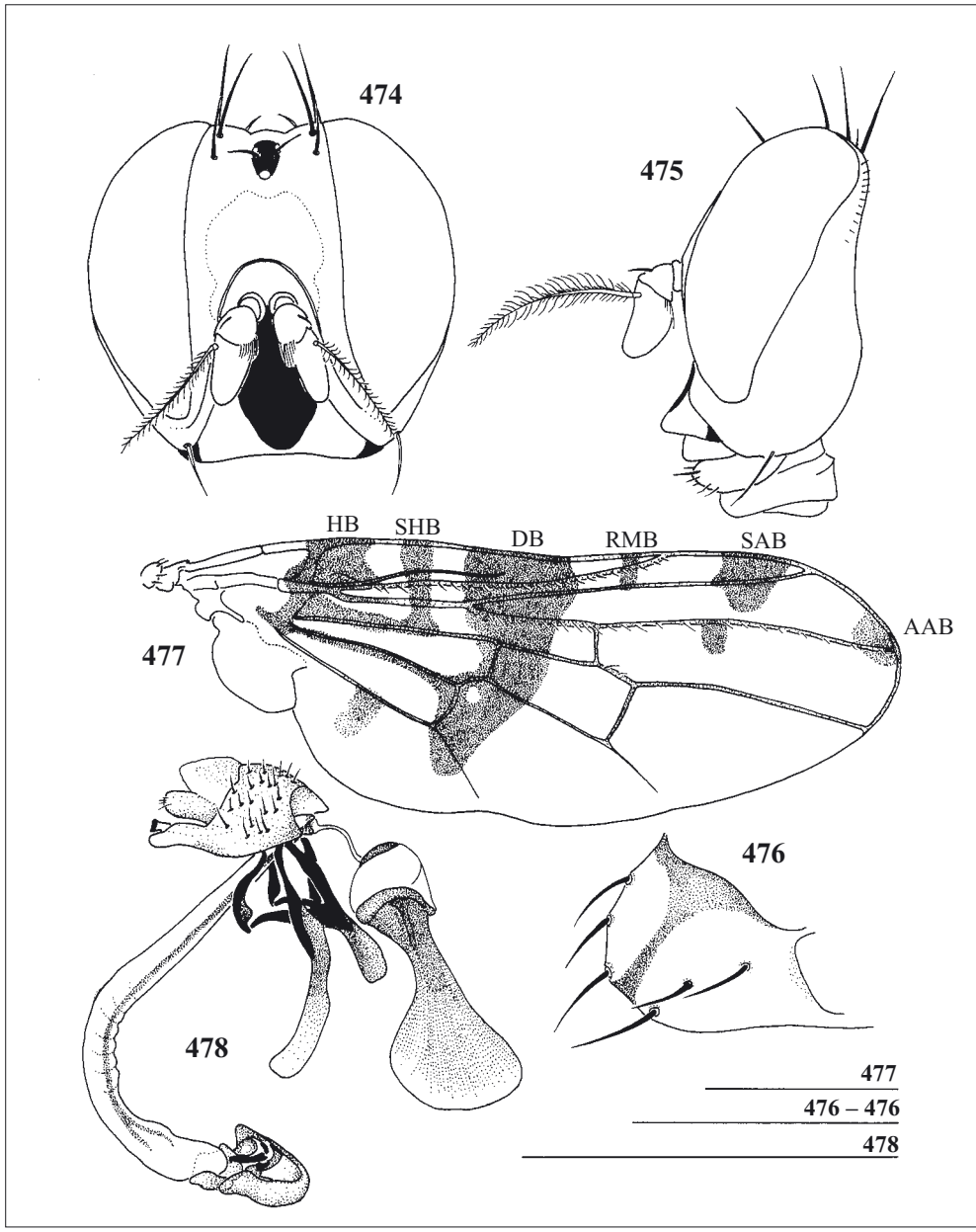
Head: Width of plumosity on arista about as wide as flagellomere 1 (Fig. 475). Slight tubercle present on face below antennae. Lateral parts of vertex swollen into lobes. Setulae white, generally short, longer on facial ridge, gena and occiput.

Thorax: Setulae silver-white, generally short, slightly longer on anepisternum, katepisternum (especially on ventral margin) and dorsal anepimeron. Scutellum margin with broad central furrow, resulting in lateral callus (Fig. 476). **Legs**: setulae on femora stronger dorsally at apex and along full length ventrally. **Wing** (Fig. 477): Setulae dorsally on entire length of R_1 and R_{4+5} and on ventral surface of latter; also present on M between cross-veins R-M and DM-Cu. Apical crossvein of bcu curved.

Abdomen: As for generic description. Genitalia (♂) — Epandrium small, subsquare, evenly covered with numerous setulae. Proctiger trapezoidal, projecting forward across hypoproct; finely rugose around base. Hypoproct slightly notched at apex, fused medially, weakly setulose along outer margin. Lateral surstylus blunt ended and curved around front of medial surstylus. Apex of medial surstylus with elongate sclerotised bar and two inner ventral setulae. Distiphallus stout. Glans elongate, with rounded apical lobe; inside inner cavity are 2 curved sclerotised appendages (no visible acrophallus). Ejaculatory apodeme, strongly sclerotised, narrowly spatulate, with flat distal plate and large bulbous unsclerotised basal lobe attached to short, unsclerotised ejaculatory duct. Vanes of phallapodeme and hypandrium broadly developed, apices narrowly spatulate and poorly sclerotised.

Variation: ♀ Body length 3.6 mm; wing length 3.7 mm. Specimens from Uganda have dark brown fore, mid and hind femora and hind tibia. Radial-medial band may have faint spot over R-M and subapical band sometimes with faint band over DM-Cu.

Material examined: **Holotype**: NIGERIA ♂ (BMNH) "Pres. by / Imp. Inst. Ent. / Brit. Mus. / 1934—212." [printed on whitish card]; "GADAU [11°50'N; 10°05'E; 200 – 500 m], N.NIGERIA. / 6.1923. / BUXTON & LEW[I]S." [printed on whitish card, with "6" and "3" in the date handwritten and with the ampersand and letter "I" on last line poorly printed]; "HOLOTYPE / *Oeciotypa skaia* ♂ / sp. nov. / Det. WHITTINGTON" [first and last lines printed, middle two handwritten on red card]. Condition moderate, right vertical seta missing, thorax with left notopleural, and scutellar



Figs 474–478: *Oeciotypa skaia* sp. nov. – **474**: Head, frontal view; – **475**: Head, lateral view; – **476**: Scutellum, oblique posterior view; – **477**: Right wing, dorsal view; – **478**: Dissected male genitalia, lateral view. HB = humeral band; SHB = subhumeral band; DB = discal band; RMB = radial-medial band; SAB = subapical band; AAB = anterior apical band.

setae absent. Staged on a rectangular piece of celluloid plastic. Genitalia dissected and placed in glycerine in microvial on same pin as specimen.
Other material — **Paratype**: NIGERIA 1♀ (BMNH) same data as Holotype.

Discussion. Sharing close affinities with the Ugandan species *O. splendens* sp. nov., which it closely resembles, but from which it differs by a narrow band of black on the face and generally pale coloured

legs. The species pair *O. skaia* and *O. splendens* share a close affinity with the Malawian species *O. rotundiventris* FREY, 1932, which they closely resemble, but from which they differ by the diagnostic characters given above in the key to species and in the discussion to *O. rotundiventris*.

Distribution. *O. skaia* is known only from the type locality in Nigeria, West Africa (Fig. 688).

Oeciotypa splendens sp. nov.

(Figs 479–481, 688)

Diagnosis. Black band on face broad, widening toward lower facial margin. Frons pale buff with pale orange-yellow ptilinal mark. Ocellar triangle black. Scutellum lobate on dorsal surface with a broad, but shallow, median furrow. Discal band curved away from R-M toward A_1+Cu_2. Radial-medial band free from discal band, restricted to small spot at apex of R_1 extending across r_1 and a distinct longitudinal mark over R-M. Subapical brown band broadly extending into r_{2+3} and as isolated elongate spots in r_{4+5} and over DM-Cu distinct. Anterior apical band present at apex of wing as distinct brown spot at apex of R_{4+5}. Setulae present on M and ventrally on R_{4+5}.

Etymology. *splendor* L. m. – lustre, resplendent, splendid, referring to the intensely lustrous black face of this species.

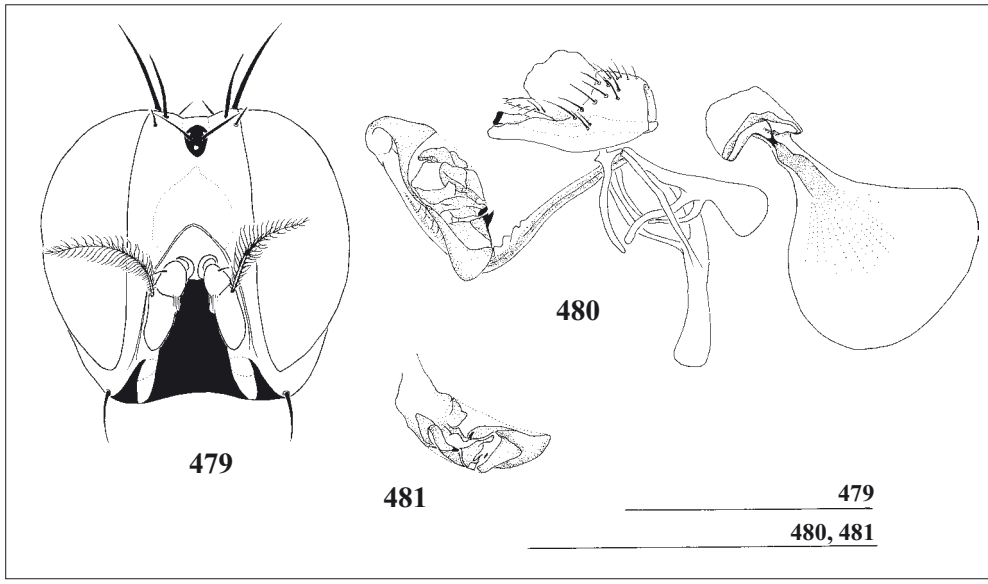
Description

Dimensions: Holotype ♂. Body length 3.6 mm; wing length 3.8 mm. **Colour/Vestiture**: Head buff; thorax and abdominal tergites black. Face glossy black, marked with sub-lateral pale-brown vertical stripe, (Fig. 479); on frons, hemispherical supra-ptilinal mark orange-buff. Scape and pedicel orange-buff; margin of flagellomere 1 tinged brown. Ocellar triangle black; occiput and post gena dark brown laterally; pale whitish medially, across vertex, and around eye margin. Clypeus and mouthparts brown (palp pale at apex). Legs mostly dark brown; fore and mid femora pale buff at apex; fore tibia pale buff basally and apically; mid tibia mostly pale buff, with brown basal band somewhat fragmented; tarsomeres pale buff. Wing hyaline with brown veins and dark brown markings as follows: humeral and sub-basal bands joined in br, with sub-basal faintly continued in anal cell; discal band broad and curved away from R-M toward A_1+Cu_2, joined along anterior margin of bcu to humeral band, with minute hyaline spot at apex of bm and bcu; radial-medial band present only at apex of R_1 and in r_1 as a short bar; subapical band broadly extending into r_{2+3}, with a small spot just before midway along anterior margin of r_{4+5}; anterior apical band at apex of R_{4+5} (as in Fig. 477). Calypter white; lower calypteral finge black. Halter orange. Abdominal pleurites and ♂ genitalia buff brown. Fine silver microtrichia conspicuous on: dorsal occiput as margin to eye; frons; parafacial area; gena; clypeus; as a line from vertex to occipital foramen; two dorso-central stripes on notum; posterior margin of notum; posterior anepisternum; medial and ventral katepisternum; broad medial furrow and margin of scutellum; and to a lesser extent on other parts of occiput, thorax, abdomen and legs.

Head: Width of plumosity on arista about as wide as flagellomere 1 (Fig. 479). Facial tubercle and lateral parts of vertex swollen undifferentiated. Anterior reclinate orbitals and medial verticals reduced (shorter and thinner than other setae). Setulae white, generally short, longer on facial ridge, gena and occiput.

Thorax: Setulae silver-white, widely spaced and long. Scutellum margin with broad central furrow, resulting in lateral callus (as in Fig. 476). **Legs**: Setulae on femora stronger dorsally at apex and along full length ventrally. Wing (as in Fig. 477): Setulae dorsally on entire length of R_1 and R_{4+5} and on ventral surface of latter; also present dorsally and ventrally on M between cross-veins R-M and DM-Cu. Apical crossvein of bcu curved. Lower calypter strongly reduced.

Abdomen: As for generic description. Genitalia (♂) – Epandrium small, subsquare, setulae evenly spaced on distal half. Proctiger trapezoidal, projecting forward across hypoproct. Hypoproct dorsoventrally flattened, slightly notched at apex, fused medially, strongly setulose along outer margin. Lateral surstylus blunt ended, with a pair of pointed dorsal subapical lobes; slightly curved around apex of medial surstylus. Apex of medial surstylus with elongate sclerotised bar. Distiphallus stout. Glans larger than epandrium and surstyli together, elongate, with rounded apical lobe (no visible acrophallus). Ejaculatory apodeme, moderately sclerotised, broadly spatulate, with flat distal plate and large bulbous



Figs 479–481: *Oeciotypa splendens* sp. nov. – **479**: Head, frontal view; – **480**: Dissected male genitalia, right lateral view; – **481**: Glans, left lateral view.

unsclerotised basal lobe attached to short, unsclerotised ejaculatory duct. Vanes of phallapodeme and hypandrium narrow, apices narrowly spatulate and poorly sclerotised.

Variation: ♀ Body length 4.1 mm; wing length 4.2 mm. Sub-lateral pale-brown vertical stripe slightly wider in ♀ paratype. Lower calypter less reduced than in ♂ Holotype. Calypter white and halter pale to whitish buff in ♀ paratype.

Material examined: **Holotype**: UGANDA ♂ (TAUI) "UGANDA: S.W. / Semiliki Forest / 1250 m, 8.i.1996 / I. YAROM & / A. FREIDBERG." [printed on white card]; "HOLOTYPE / *Oeciotypa* / *splendens* / sp. nov. ♂ / Det. WHITTINGTON" [first and last lines printed, middle two handwritten on red card]. In good condition; head a little greasy, tip of left wing missing. Staged on a cube of white plastic. Genitalia dissected and placed in glycerine in microvial on same pin as specimen. Genitalia in glycerine, in microvial on same pin as specimen.
Other material – **Paratype**: UGANDA 1♀ Rwenzori Mts., Ibanda [00°08'S; 30°29'E], 4.i.1996, I. YAROM & A. FREIDBERG, 1900 m (TAUI).

Discussion. Sharing close affinities with the Nigerian species *O. skaia* sp. nov., which it closely resembles, but from which it differs by a broadly black face and dark brown legs. The species pair *O. skaia* and *O. splendens* share a close affinity with the Malawian species *O. rotundiventris* FREY, 1932, which they closely resemble, but from which they differ by the diagnostic characters given above in the key to species and in the discussion to *O. rotundiventris*.

Distribution. *O. splendens* is known only from South-west Uganda, East Africa (Fig. 688).

Plastotephritis ENDERLEIN, 1922

***Plastotephritis* ENDERLEIN, 1922** – ENDERLEIN (1922: 6) [description] **Type species**: *Plastotephritis compta* ENDERLEIN, 1922, by original designation. FREY (1932: 257) [key, as *Blastotephritis*, in error], pl. VIII, fig. 34; STEYSKAL (1980: 565) [catalogue].
Blastotephritis: FREY (1932: 257), incorrect subsequent spelling of *Plastotephritis*.

Diagnosis. Head rounded to oval in frontal view, antero-posteriorly compressed in lateral view. Face and frons broad (wider than length of antenna), frons at least twice as broad as high. Face flat with sub-antennal tubercles, lower facial margin in approximately same plain as face, protruding no further than base of flagellomere 1, evenly curved in frontal view. Gena

deep (>20 % of height of head in frontal view); gena of males unmodified. Arista long plumose. Lateral vertical setae strongly developed (medial vertical setae reduced and setula-like, often indistinguishable from postocellar setae). Postsutural acrostichal seta absent. Three pairs of scutellar setae. Hind tibia of males straight; all tarsi entirely pale. Costal cell narrower that twice length of R-M.

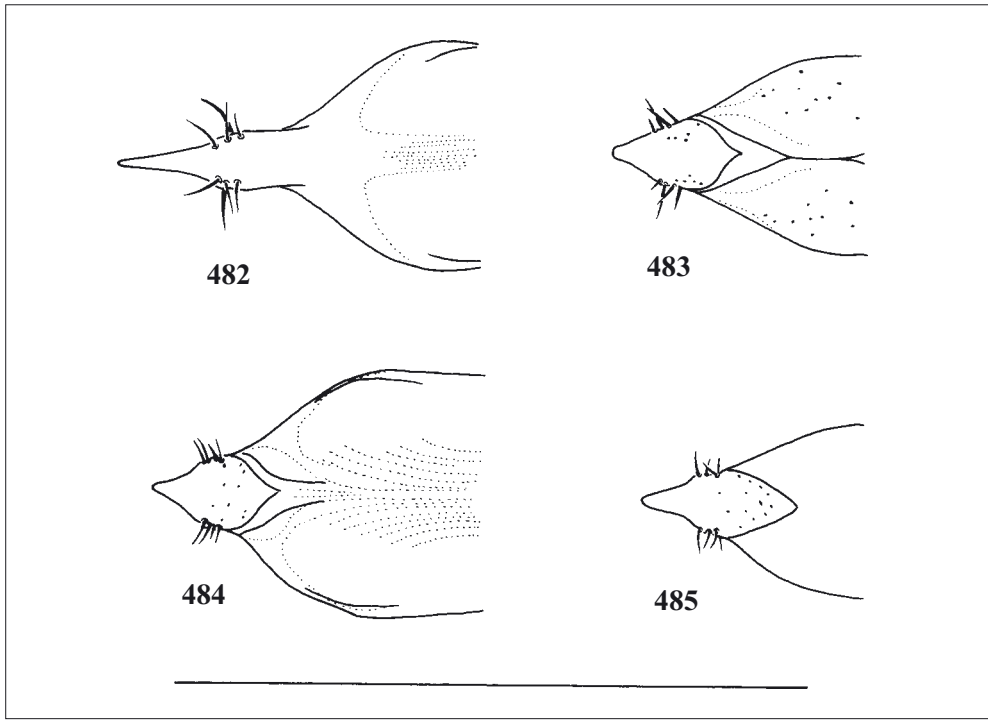
Etymology. *πλαστο – plasto* Gr. = moulded, formed; and *tephritis* L. f. = an ash coloured semi-precious stone. The name possibly refers to the similarity of these flies to the genus *Tephritis* Latreille, 1804 (Diptera; Tephritidae). Gender feminine.

Description

Dimensions: ♂ Body length 4.0 – 6.3 mm; wing length 4.8 – 6.7 mm. ♀ Body length 4.3 – 5.7 mm; wing length 5.1 – 6.6 mm. **Colour/Vestiture**: Ground-colour creamy yellow; marked on vertex, occiput, notum, thoracic pleurites and abdominal tergites with brown patterns or bands. Eyes reddish-brown, occasionally with metallic green or bluish lustre. General trend of wing pattern longitudinal, mixture of brown, orange and hyaline, with various spots, marks and bullae. Calypter smoky-grey with brown margin. Halter pale-buff. Abdominal pleurites and sternites buff. Setulae robust and pale over most of body, except following: band of black setulae transversely across middle of notum; occasional black setulae on postero-verntal margin of katepisternum; abdominal sternites covered with black setulae. Microtrichia inconspicuous, silver microtrichia visible on some brown pleurites.

Head: Head rounded to oval in frontal view, antero-posteriorly compressed in lateral view. Width of vertex much narrower than width of thorax. Face and frons broad (wider than length of antennae), frons at least twice as broad as high. Face flat with small tubercle ventral to shallow antennal socket. Lower facial margin in same plain as face, projecting very little; evenly curved in frontal view. Eyes oval, lower margin at angle away from midline. Frons broadest at about the middle of its height. Ocellar triangle positioned forward of orbitals. Antennae pendulous, inserted a little above midway down length of head; arista long plumose. Pedicel with ventral-lateral fringe of long pale setulae. Subvibrissal row inconspicuous. Gena deep below eye (>20% of height of head in frontal view); gena of males unmodified laterally. Postgena flat. Palp flattened, strongly setulose. Setulae mostly pale and short, brown on postgena. Setae – 1 ocellar, 2 reclinate orbitals, 1 strong lateral vertical, 1 weak medial vertical, 1 weak pale postocellar, 1 dorsal pedicel and 1 genal. Postocular row brown, merging posteriorly with occipital setulae and ventrally with postgenal setulae.

Thorax: Setulae short, pale, black or brown on areas of brown sclerite colour. Setae strongly developed – 1 postpronotal, 2 notopleural (posterior one raised callus), 1 anepisternal, 1 supra-alar, 1 postalar, 1 intra-alar, 1 prescutellar dorsocentral, 1 basal, 1 lateral and 1 subapical scutellar. Anterior notopleural and anepisternal setae situated equidistant from posterior notopleural seta. **Legs**: Setulae long on ventral margin of femora and on posterior surface of fore femur. Mid-coxal prong narrow, pointed and inconspicuous. Apex of mid coxa protruding under base of trochanter and strongly setulose. Pre-apical mid tibial setae present. Setulae on apex of final tarsomere conspicuous and long, curving over apex in front of claws. First two tarsomeres of each leg with ventral pad of stout, pale setulae; all tarsomeres with short black preapical setulae across latero-ventral margins most widespread on mid-tarsus. Empodium setiform, small and inconspicuously situated between large, pale pulvilli. Claws strongly developed. **Wing**: Costa with pre-humeral weakened (but no distinct break) marked by a change in costal-setula length and sometimes a long setula. Distinct humeral break present. Costal cell broad, not as wide as twice length of R-M. Subcosta sinuous and evanescent basally, ending abruptly before curving toward costa apically, beyond which point membrane is distinctly folded until junction with costa. Sc-R spur partially developed. Setulae on entire length



Figs 482–485: *Plastotephritis* ENDERLEIN, 1922. Female ovipositor, tip of aculeus. – **482**: *P. compta* ENDERLEIN, 1922; – **483**: *P. limbata* ENDERLEIN, 1922; – **484**: *P. nosphidia* sp. nov.; – **485**: *P. sica* sp. nov.

of R_1 (dorsal surface only) and R_{4+5} (dorsal and ventral surfaces). Flexion line forming distinct ridge across apex of Sc, otherwise poorly developed, although present to cu_1. R_{2+3} and R_{4+5} diverging at apex of wing. Cu-bm curved, length almost equal with BM-Cu. Crossvein DM-Cu curved. Crossvein R-M situated beyond midway on dm.

Abdomen: Ovate, widest across T_{1+2}. Segments T_{1+2}, S_1 and S_2 covered sparsely with pale setulae, remainder (and latero-distal corners of T_{1+2}) covered with short, black setulae. Setulae longest along lateral margins of tergites. Male genitalia – Sternite 7 curved, forming sclerotised ring around genital pouch. Epandrium rounded; epandrial-surstylar suture partially visible. Hypoproct fused into undersurface of membranous proctiger and apically setulose. Lateral surstylus apically rounded, slightly wrapped around apex of medial surstylus. Medial surstylus bilobed and apically heavily sclerotised. Gonostyle present as triangular plate (curved down at apex) ventral to epandrium and articulating with base of supporting armature. Phallapodeme and hypandrium robust and strongly sclerotised. Distiphallus annulate and minutely setulose. Glans as large as epandrium, comprised of short claw-like overlapping lateral sclerites. Base of ejaculatory apodeme membranous large and bulbous, with paired sclerotised plates. Ovipositor – T_6 absent. Oviscape conical, shorter dorsally than ventrally. Ovipositor elongate - up to three times the length of the oviscape when fully extended. Taenia short, less than one quarter length of eversible membrane. Eversible membrane ornamented on medial membranous section with fine parallel transverse lines. Aculeus finely ornamented with elongate longitudinal wrinkles, setulose on main body. Tip of aculeus variable from long and sharp to short and robust (Figs 482 – 485), with mixture of strong and fine apical setulae either side of apex. Three spherical spermathecae.

Included species: *compta* Enderlein, 1922
limbata Enderlein, 1922
nosphidia **sp. nov.**
patagiata Enderlein, 1922
sica **sp. nov.**

Discussion. These flies have a thick – set appearance when compared to other genera in this subfamily. Their size is only surpassed by *Pterogenomyia* Hendel, 1914 and most other genera are considerably smaller. Prior to this revision the generic concept was broader and thus *Plastotephritis* included species now assigned to *Atopocnema* Enderlein, 1922 and *Xyrogena* gen. nov. Relatively few specimens have been collected belonging to *Plastotephritis*, especially when compared to the more prolific *Agrochira* Enderlein, 1911 and *Conopariella* Enderlein, 1922.

Little is known of the biology. Oviposition is likely to be in plant tissues, the only association known being the collection of *Plastotephritis patagiata* Enderlein, 1922 on *Macaranga hurifolia* Thou. (Euphorbiaceae). Other specimens are known from gallery forest and forested or densely vegetated locations.

Distribution. *Plastotephritis* is a West and Central African genus (Fig. 689).

Key to the species of *Plastotephritis*

1 Wings banded longitudinally; without spots in c and r_1 (Figs 497 & 515) **2**
– Wings banded and spotted (Figs 486, 505 & 522); with embossed areas (bullae) centred on spots in c and/or r_1 (view wing membrane with light reflecting off of membrane as a sheen) **3**
4 Brown bar on vertex consistently wide across head from eye to eye, more or less parallel sided (Figs 493 & 495); head distinctly broader than high in both sexes (more than 1.52 times wider than high in frontal view – Fig. 493); margins and base of scutellum broadly brown, only disc remains pale coloured (Fig. 496) ..... ***P. limbata* Enderlein, 1922**
– Brown bar on vertex inconsistently wide across head from eye to eye, concentrated around ocellar triangle and continuing as sinuous narrower line to eye margins (Figs 511 & 513); head not obviously broader than high in both sexes (less than 1.25 times wider than high in frontal view – Fig. 511); most of scutellum pale coloured, brown restricted to small spots, sometimes joined to form marginal band, centred over bases of scutellar setae and narrow basal band in scuto-scutellar suture (Fig. 514) ..... ***P. patagiata* Enderlein, 1922**
5 Hyaline incisions on wing membrane along costal margin (Fig. 505); apex of hind femur and base of hind tibia brown; thickened orange setulae on pedicel, if present, usually restricted to apex ..... ***P. nosphidia* sp. nov.**
– Orange incisions on wing membrane along costal margin (Figs 486 & 522), some of these bullate (i.e. raised slightly above surface of wing membrane); apex of hind femur and base of hind tibia concolourous with rest of legs (pale); thickened orange setulae on pedicel scattered over dorsal surface **4**
6 Brown colour on wing membrane pale, grading gradually into orange; tip of aculeus long and pointed (Fig. 482); ovipositor longer than body length (4.7 versus 4.3 mm) ... . ***P. compta* Enderlein, 1922**
– Brown colour on wing membrane dark, clearly defined from orange; tip of aculeus short and stout (Fig. 485); ovipositor approximately equal to body length (5.6 versus 5.5mm) . .....***P. sica* sp. nov.**

Plastotephritis compta ENDERLEIN, 1922

(Figs 482, 486–492, 689)

***Plastotephritis compta* ENDERLEIN, 1922** – ENDERLEIN (1922: 7) [description] FREY (1932: 262) [key], FREY (1932: pl. VIII, fig. 34) [wing]; STEYSKAL (1980: 565) [catalogue].

Diagnosis. Apex of hind femur and base of hind tibia concolourous with rest of legs (pale). Wings longitudinally banded and spotted; with embossed areas (bullae) centred on spots in c and r_1; orange incisions on wing membrane along costal margin; brown colour on wing membrane pale, grading gradually into orange. Tip of aculeus long and pointed. Ovipositor longer than body length (4.7 versus 4.3 mm).

Etymology. *comptus* L. a. = ornamented, referring to the patterned wings and body.

Description

Dimensions: ♀ Lectotype body length 5.7 mm; wing length 6.6 mm. **Colour/Vestiture**: Ground-colour creamy yellow; face and mouthparts almost white; narrow, wavy brown line on vertex (Figs 487 & 489); brown stripe adjacent to occipital suture; notum tinged orange and marked with brown, main part of pattern in posterior portion of notum and club-shaped (as in trefoil) (Fig. 490). Small amounts of brown on anepimeron and katatergite (Fig. 486), but over entire subscutellum and mediotergite; scutellum with brown apical spot between apical setae (Fig. 490). T_3, T_4 and genitalia dark brown, T_5 dark brown only on lateral margins. Wings longitudinally banded with brown, orange and hyaline, gradually merging one with another; lightly speckled with spots of all three colours (Fig. 486). Veins orange, darker and lighter over brown and hyaline markings respectively. Silver microtrichia inconspicuous over most of body, visible at certain angles of light on frons and thorax.

Head: Broad, 1.22 times wider than high, widest point at junction of gena and lower margin of eye (Fig. 487). Gena deep, at widest point 0,25 times height of head (Figs 486–488). Dorsal setulae of aristal plume longer than width of flagellomere 1 (Figs 486–489). Stout orange setulae scattered dorsally on pedicel.

Thorax: Longest setulae on ventral apex of katepisternum and mid-coxal projection as long as mid trochanter (Fig. 486). Black setulae scattered among more numerous pale setulae at ventral apex of katepisternum. **Wings**: With single bulla in c and three in r_1. Flexion line marked by unpigmented nodes centred over major veins (Fig. 486).

Abdomen: As for generic description. Ovipositor – longer than body length (4.7 versus 4.3 mm). Wrinkles on eversible membrane fine and dense near to base, becoming less conspicuous distally. Aculeus broad and blade-like, drawn into long point apically (Fig. 482), finely ornamented with setulae ventrally on main body and with brush of setulae on each side at apex consisting of three long setulae and one fine setula.

Variation: ♂ Body length 5.1–5.7 mm; wing length 5.5–6.3 mm. ♀ Body length 4.3–5.7 mm; wing length 5.4–6.6 mm. Genal seta pale brown in male specimens, anepisternal seta ranging from orange-brown, through brown to black. Shape and intensity of brown marks on notum variable, but approximating that illustrated for Lectotype – most frequent variation is shortening of anterior patch and loss of posterior mark. In males T_5 dark brown (Fig. 486). Genitalia (♂) – Epandrium setulose on most of exterior surface (Fig. 491). Proctiger subsquare, finely pruinose dorsally (Fig. 491). Hypoproct fused along midline and fused to proctiger, slightly dimpled at apex, strongly setulose ventrally (Fig. 491). Lateral surstylus elongate, rectangular, sparsely setulose on outer surface, slightly concave toward apex (Figs 491 & 492). Apex of medial surstylus with strongly sclerotised knob and a forward curved spur which appears to fuse with inner surface of lateral surstylus; dorsal margin slightly more sclerotised than stem; inner margin of stem with short setulae (Figs 491 & 492). Distiphallus stout, annulated and finely setulose (Fig. 491). Glans densely sclerotised ventrally (Fig. 491). Ejaculatory apodeme, strongly sclerotised basally, with large bulbous partially sclerotised basal lobe attached to short, ejaculatory duct (Fig. 491). Vanes of phallapodeme and hypandrium broad and well developed (Fig. 491), strongly sclerotised.

Material examined: **Lectotype**: CAMEROUN: ♀ (ZMHB) "S.Kamerun / Lolodorf [03°17'N; 10°50'E, ca. 500 m] / L. CONRADT S." [printed on pale grey-blue card]; "Type" [dull orange card]. "*Plastotephritis* / *compta* / Type ENDEL. ♀ / Dr. ENDERLEIN det 1920" [white card, handwritten except for last line (excluding '20') which is printed]; "Zool.

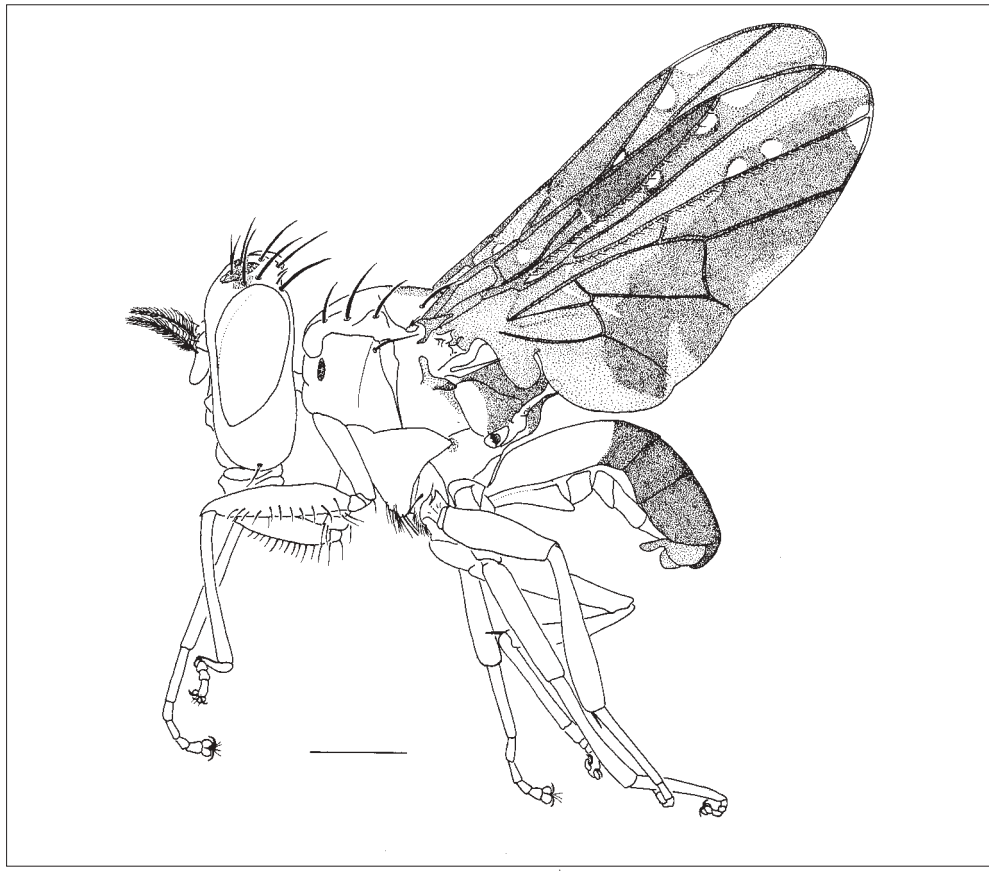
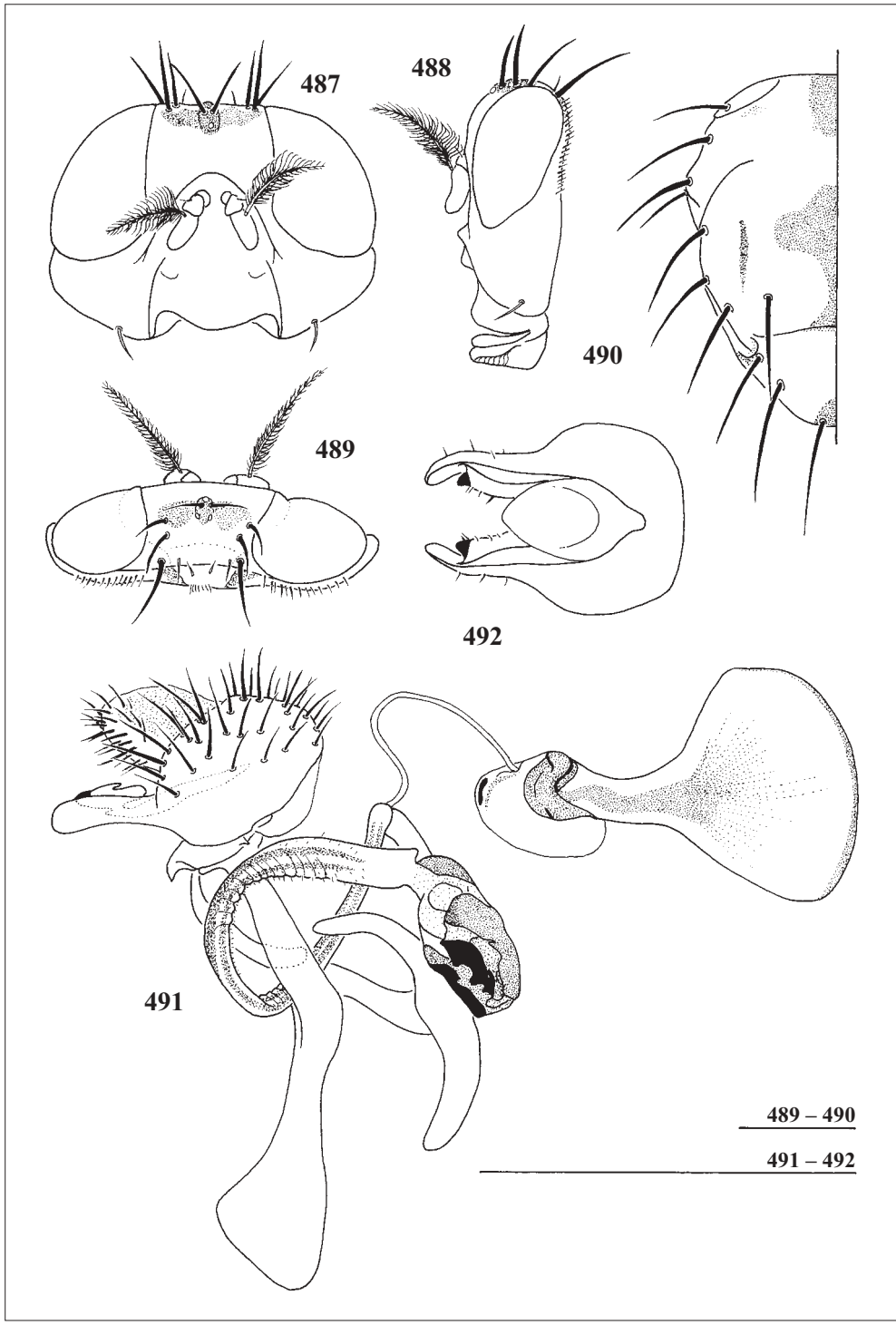


Fig. 486: *Plastotephritis compta* Enderlein, 1922. Habitus, ♂ Paralectotype. left lateral view.

Mus. / Berlin" [printed on yellow card]; "lectotype / *Plastotephritis* / *compta* ♀ / Enderlein, 1922 / Det Whittington" [rectangular red label, first and last lines printed, middle three handwritten]. In good condition.
Other Material — **Paralectotypes** from the Syntype series (zmhb): CAMEROUN: 1♂ "Neu-Kamerun / No.261 – 271. [precise locality unknown] / Teßmann S.G" [printed on pale-blue card; numbers handwritten]. EQUATORIAL GUINEA: 3♂♂ Alcu [=alcubilla? Sp.f. – basin, reservoir] Benitogbt [=Benitogebiet, i.e. Benito District; 01°30'N; 09°45'E?] dated 1 – 15.ix.[19]06 (1♂) and 16 – 31.viii.[19]06 (2♂♂) G. Teßmann S.G; 1♀ Uelleburg, [unknown latitude and longitude], vi – viii.[19]08, Teßmann S.G.

Discussion. Lectotype designation: of the seven syntype specimens listed in Enderlein, 1922, one represents a new species (*P. nosphidia*), while of the others, three have "Type" and three have "Co-type" written on their identity labels by Enderlein. The types are dated 1920, while the co-types are dated 1922 and all are included in the description of 1922. I have selected the specimen in the best condition from among the females, since the most important diagnostic character is arguably the length and shape of the tip of the aculeus. This specimen was not dissected, since the diagnostic features on the apex of the aculeus are clearly visible in the whole specimen.

The distinction between *P. compta* and *P. sica*, as stated in the key, is further supported by the presence of black setulae at ventral apex of katepisternum of female specimens in *P. compta*, whereas these setulae are pale in all of the specimens of *P. sica* that have been examined. This character was not included in the key and caution is advised in its use, until more material is available to support acceptance of this character – only two female specimens are known for *P. compta* and four are known for *P. sica*. In *P. nosphidia* there is a single female with black setulae scattered among the pale setulae of the ventral katepisternal fringe. Since there are no other diagnostic character states to support dividing this



Figs 487–492: *Plastotephritis compta* ENDERLEIN, 1922. ♀ Lectotype & ♂ Paralectotype. – **487**: Male head, frontal view; – **488**: Male head, profile; – **489**: Male head, dorsal view; – **490**: Thorax, dorsal half view; – **491**: Male genitalia, right lateral view; – **492**: Male genitalia, dorsal view.

single female off as a separate species, some doubt is placed on the use of this character state as a distinguishing feature.

Distribution. *P. compta* has a West African distribution, being known only from Cameroun and Equatorial Guinea (Fig. 689).

Plastotephritis limbata Enderlein, 1922

(Figs 483, 493–501, 689)

***Plastotephritis limbata* Enderlein, 1922** – Enderlein (1922: 8) [description] Frey (1932: 261) [key], Frey (1932: pl. VIII, fig. 32) [wing]; Steyskal (1980: 565) [catalogue].

Diagnosis. Brown bar on vertex consistently wide across head from eye to eye, more or less parallel sided. Head distinctly broader than high in both sexes (more than 1.52 times wider than high in frontal view). Margins and base of scutellum broadly brown, only disc remains pale coloured. Wings banded longitudinally; without numerous spots in c and r_1.

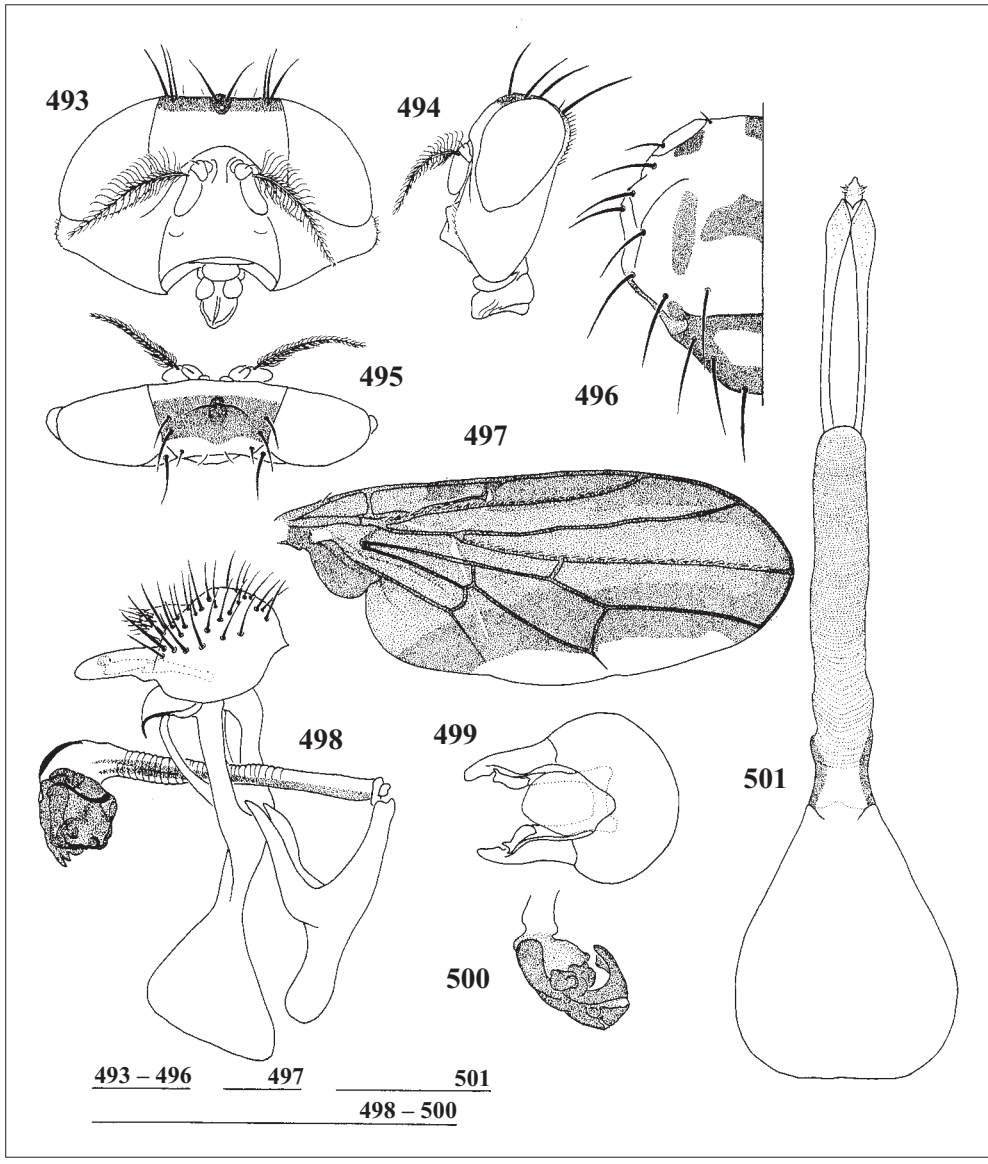
Etymology. *limbus* L. m. = bordered, referring perhaps to the wing pattern.

Description

Dimensions: ♂ Holotype body length 5.3 mm; wing length 6.3 mm. **Colour/Vestiture**: Ground-colour creamy yellow tinged orange; face and mouthparts palest. Brown bar on vertex consistently wide across head from eye to eye, more or less parallel sided (Figs 493 & 495). Brown stripe adjacent to occipital sutures restricted to two small triangles. Notum with three anterior brown spots and brown "bat-shaped" band across post-sutural area (Fig. 496). Scutellum broadly brown around margin and across base, leaving only a small pale coloured area on disc (Fig. 496). Widespread dark brown over post-alar wall, subscutellum, mediotergite and katatergite, continuous as brown band over centre of anepimeron and dorsal posterior margin of katepisternum. T_3–T_5 and genitalia dark brown. Wings longitudinally banded with brown, orange and hyaline, with brown band curving around apex and joined to posterior brown band, creating brown border to wing (Fig. 497). Posterior margin of wing hyaline (Fig. 497). Veins orange, darker and lighter over brown and hyaline markings respectively. Silver microtrichia present over most of body, but inconspicuous over pale coloured body parts, tinged with brass colour on notum.
Head: Broad, 1.52 times wider than high, widest point on gena ventral to outer eye margin (Figs 493 & 494). Gena deep, at widest point 0,34 times height of head (Figs 493 & 494). Stout orange setulae along anterior margin of pedicel.
Thorax: Longest setulae on ventral apex of katepisternum and mid-coxal projection as long as length of mid trochanter. Ventral katepisternal fringe pale. **Wing**: Flexion line weakly marked, but distinct (Fig. 497).
Abdomen: As for generic description. Genitalia (♂) – Epandrium subglobose, dorsally setulose. Proctiger subrectangular, finely pruinose dorsally. Hypoproct fused along midline and fused to proctiger, slightly pointed at apex, setulose apically (Fig. 498). Lateral surstylus elongate rectangular with rounded apex; inner surface with a low knob little in front of apex of medial surstylus (Fig. 499). Apex of medial surstylus with strongly sclerotised bilobed knob outer half of which appears to fuse with inner surface of lateral surstylus (Fig. 499). Dorsal part of surstylus more strongly sclerotised than stem. Distiphallus short (barely reaching beyond apex of lateral surstylus) and disproportionally narrow compared to size of glans, annulated along distal half (Fig. 498). Glans large and bulbous, strongly sclerotised (Figs 498 & 500). Ejaculatory apodeme, strongly sclerotised basally, with large bulbous basal lobe attached to short, unsclerotized ejaculatory duct. Vanes of phallapodeme and hypandrium broad and well developed, strongly sclerotised, apex of hypandrium broadly spatulate (Fig. 498) and strongly sclerotised.

Variation: ♂ Body length 5.3 mm; wing length 6.3 mm. ♀ Body length 4.6–4.7 mm; wing length 5.1–6.3 mm. Stout orange setulae are more broadly scattered over dorsal surface of pedicel in specimens other than in Holotype. Ovipositor – elongate, but shorter than body length. Wrinkles on eversible membrane fine and dense throughout length of eversible membrane (Fig. 501). Aculeus broad and blade-like, finely ornamented with setulae ventrally (Fig. 501). Tip of aculeus a stout triangular point, with brush of setulae on each side at apex (Figs 483 & 501).

Material examined: **Holotype**: TOGO: ♂ (ZMHB) "**TOGO** / Bismarckburg [08°12'N; 00°47'E 710 m] / 1.VI.–4.VII.[18]93 / L. Conradt S" [printed on dull blue card]; "Type" [dull orange card]. "*Plastotephritis* / *limbata* /



Figs 493–501: *Plastotephritis limbata* ENDERLEIN, 1922. ♂ Holotype and ♀ specimen. – **493**: Male head, frontal view; – **494**: Male head, profile; – **495**: Male head, dorsal view; – **496**: Thorax, dorsal half view; – **497**: Right wing, dorsal view; dense stippling = dark brown, light stippling = orange-brown; – **498**: Male genitalia, right lateral view; – **499**: Male genitalia, dorsal view; – **500**: Male genitalia, detail of glans, left side; – **501**: Female ovipositor, ventral view.

Cotype ENDERL. ♂ / Dr. ENDERLEIN det 1920" [white card, handwritten except for last line (excluding '20') which is printed]; "Zool. Mus. / Berlin" [printed on dull white card]; "HOLOTYPE / *Plastotephritis* / *limbata* ♂ / ENDERLEIN, 1922 / Det WHITTINGTON" [rectangular red label, first and last lines printed, middle three handwritten]. In good condition, genitalia dissected and stored in glycerine in capsule on same pin as specimen.
Other Material — IVORY COAST: lŒTaí region [05°15'–06°07'N; 07°25'–07°54'W, 80–623m], vacinity of Gouleako, (various dates between) 21–26.i.1985, G. COUTURIER & V. VAN ZEIJST, ORSTOM–Paris Mission UNESCO, Biotype 21, secondary forest (TAUI). GHANA: lŒ Ashanti, Kumasi [06°45'N; 01°35'W, ca.200–500 m], 19.x.1907, W.M. GRAHAM, caught on plant stem in bush path (BMNH).

Distribution. *P. limbata* is a West African species, known from Ivory Coast, Ghana and Togo (Fig. 689).

Plastotephritis nosphidia sp. nov.

(Figs 484, 502 – 510, 689)

Diagnosis. Apex of hind femur and base of hind tibia brown; wings banded and spotted; with embossed areas (bullae) centred on spots in c and r_1; hyaline incisions on wing membrane along costal margin.

Etymology. *νοσπιδιοσ* – *nosphidios* Gr. a. = stealthy, clandestine; referring to the fact that the type specimen of this species was part of the syntype series of *P. compta* Enderlein, 1922.

Description

Dimensions: ♂ Holotype body length 5.1 mm; wing length 5.4 mm. **Colour/Vestiture**: Ground-colour creamy yellow. Face and mouthparts almost white. Ocellar triangle brown. Vertex tinged brown immediately around ocellar triangle; brown stripe adjacent to occipital sutures gradually fading away toward margins of eye and vertical seta. Notum tinged orange and with three anterior brown spots and brown hawk-silhouette shaped mark on post-sutural area (Fig. 504). Small spot of brown on anepimeron; katatergite, mediotergite and subscutellum dark brown; scutellum with brown apical spot surrounding apical setae (Fig. 504). $T_3 - T_5$ and genitalia dark brown. Wings brown, with orange and hyaline marks, distinctly delimited one from another; incisions hyaline; occasional brown spots, especially around posterior margin of hyaline incisions (Fig. 505). Veins orange, darker and lighter over brown and hyaline markings respectively. Silver microtrichia mostly inconspicuous because of greasiness; more widely visible across notum, pleurites and scutellum of paratypes, where it has slight brass colour.

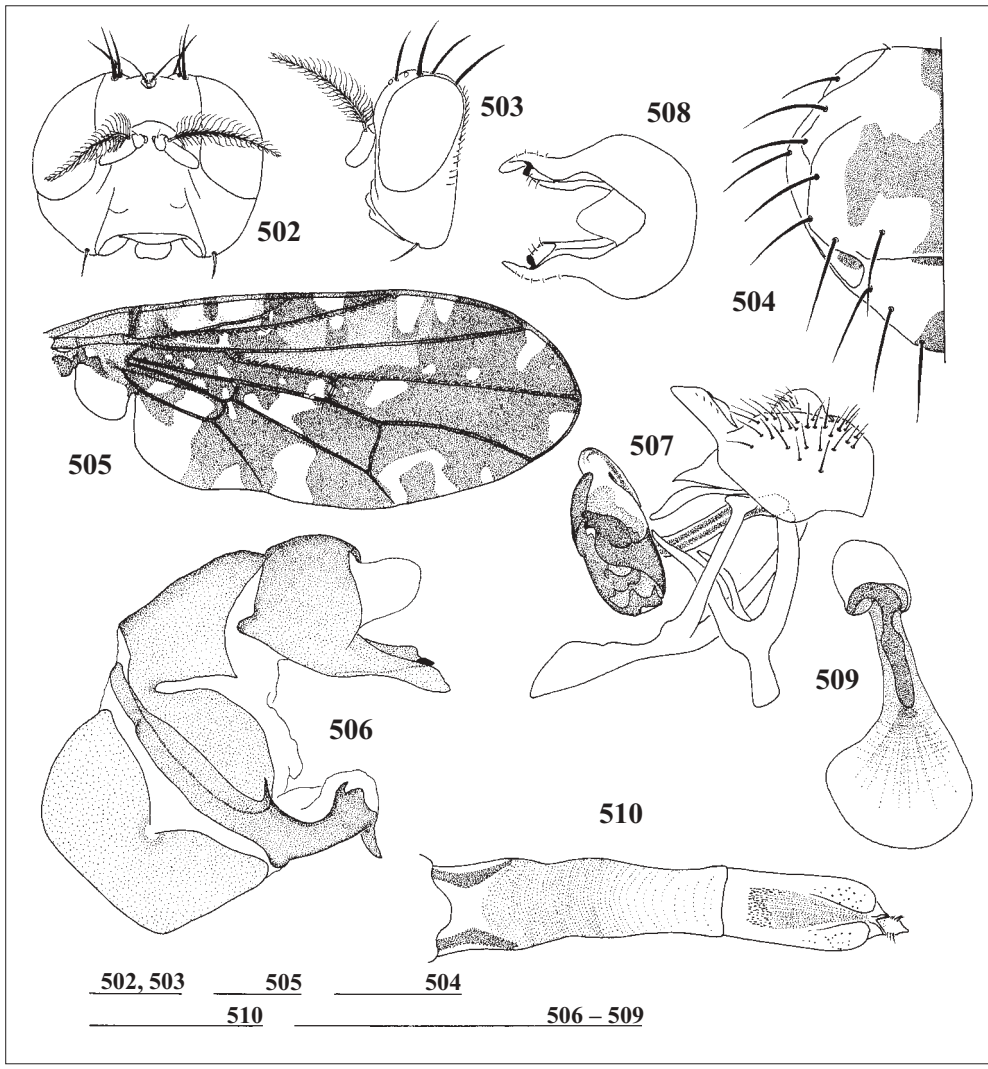
Head: Broad, 1.10 times wider than high, widest point midway down length of eye (Fig. 502). Gena deep, at widest point 0.31 times height of head (Figs 502 & 503). Dorsal setulae of aristal plume longer than width of flagellomere 1 (Figs 502 & 503). Setulae on dorsal surface of pedicel fine.

Thorax: Longest setulae on ventral apex of katepisternum and mid-coxal projection as long as mid trochanter. Ventral katepisternal fringe pale. **Wing**: With single raised bulla in r_1 centred over incision at apex of R_1. Flexion line not distinct, but marked by unpigmented nodes centred over major veins (Fig. 505).

Abdomen: As for generic description. Genitalia (♂) – S_7 large, dorsally spurred in two places (Fig. 506). Epandrium subglobose (Figs 506 & 507), setulose mainly on apico-dorsal area (Fig. 507). Proctiger subsquare (Fig. 507), finely pruinose dorsally. Hypoproct fused along midline and fused to proctiger, triangular at apex, setulose ventrally and apically (Fig. 507). Lateral surstylus elongate rectangular with gently angled apex (Figs 506 & 507), finely and sparsely setulose on exterior surface (Figs 507 & 508). Apex of medial surstylus with strongly sclerotised knob and forward curved spur which appears to fuse with inner surface of lateral surstylus; inner margin setulose (Fig. 508). Distiphallus short (barely reaching beyond apex of lateral surstylus) and stout, annulated and finely setulose (Fig. 507). Ejaculatory apodeme, strongly sclerotised basally, with large bulbous basal lobe (Fig. 509) attached to short, unsclerotized ejaculatory duct. Vanes of phallapodeme and hypandrium broad and well developed, strongly sclerotised, but narrow at apex (Fig. 507).

Variation: ♂ Body length 5.1 – 5.5 mm; wing length 5.7 – 6.0 mm. ♀ Body length 4.7 – 5.3 mm; wing length 5.3 – 5.9 mm. Genal seta pale brown in male specimens. Occasionally thickened orange setulae are present on dorsal surface of pedicel, usually restricted to anterior margin. One specimen, a female from Eala (Zaïre), has black setulae scattered among the pale ventral katepisternal fringe. In females: T_3, T_4 and genitalia dark brown, T_5 dark brown only on lateral margins. Ovipositor — elongate, but shorter than body length. Wrinkles on eversible membrane fine and dense near to base, becoming finer distally (Fig. 510). Aculeus broad and blade-like ornamented with setulae ventrally (Fig. 510). Tip of aculeus a stout triangular point with a brush of setulae on each side at apex (Figs 484 & 510).

Material examined: **Holotype**: CAMEROUN: ♂ (ZMHB) "Westafrica / Uelleburg [unknown latitude and longitude] / VI – VIII.[19]08 / Teßmann S.G." [printed on blue card]; "Type" [dull orange card]. "*Plastotephritis* / *compta* / Cotype Enderl. ♂ / Dr. Enderlein det 1922" [white card, handwritten except for last line (excluding '22') which is printed]; "Zool. Mus. / Berlin" [printed on yellow card]; "HOLOTYPE / *Plastotephritis* / *nosphidia* / sp. nov. ♂ / Det Whittington" [rectangular red label, first and last lines printed, middle three handwritten]. In fair condition, a little greasy, wings damaged along posterior margin. Genitalia dissected and stored in glycerine in microcapsule on same pin as specimen. Other material — **Paratypes**: ZAÏRE: 3♂♂ 4♀♀ Eala [00°02'N; 18°22'E, ca. 200 – 500 m], (1♀) 4.vi.1935, (2♂♂ 1♀).vii,1935, (1♀) 18.vii.1935, (1♂) 12.viii.1935 and (1♀) xi.1936, J. Ghesquière (KBIN; 1♂ dated vii,1935 NMSE).



Figs 502–510: *Plastotephritis nosphidia* sp. nov. ♂ Holotype & ♀ Paratype. – **502**: Male head, frontal view; – **503**: Male head, profile; – **504**: Thorax, dorsal half view; – **505**: Right wing, dorsal view; dense stippling = dark brown, light stippling = orange-brown; – **506**: Male genitalia, undissected, left lateral view; – **507**: Male genitalia, right lateral view; – **508**: Male genitalia, dorsal view; – **509**: Male genitalia, ejaculatory apodeme; – **510**: Female ovipositor, ventral view.

Discussion. In the dissected male specimen S_8 is apparently in two portions (Fig. 506), but this is a tear along a line of weakness, rather than real segmentation.

Distribution. *P. nosphidia* is known from the West-central African countries of Cameroun and Zaïre (Fig. 689).

Plastotephritis patagiata ENDERLEIN, 1922

(Figs 511 – 518, 689)

***Plastotephritis patagiata* ENDERLEIN, 1922** – ENDERLEIN (1922: 7) [description] FREY (1932: 262) [key], FREY (1932: pl. VIII, fig. 33); STEYSKAL (1980: 565) [catalogue].

Diagnosis. Brown bar on vertex inconsistently wide across head from eye to eye, concentrated around ocellar triangle and continuing as sinuous narrower line to eye margins. Head not obviously broader than high in both sexes (less than 1.21 times wider than high in frontal view). Most of scutellum pale coloured, brown restricted to small spots, sometimes joined to form marginal band, centred over bases of scutellar setae and narrow basal band in scuto-scutellar suture. Wings banded longitudinally; without numerous spots in c and r_1.

Etymology. *patagiatus* L. a. = bordered; referring to the distinct border to the wing.

Description

Dimensions: ♂ Holotype body length 5.7 mm; wing length 6.3 mm. **Colour/Vestiture**: Ground-colour creamy yellow; face and mouthparts palest. Ocellar triangle brown, vertex tinged brown immediately around ocellar triangle and continuing as an irregular band to margins of eyes (Figs 511 – 513). Brown stripe adjacent to occipital suture gradually fading away toward margin of eye and vertical seta, with dark brown spot at base of lateral vertical seta (Fig. 513). Notum tinged orange and with three anterior brown spots and brown band across post-sutural area (Fig. 514). Widespread dark brown over subscutellum, mediotergite and katatergite continuous as brown band over most of anepimeron and dorsal posterior margin of katepisternum. Scutellum with narrow brown basal band in scuto-scutellar suture, but without brown marks along margin (Fig. 514). Anterior half of post-alar wall brown. Pale spot of brown present on meron. $T_3 - T_5$ and genitalia dark brown. Wings longitudinally banded with brown, orange and hyaline, brown band curving around apex and joined to posterior brown band, creating brown border to wing (Fig. 515). Posterior margin of wing hyaline (Fig. 515). Veins orange, darker and lighter over brown and hyaline markings respectively. Silver microtrichia present over most of body, but inconspicuous over pale coloured body parts.

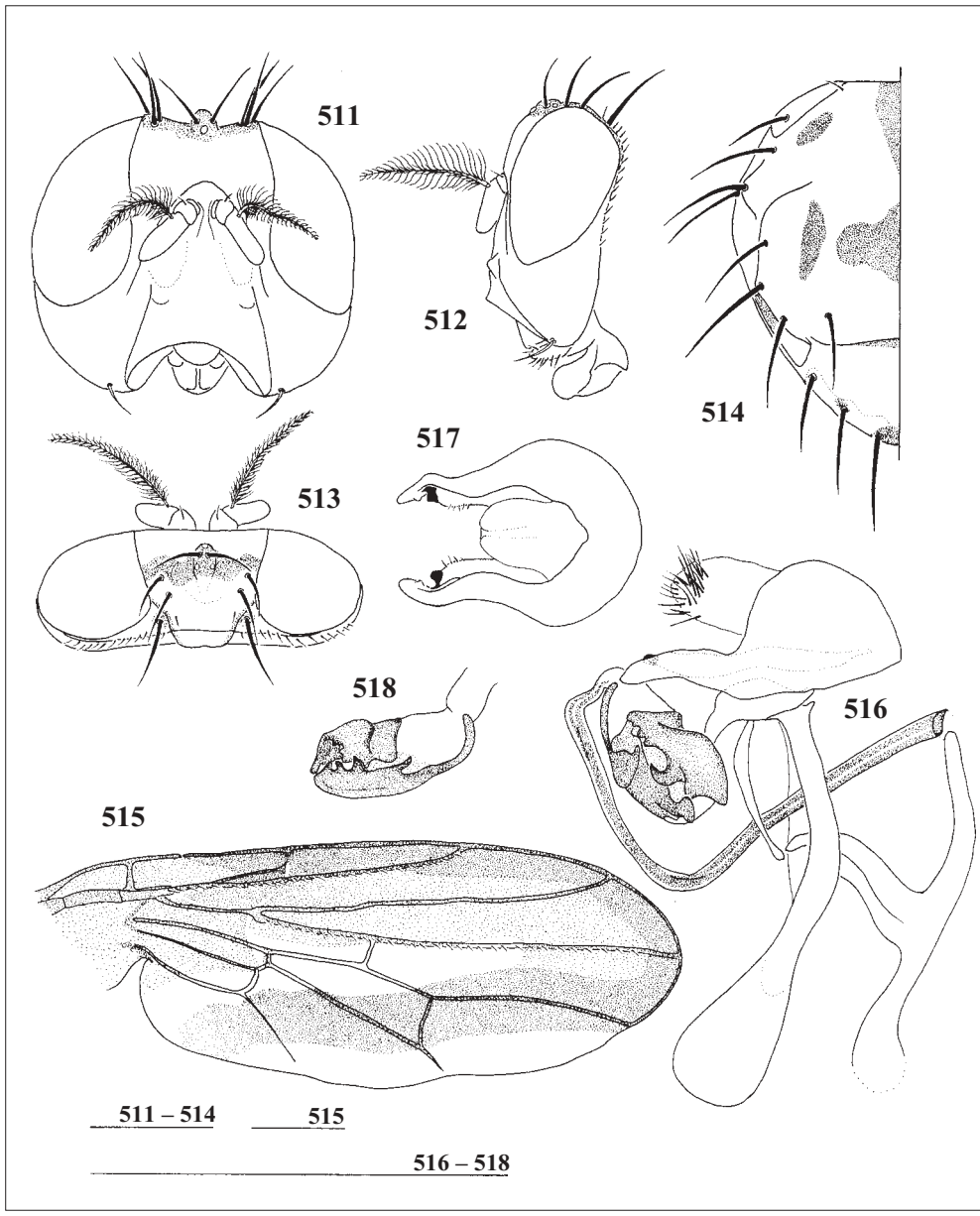
Head: Broad, 1.21 times wider than high, widest point over gena slightly below margin of eye (Fig. 511). Gena deep, at widest point 0.34 times height of head (Figs 511 & 512). Stout orange setulae scattered on dorsal surface of pedicel.

Thorax: Longest setulae on ventral apex of katepisternum and mid-coxal projection shorter than length of mid trochanter. Ventral katepisternal fringe pale. **Wing**: Flexion line clearly visible (Fig. 515).

Abdomen: As for generic description. Genitalia (♂) – Proctiger subrectangular (Fig. 516), finely pruinose dorsally. Hypoproct fused along midline and fused to proctiger, dimpled at apex, setulose apically (Fig. 516). Lateral surstylus elongate, rectangular with rounded apex; inner surface with a low knob little in front of apex of medial surstylus (Fig. 517). Apex of medial surstylus with strongly sclerotised knob and forward curved spur which appears to fuse with inner surface of lateral surstylus, inner surface setulose (Fig. 517). Distiphallus short (barely reaching beyond apex of lateral surstylus) and disproportionally narrow compared to size of glans, annulated on dorsal surface (Fig. 516). Lateral sclerites of glans strongly toothed (Figs 516 & 518). Ejaculatory apodeme, strongly sclerotised basally, with large bulbous basal lobe attached to short, unsclerotized ejaculatory duct. Basal lobe of ejaculatory apodeme having two sclerotised bars near insertion of duct. Arms of phallapodeme and hypandrium broad and well developed, strongly sclerotised, but narrow and more weakly sclerotised at apex (Fig. 516).

Variation: ♂ Body length 4.9 – 6.3 mm; wing length 6.0 – 6.7 mm. ♀ Body length 5.2 mm; wing length 6.4 mm. Brown band on vertex usually better defined than in holotype, consisting of distinct brown bar with irregular margin spanning space between eyes. Considerable variation occurs in form of brown bands on notum and pleurites. In all specimens from Ivory Coast and specimen from Central African Republic, post sutural band is separated into central mark and two lateral longitudinal bars. In addition, all these specimens have brown marks on margin of scutellum, ranging from pair of small spots centred on apical seta insertions, to narrow bar along entire margin (Fig. 514, dotted line). Specimen from Fumbot (Cameroun) has no spots on scutellum and has a hyaline incision at apex of wing. In all male specimens, brown band on pleurites ceases before reaching katepisternum.

Material examined: **Holotype**: CAMEROUN: ♂ (ZMHB) "Westafrica / Uelleburg [unknown latitude and longitude] / VI – VIII.[19]08 / Teßmann S.G." [printed on blue card]; "Type" [dull orange card]. "*Plastotephritis* / *patagiata* / Type Enderl. ♂ / Dr. Enderlein det 1920" [white card, handwritten except for last line (excluding '20') which is printed]; "Zool. Mus. / Berlin" [printed on yellow card]; "HOLOTYPE / *Plastotephritis* / *patagiata* ♂ / Enderlein, 1922 / Det Whittington" [rectangular red label, first and last lines printed, middle three handwritten]. In fair condition, a



Figs 511–518: *Plastotephritis patagiata* ENDERLEIN, 1922. ♂ Holotype. – **511**: Head, frontal view; – **512**: Head, profile; – **513**: Head, dorsal view; – **514**: Thorax, dorsal half view; dotted line = extent of variation; – **515**: Right wing, dorsal view; dense stippling = dark brown, light stippling = orange-brown; – **516**: Male genitalia, right lateral view; – **517**: Male genitalia, dorsal view; – **518**: Male genitalia, detail of glans, left side.

little greasy and left wing damaged along posterior margin, many setae broken or missing. Genitalia dissected and stored in glycerine in microcapsule on same pin as specimen.

Other material – IVOR♂ COAST: 5♂♂ 1♀ Taí region [05°15'–06°07'N; 07°25'–07°54'W, 80–623m], vacinity of Gouleako, (various dates between) 21–26.i.1985, G. COUTURIER & V. VAN ZEIJST, ORSTOM–Paris Mission UNESCO, Biotype 21, secondary forest (TAUI; 1♂ NMSE); 1♂ Taí region [05°15'–06°07'N; 07°25'–07°54'W, 80–623m], vacinity of Gouleako, 26–30.iii.1985, G. COUTURIER & V. VAN ZEIJST, ORSTOM–Paris Mission UNESCO, Biotype 24, fallow

lands of *Macaranga hurifolia* Thou (Euphorbiaceae) (taui). CAMEROUN: 1♂ Fumbot [unknown latitude and longitude], 16.x.1970, L. Matile, gallery forest (mnhn). CENTRAL AFRICAN REPUBLIC: 1♂ La Maboké [03°54'N; 17°53'E], 24.ix.1970, L. Matile (mnhn).

Discussion. Details of the female genitalia are unknown, since the only known female specimen has the tip of the ovipositor broken off.

Distribution. *P. patagiata* is known from the West and Central African countries of Ivory Coast, Cameroun and Central African Republic (Fig. 689).

Plastotephritis sica sp. nov.

(Figs 485, 519–526, 689)

Diagnosis. Apex of hind femur and base of hind tibia concolourous with rest of legs (pale). Wings longitudinally banded and spotted; orange incisions on wing membrane along costal margin, some of these bullate (i.e. raised slightly above surface of wing membrane). Brown colour on wing membrane dark, clearly defined from orange. Tip of aculeus short and stout. Ovipositor approximately equal to body length (5.6 versus 5.5 mm).

Etymology. *sica* L. f. – dagger, referring to the piercing aculeus.

Description

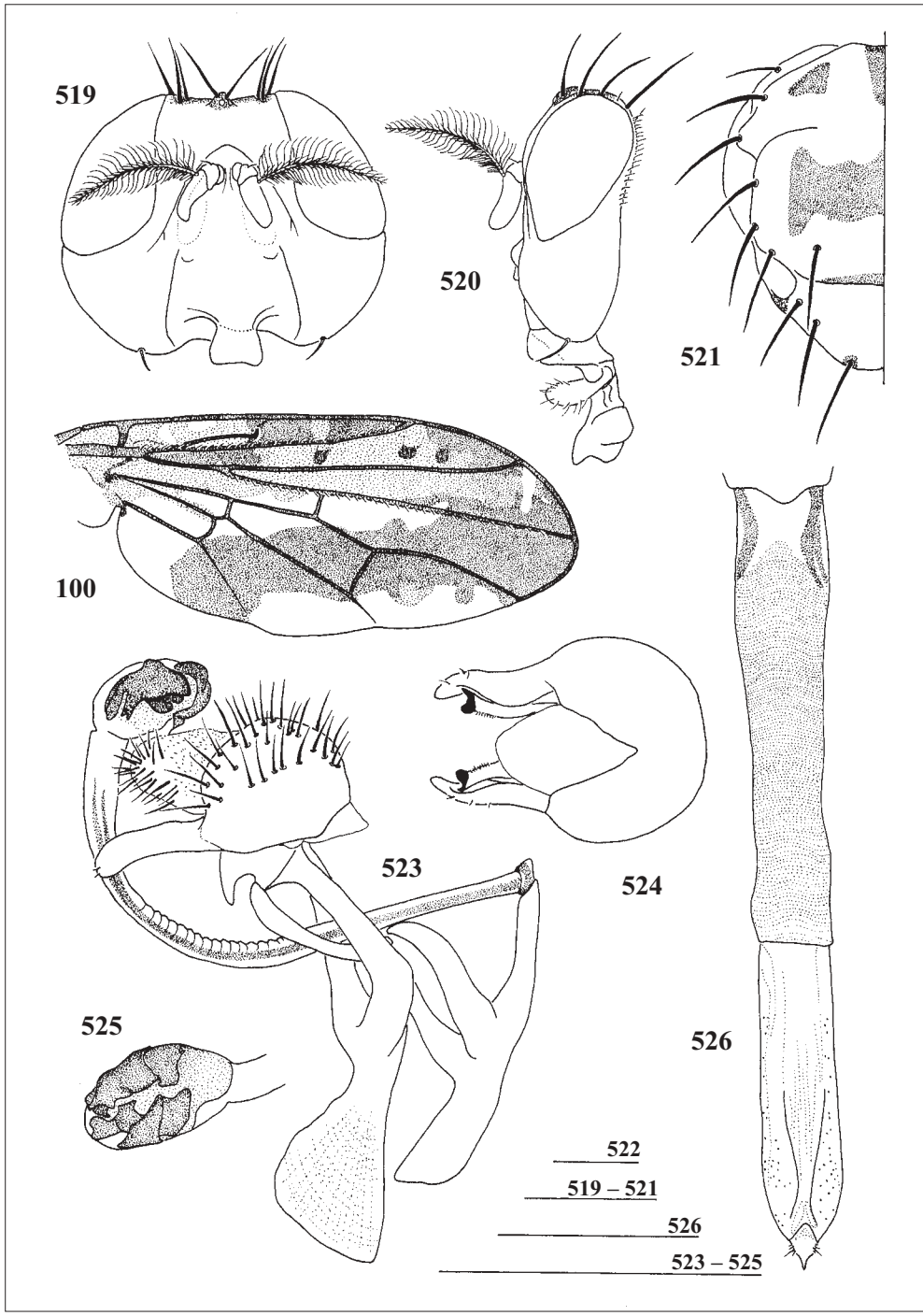
Dimensions: ♀ Holotype body length 5.0 mm; wing length 6.0 mm. **Colour/Vestiture**: Ground-colour creamy yellow; face and mouthparts almost white. Vertex tinged with orange-brown (Fig. 519). Occipital sclerites marked with brown triangle from adjacent to occipital sutures to dorsal margin of eye. Notum tinged orange and marked with three dark brown marks anterior to sutural cleft and bat-shaped dark brown mark on postsutural notum (Fig. 521). Brown covering subscutellum and mediotergite spread broadly across anepimeron and katepisternum. Scutellum with small brown apical spot at base of each apical seta (Fig. 521). T_3, T_4 and genitalia dark brown, T_5 dark brown only on lateral margins. Wings longitudinally banded brown, orange and hyaline, distinctly separate from each other, but with brown band on posterior wing margin gradually fading to pale (almost hyaline) brown; lightly speckled with distinct spots (Fig. 522). Three bullae in r_1 ringed posteriorly with dark brown (Fig. 522). Veins orange, darker and lighter over brown and hyaline markings respectively. Silver microtrichia dense on anatergite, but otherwise inconspicuous over most of body, visible at certain angles of light on brown parts of body.

Head: Broad, 1,18 times wider than high, widest point across middle of eye (Fig. 519). Gena deep, at widest point 0,26 times height of head (Figs 519 & 520). Dorsal setulae of aristal plume longer than width of flagellomere 1 (Figs 519 & 520). Stout orange setulae scattered dorsally on pedicel. Subvibrissal row indistinguishable from setulae on gena.

Thorax: Longest setulae on ventral apex of katepisternum and mid-coxal projection as long as mid trochanter. Only pale setulae at ventral apex of katepisternum. **Wings**: With three raised bullae in r_1, basal most of which is elongate. Flexion line marked by unpigmented nodes centred over major veins, but otherwise indistinct (Fig. 522).

Abdomen: As for generic description. Ovipositor – Equal to body length (5.6 versus 5.5mm), wrinkles on eversible membrane fine and dense near to base, becoming finer distally (Fig. 526). Aculeus broad and blade-like, finely ornamented with setulae ventrally (Fig. 526). Tip of aculeus short triangular and pointed apically, with brush of setulae on each side at apex (Figs 485 & 526).

Variation: ♂ Body length 5.6–5.7 mm; wing length 5.9–6.1 mm. ♀ Body length 4.9–5.5 mm; wing length 5.7–6.0 mm. Genal seta pale brown in male specimens. There is sometimes an irregular brown band across vertex and ocellar triangle. One male (from Cameroun) has post-sutural brown band on thorax reduced to four dots. Some specimens have two dark brown spots on apex of scutellum fused into one large round spot covering bases of both setae. In males T_5 is dark brown. Genitalia (♂) – Epandrium rounded, strongly setulose dorsally (Fig. 523). Proctiger rectangular, finely pruinose dorsally (Fig. 523). Hypoproct fused along midline and fused to proctiger, strongly setulose apically and ventrally (Fig. 523). Lateral surstylus elongate rectangular, slightly turned down at apex, finely setulose on upper exterior surface and at apex (Figs 523 & 524). Apex of medial surstylus with strongly sclerotised knob and forward curved spur which appears to fuse with inner surface of lateral surstylus (Fig. 524). Inner



Figs 519–526: *Plastotephritis sica* sp. nov. ♀ Holotype & ♂ Paratype. – **519**: Male head, frontal view; – **520**: Male head, profile; – **521**: Thorax, dorsal half view; – **522**: Right wing, dorsal view; dense stippling = dark brown, light stippling = orange-brown; – **523**: Male genitalia, right lateral view; – **524**: Male genitalia, dorsal view; – **525**: Male genitalia, detail of glans, left side; – **526**: Female ovipositor, ventral view.

margin of stem of medial surstylus with brush of short setulae along ventral margin (Fig. 524). Distiphallus stout, annulated and finely setulose, reaching beyond apex of lateral surstylus (Fig. 523). Lateral sclerites of glans lacking tooth-like projections (Figs 523 & 525). Vanes of phallapodeme and hypandrium broad and well developed, strongly sclerotised, apex of hypandrium broad (Fig. 523).

Material examined: **Holotype**: CAMEROUN: ♀ (TAUI) "Cameroon,Rt.N6 / Bali – Batibo [05°56'N; 09°58'E] / W. of Bamenda [05°55'N; 10°09'E, ca. 1000 m] / 20.XI.1987 / A. FREIDBERG." [printed on white card]; "HOLOTYPE / *Plastotephritis* / *sica* sp. nov. / ♀ / Det WHITTINGTON" [rectangular red label, first and last lines printed, middle three handwritten]. In good condition.
Other material – **Paratypes**: CAMEROUN: 1♂ Rt. N6, Bali – Batibo [05°56'N; 09°58'E], West of Bamenda [05°55'N; 10°09'E, ca. 1000 m], 20.xi.1987, A. FREIDBERG (TAUI); 2♂♂ Yaoundé [03°51'N; 11°31'E, ca. 500 – 1000 m], dated [19]36 & 29 – 30.v.[19]36, VANZWALUWENBURG & MCGOUGH, 700 m (2300ft) and 792m (2600ft) (USNM). GABON: 1♀ Cap Esterias [00°40'N; 09°20'E, ca. 0 – 100 m] N. of Libreville , 6.iv.1972, E.S ROSS (CASC). ZAÏRE: 1♀ Ht. Uele, Mauda [04°09'N; 22°26'E], iii.1925, H. SCHOUTEDEN (MRAC);1♀ Mayumbe [02°30'N; 27°37'E], 1917, R. MAYNÉ (MRAC); 1♀ Mayumbe Tshela [conflicting co-ordinates], 15.x.1923, A. COLLART (BMNH).

Discussion The holotype specimen was not dissected, since the diagnostic features on the apex of the aculeus are clearly visible in the whole specimen, which has the ovipositor fully extended.

The distinction between *P. compta* and *P. sica*, as stated in the key is further supported by the absence of black setulae at ventral apex of katepisternum of female specimens in *P. sica*, while these setulae are present in *P. compta*. This character was not included in the key and caution is advised in its use, until more material is available to support acceptance of this character. In *P. nosphidia* there are females with both character states. It is possible that as more material is collected, the same condition will occur in either *P. compta* or *P. sica*.

Distribution. *P. sica* distributed in West and Central Africa, with specimens known from Cameroun, Gabon and Zaïre (Fig. 689).

Prosopoconus ENDERLEIN, 1922

***Prosopoconus* ENDERLEIN, 1922** – ENDERLEIN (1922: 13) [description] **Type species**: *Prosopoconus fuscigenu* ENDERLEIN, 1922, by original designation. FREY (1932: 257) [key] FREY (1932: 263) [discussion], FREY (1932: pl. VIII, fig. 44); STEYSKAL (1980: 565) [catalogue].
Prosopocomus*:* FREY (1932: 263) [incorrect spelling].

Diagnosis. Arista plumose. Lower facial margin strongly protruding forward, to beyond apex of antenna. Lateral vertical setae strongly developed (medial vertical setae reduced and setula-like, often indistinguishable from postocellar setae). Three pairs of scutellar setae.

Etymology. *προσοπον* – *prosopon* Gr. n. = face and *conus* L. m. – dervied from *κονοσ* – *konos* Gr.m = cone, referring to the pronounced cone shaped extension of the lower facial margin and lower face. Gender masculine.

Description

Dimensions: Body length 3.3 mm; wing length 3.9 mm. **Colour/Vestiture**: Body colour generally dark brown, head pale buff, darker around ocellar triangle; brown shading either side of occipital suture; eyes reddish-brown. Legs pale buff, with brown bands mid and hind femora with brown apical bands. Wings dark brown. Calypter brown. Halter pale buff;. Setulae sparse, generally pale brown and short; black on anepisternum, anepimeron and abdominal tergites, dark brown and short on gena, dark brown and long coxae and thoracic sternites. Silver microtrichia poorly discernible.
Head: Gena laterally expanded – dimension across genae greater than height of head; antero-posteriorly compressed, vertex much narrower than thorax. Face strongly extended forwards as triangular wedge beneath antennae; lower facial margin projects beyond apex of antennae. Eyes elongate, oval. Frons narrowing dorsally. Ocellar triangle adjacent to anterior orbitals. Antennae pendulous, scape set above midway down length of head; arista plumose. Pedicel with ventro-lateral fringe of long pale yellow-brown setulae. Postgena slightly swollen behind eye posterior

margin straight. Palp flattened, narrow and elongate, weakly setose. Setae – 1 (weak) pedicel, 1 ocellar, 2 orbitals, 2 verticals (medial verticals convergent and considerably weakened and hair-like). Setulae sparse, generally pale brown and short. Postocellars divergent, fine and hair like. Postocular row black, distinct from background setulae.

Thorax: Notum broader than long, broadest across wing bases. Setae – 2 notopleural (posterior one raised on callus), 1 supra-alar, 1 postalar, 1 intra-alar, 1 postsutural dorsocentral, 1 postsutural acrostichal, (both latter along posterior margin of scutum), 1 anepisternal, scutellum with 1 basal, 1 lateral and 1 apical. Setulae sparse, generally pale brown and short; black on anepisternum, anepimeron, dark brown and long on coxae and thoracic sternites. **Legs**: Fore coxa with 2 black apical setae; mid coxae with single and hind with paired dorsal setae. Mid coxal prong unsclerotised, curved and pointed. Mid coxa developed into flat fringe, which curves ventrally under trochanter a short way and is strongly setulose at apex. Mid tibia with strong ventral pre-apical bristle, longer than width of apex of tibia. Setulae of legs pale, but brown over brown ground-colour. **Wing**: Costa with pre-humeral weakened (but not distinctly broken); costal setulae strongly developed. Subcosta sinuous at base, ending abruptly at wing flexion. Setulae on entire dorsal length of R_1 and R_{4+5}, dorsal portion of Cu between bm and bcu and entire ventral length of R_{2+3} and M. Discal cell elongate, rectangular, R-M positioned a little before midway on dm. Apical crossvein of bcu angled basad at junction with Cu.

Abdomen: Setulae sparse, generally black on abdominal tergites. Genitalia (♂) – Epandrium small, somewhat compressed. Proctiger not visible above sides of epandrium; hypoproct fused along midline, ventrally setulose. Lateral surstylus robust, blunt apically. Medial surstylus bilobed, each lobe sclerotised apically, basal projecting spur present midway along stem. Glans bulbous at apex. Ejaculatory apodeme large, spatulate; base membranous and large, bulbous.

Included species: *Prosopoconus fuscigenu* ENDERLEIN, 1922

Discussion. *Prosopoconus* shares some remarkable similarities with *Federleyella*, such as the wing pattern, presence of setulae on basal Cu_1, shape of the lateral surstylus and backward projecting spur on the stem of the medial surstylus. This said, it is nevertheless distinct, in that the lower facial margin projects strongly forward and there are three pairs of scutellar setae.

Distribution (Fig. 682) – *Prosopoconus* is only known from Equatorial Guinea.

Prosopoconus fuscigenu ENDERLEIN, 1922

(Figs 527–532, 682)

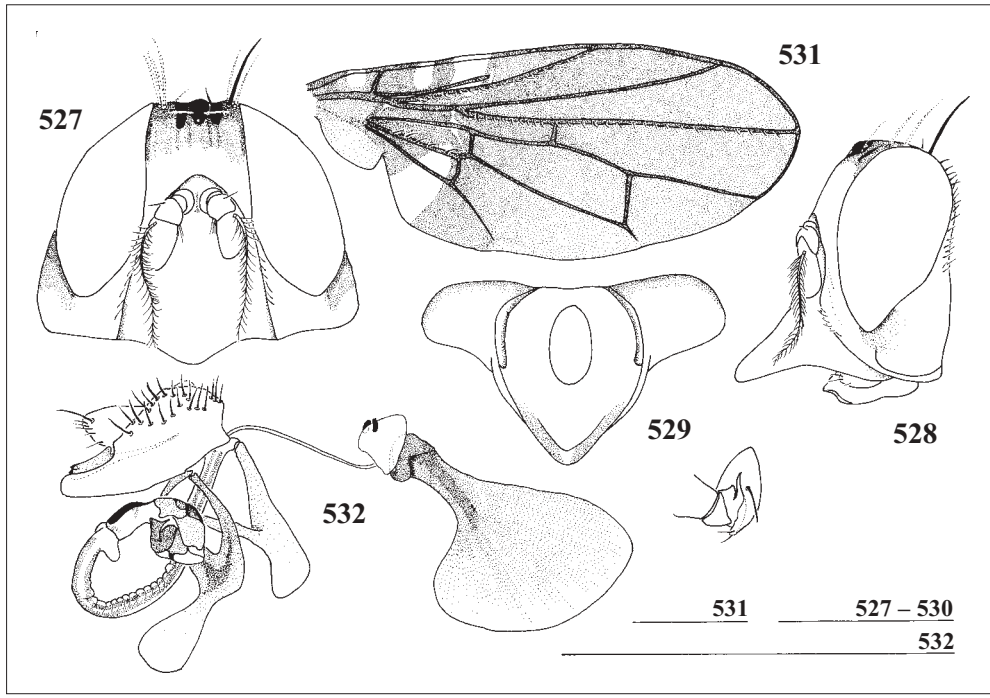
***Prosopoconus fuscigenu* ENDERLEIN, 1922** – ENDERLEIN (1922: 14) [description] STEYSKAL (1980: 565) [catalogue].

Diagnosis. Gena of male extended dorso-laterally, head widest at lower margin of gena. Lower facial margin strongly protruding forward, to beyond apex of arista. Setulae on Cu on basal portion only.

Etymology. *fuscus* L. = dark, dusky, and *genu*, *-us* L. n. or *genus* L. m = knee, referring to the dark brown apex to mid and hind femora.

Description

Dimensions: ♂ Holotype: Body length 3.3 mm; wing length 3.9 mm. **Colour/Vestiture**: Head pale buff with dark orange-brown frons darkening to dark brown around ocellar triangle (Fig. 527), posterior vertex dark orange-brown; gena and postgena slightly darkened adjacent to eye margin (Figs 527 & 528). Posterior margin of notum lighter brown than other parts of thorax. Mid and hind femora with brown apical bands. Wings dark brown, marked basally with hyaline incisions in costal and subcostal cells between humeral crossvein and termination of subcosta and as band across apex of bm, bcu and



Figs 527–532: *Prosopoconus fuscigenu* ENDERLEIN, 1922. ♂ Holotype. – **527**: Head, frontal view; – **528**: Head, profile; – **529**: Head, ventral view; – **530**: Right mid coxa, lateral view; – **531**: Right wing, dorsal view; – **532**: Male genitalia, right lateral view.

across anal cell (Fig. 531). Wing flexion strongly developed (Fig. 531). T_{1+2} and abdominal sternites pale buff. Silver microtrichia poorly discernible, evident as light dusting on: frons strengthening toward eye margin; thoracic notum, scutellum and pleurites, strongest over meron. Antennal sockets and furrows of vertex glossy.

Head: Gena extended dorso-laterally, head widest at lower margin of gena (Figs 527 – 529). Lower facial margin strongly protruding forward, to beyond apex of arista (Figs 527 – 529). Arista long (twice length of flagellomere 1) length of plumosity on either side of arista equal to width of flagellomere 1 (Figs 527 & 528). Shallow furrows present either side of ocellar triangle. Antennal sockets shallow. Subcranial cavity wide and shallow (Fig. 529). Setulae sparse, generally pale brown and short; dark brown and short, but denser on gena, and dense patch of minute, black setulae on anterior surface of gena, below eye (Fig. 527).

Thorax: Scutellum evenly curved along apical margin. **Legs**: Mid-coxal prong weak, ventral fringe setulose at apex, single dorsal seta situated lateral to prong (Fig. 530). **Wing** (Fig. 531): R-M situated midway along dm. R_{2+3}, R_{4+5} and M straight. Setulae on Cu on basal portion only.

Abdomen: As in generic description. Genitalia (♂) (Fig. 532) – Epandrium slightly compressed, evenly covered with fine, black setulae. Proctiger reduced to a small lobe visible dorsally on epandrium. Hypoproct rounded at apex, ventrally setulose, with two strong apical setulae. Lateral surstylus blunt ended and curved around front of medial surstylus. Apex of medial surstylus bilobed, each lobe strongly sclerotised at apex, arm of surstylus with basal projection. Distiphallus broad and flattened, with distinct annular rings on dorsal surface. Basal caeca of glans paired either side of basal sclerotised plate, apex of glans lobate. Ejaculatory apodeme, strongly sclerotised, broadly spatulate and having large bulbous unsclerotized basal lobe (with two minute dorsal sclerites) attached to short, unsclerotized ejaculatory duct. Vanes of phallapodeme and hypandrium robust, apices spatulate.

Variation: ♀ unknown.

Material examined: **Holotype**: EQUATORIAL GUINEA: ♂ (ZMHB) "Span. Guinea / Nkolentangan [unknown latitude and longitude] / XI.07 – V.08. / G.TEßMANN S.G" [printed on blue card]; "Type" [printed on orange card]; "*Prosopoconus* / *fuscigenu* / Type ENDERL. ♂ / Dr. ENDERLEIN det.1920" [handwritten, on white card, except last line all of which excepting "20" is printed]; 2 labels "Zool. Mus. / Berlin" [printed on white paper, which is brown with age] between which is a femur (mid-leg?) and two fragments of right wing adhered to a piece of white card; "HOLOTYPE / *Prosopoconus* / *fuscigenu* ♂ / ENDERLEIN, 1922. / Det: A.E. WHITTINGTON" [first and last lines printed, middle three hand written on red card]. In poor condition – body greasy, obscuring pruinosity and setulation; all setae missing except left lateral vertical, anepisternal and hair-like medial verticals and post-ocellars; fore legs, right mid leg and left hind leg missing, tarsi missing from remaining legs; left wing missing (except for fragment adhered to card) and right wing damaged in costal cell. Staged on a rectangular staging card. Genitalia dissected and placed in glycerine in microcapsule on same pin as specimen.

Discussion. *P. fuscigenu* is the only species known from this distinctive genus.

Distribution. *P. fuscigenu* is only known from the type locality in Equatorial Guinea (Fig. 682).

Pterogenomyia HENDEL, 1914

***Pterogenomyia* HENDEL, 1914 – HENDEL (1914a: 34, [1914b: 5])** [description] **Type species**: *Pterogenomyia paradoxa* HENDEL, 1914 by original designation (= *picta* (BIGOT, 1891), New combination). FREY (1932: 257) [key]; STEYSKAL (1980: 565) [catalogue].

= *Onceroparia* ENDERLEIN, 1924 – ENDERLEIN (1924: 100) [description] **Type species**: *Onceroparia strigata* ENDERLEIN, 1924, by original designation. FREY (1932: 257) [key]; STEYSKAL (1980: 565) [catalogue, synonymy].

Diagnosis. Arista plumose. Lateral vertical setae strongly developed; medial vertical setae reduced and setula-like, often indistinguishable from postocellar setae. Posterior orbital seta reduced and setula-like. Postpronotal setae present; notum lacking postsutural acrostichals. Two pairs of scutellar setae. Setulae sometimes present ventrally on R_1 basad to pterostigma and/or on base of R_{4+5}, in addition to setulae dorsally along length of R_1 and R_{4+5}, but never along R_{2+3} nor on M. Wings longitudinally banded. Large species – wing length exceeding 6.9 mm.

Etymology. *πτερον* – *pteron* Gr. n. – wing; gena L. – cheek; *μψια* – *myia* Gr. f. – a fly; referring to the laterally extended gena of the type specimen of *Pterogenomyia paradoxa* HENDEL, 1914. Gender feminine

Description

Dimensions: ♂ Body length 6.8 – 11.3 mm, wing length 7 – 12.0 mm. ♀ Body length 6.5 – 12.0 mm, wing length 7,3 – 11.5 mm. **Colour/Vestiture**: Ground-colour orange-brown, but head mostly pale buff except orange antenna, mouthparts and semicircular area above ptilinal fissure, orange-brown on vertex with dark brown ocellar triangle. Eye red-brown. Gena with longitudinal brown stripe. Tibiae and abdomen brown, abdomen with irregular black longitudinal marks. Wing longitudinally banded: orange on c, sc, r_1, r_{2+3} and bcu; dark brown on pterostigma, apex of r_1, postero-apical margin, apex and base of r_{2+3}, bm, br and r_{4+5}, paler brown on posterior wing margin; hyaline on dm (except postero-apical brown area), anterior half of m and entire alula. Wing veins coloured according to background membrane coloration. Calypter orange-brown with dark brown margin. Halter orange-brown. Fine silver microtrichia sparse and indistinct, visible on frons, occiput postalar wall and mediotergite.

Head: Anteroposteriorly compressed. Gena extensively developed laterally such that head in frontal view is triangular; height equal to length of flagellomere 1. In lateral view, face shallowly concave and projecting at lower facial margin as far as pedicel. Ocellar triangle situated forward of fronto-orbital setae. Eye elongate, ventrally narrow. Vertex one fifth width of head across extended genae; head wider than thorax. Antennal groove shallow, poorly developed. Ventral fringe of setulae on pedicel long. Flagellomere 1 rounded at apex, pendulous. Arista plumose. Lower face with small tubercle below antennal groove. Palp elongate, many times longer than wide (tending to curl in dried specimen). Postgena slightly swollen. Setulae mostly pale orange-brown, long posterior to subcranial cavity, short dark brown intermingled with long black setulae

on brown genal stripes. Vertex asetose. Supracervical setulae in dense tuft. Setae: 1 ocellar, 1 strong anterior and 1 weak posterior reclinate orbital, 1 strong vertical, pale postocellars parallel to divergent. Postocular row pale and weak.

Thorax: Setulae long, but sparse, pale orange-brown, short on scutellum and intermingled with black on centre of notum, seta-like on apex of coxae and ventral margin of katepisternum. Anterior anepisternum asetose. Scutellum short; mediotergite strongly developed and rounded. Setae: 1 postpronotal, 2 notopleural (posterior one raised on callus), 1 anepisternal, 1 supra-alar, 1 postalar, 1 intra-alar, 1 prescutellar dorsocentral, scutellum with 1 lateral and 1 apical.

Legs: Setulae on legs pale orange-brown, conspicuously long and strongly developed ventrally on femora; short, dense and thickened on ventral surfaces of first and second tarsomeres, brown on tibiae. Mid coxa elongate and vertically orientated; coxal prong distinct, but short. Mid coxa with 1 and hind coxa with 2 laterally positioned orange setae. Mid tibia with ventral pre-apical seta longer than width of tibia. Inner lateral surface of hind tibia with apical patch of thickened, pale setulae. Anterior margin of mid and hind tarsomeres with short, thick, black pre-apical setulae. Empodium fine, setiform, directed upwards toward long setulae from dorsal surface of tarsomere 5 which overhangs apex of tarsus. Basal half of tarsal claws densely covered with fine setulae. Pulvillae subsquare and densely covered with fine white setulae.

Wing: Humeral break on costa clearly defined, subcostal break no more than slight weakening. Costa ending at apex of M, having black setulae which become shorter toward wing apex. Fine setulae along posterior wing margin pale. Subcosta evanescent toward wing margin, Sc-R spur distinct. Black dorsal setulae on entire R_1, pale on R_{4+5} until R-M, from where they are black to wing apex; ventral setulae at base of R_{4+5}. Crossvein R-M a little beyond midway on dm; dm shorter than br. Distal margin of cell bcu curved in middle toward wing apex – i.e. CuA_2 curved such that forward most part is in line with BM-Cu. Cells bm and bcu of similar length. Lower calypter reduced to setose ridge; subalar sclerite strongly developed. Stem of halter long. Tegula small with long black setulae.

Abdomen: Elongate, T_{1+2} as long as wide, length of T_{3-5} half to one third width of abdomen. Sternites large, one third abdomen width. Setulae long, pale orange-brown, denser on third and four segments than on T_{1+2}. Male genitalia – S_5 of similar dimension to S_4 (Figs 538 & 539). Two dorsal spurs on S_7 (that closest to S_8 longer than more distal one) (Fig. 539). Epandrium rounded, dorsally setose. Proctiger membranous. Hypoproct fused to proctiger, shield-like over surstyli, strongly setose dorsally at apex. Lateral surstylus elongate (as long as epandrium) and narrow. Medial surstylus bilobed apically, with outer lobe strongly sclerotised into a double peg; paired setulae ventral to pegs; row of fine setulae on inner surface. Distiphallus narrow by comparison with dimension of glans, with annular impressions on dorsal surface. Glans elongate, basally bulbous, lateral sclerites strongly sclerotised. Ejaculatory apodeme large, sclerotised, and broadly spatulate. Vanes of phallapodeme and hypandrium broad; apices narrowly spatulate. Ovipositor – T_5 well developed, longer than T_4 and overhanging base of T_7; length of S_5 subequal to S_4. Oviscape conical, slightly shorter dorsally than ventrally. Eversible membrane densely ornamented on apical half with minute ‘fingerprint-like' wrinkles. Aculeus broadly blade-like with scattered setulae. Tip of aculeus sharply pointed, with four distinct apical setulae. Three spherical spermathecae in 1+2 arrangement each with an apical point, ducts narrow and convoluted (Fig. 531). Ovaries not observed.

Included species: *Pterogenomyia picta* (Bigot, 1891) **comb. nov.**

Discussion. *Pterogenomyia* was established in 1914 by Hendel to accommodate a single specimen of a new species (*P. paradoxa*) from Fernando Póo. In a postscript he added *P. tibialis*

HENDEL, 1914 based on three specimens from Uganda. Without reference to *P.tibialis* as a member of Plastotephritini, ENDERLEIN established the genus *Conopariella* in 1922, to which *P.tibialis* HENDEL, 1914 was later referred by FREY, 1932.

In 1924, ENDERLEIN established the new genus *Onceroparia* for the West African species *O. strigata* and *O. parvisetula*. He distinguished the new genus from *Pterogenomyia* by the lack of cone-shaped extensions to the gena and the variable character state of the ocellar seta. FREY (1932) accepted the first distinction, but noted that the ocellar setae on the Type specimen of *O. parvisetula* were broken off. The expansion of the gena is found only in males and, as in other genera (e.g. *Clitodoca* LOEW, 1873, *Cladoderris* BEZZI, 1914, *Conopariella* ENDERLEIN, 1922, and *Phytalmodes* BEZZI, 1908), it is variable and is likely to be related to agonistic behaviour (D. K. MCALPINE 1975 & 1979, DODSON 1997 and MOFFET 1997). Steyskal synonymised *Onceroparia* and *Pterogenomyia* in 1980.

The type of *Melieria picta* BIGOT, 1891, has only recently been re-discovered (A. PONT, *pers. comm.*) and is clearly synonymous with *P. paradoxa* HENDEL, 1914. Although *Melieria picta* (MEIGEN, 1829) also exists, this was originally described in the genus *Ortalis*. Thus, *Melieria picta* (MEIGEN, 1829) and *Melieria picta* BIGOT, 1891 are not primary homonyms, neither are they secondary homonyms, because they were not used in *Melieria* simultaneously. Since BIGOT's *picta* is not an Otitidae and does not belong to *Melieria*, but is synonymous with HENDEL's *paradoxa*, *Pterogenomyia picta* (BIGOT, 1891) has priority over *Pterogenomyia paradoxa* HENDEL, 1914.

Distribution (Fig. 690). *Pterogenomyia* is widespread across West, Central and East Africa. It has been collected from Sierra Leone, Ivory Coast, Cameroun, Equatorial Guinea, Gabon, Zaïre and Uganda.

Pterogenomyia picta (BIGOT, 1891) comb. nov.

(Figs 533 – 541, 690)

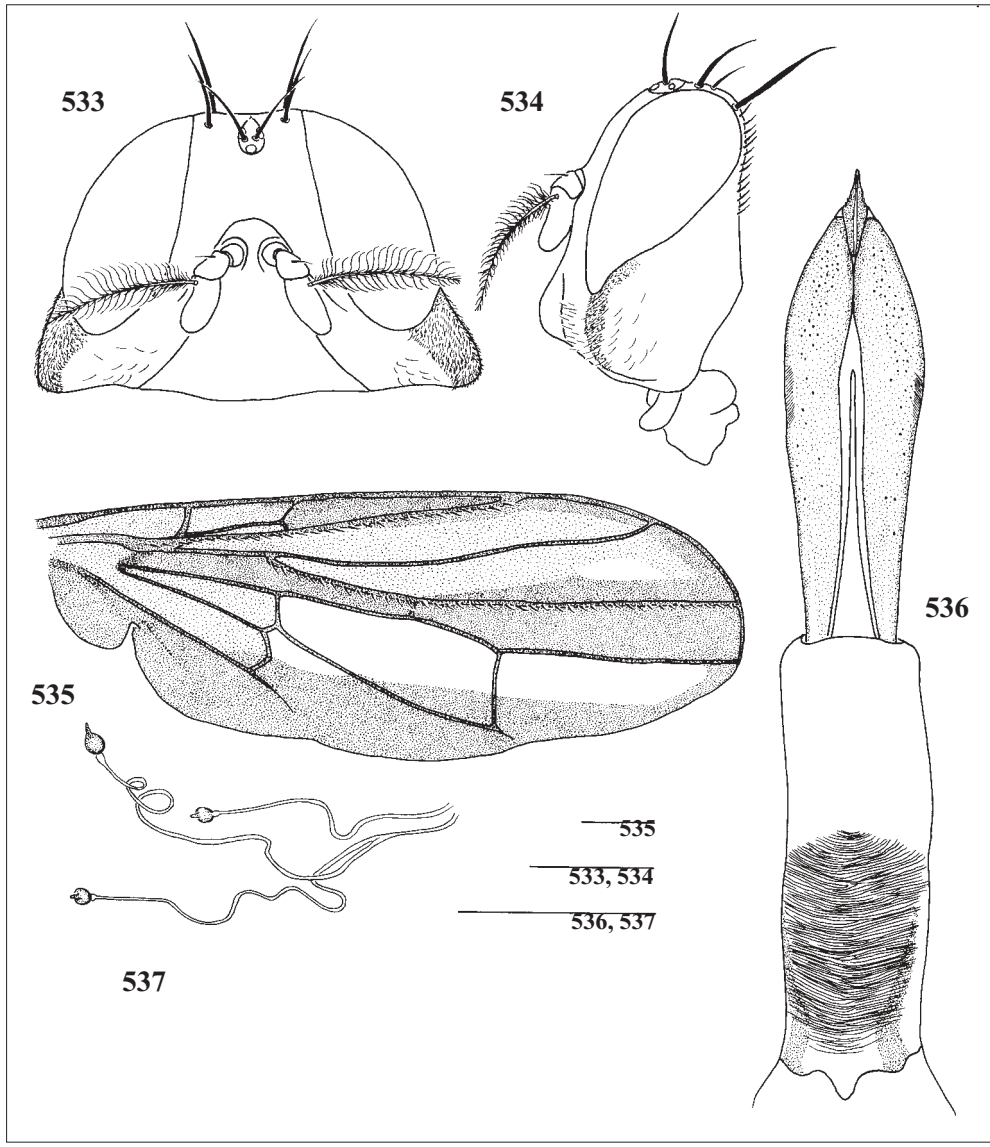
***Melieria picta* BIGOT, 1891** – BIGOT (1891: 383) [description].
= ***Pterogenomyia paradoxa* HENDEL, 1914** – HENDEL (1914b: 23, pl. 3, fig. 47–49). FREY (1932: 259) [key]. STEYSKAL (1980: 565) [catalogue]. **Syn. nov.**
= ***Onceroparia parvisetula* ENDERLEIN, 1924** – ENDERLEIN (1924: 101). FREY 1932: 260 [key]. Synonymy??
= ***Pterogenomyia parvisetula* (ENDERLEIN, 1924)**. STEYSKAL (1980: 565) [catalogue & comb. nov.]. **Syn. nov.**
= ***Onceroparia strigata* ENDERLEIN, 1924** – ENDERLEIN (1924: 100). FREY 1932: 260 [key]; ROHLFIEN & EWALD (1972: 421) [type list].
= ***Pterogenomyia strigata* (ENDERLEIN, 1924)**. STEYSKAL (1980: 565) [catalogue & comb. nov.]. **Syn. nov.**
= ***Pterogenomyia mirifica* FREY, 1932** – FREY (1932: 259, pl. VII, fig. 26). STEYSKAL (1980: 565) [catalogue]. **Syn. nov.**

Diagnosis. Large species mainly orange-brown with dark brown markings – body and wing length exceeding 6.9 mm. Wings longitudinally banded, without hyaline incisions, spots or bullae.

Etymology. *pictus* L. – painted or coloured, referring to the striking coloration of the body and wings of this species.

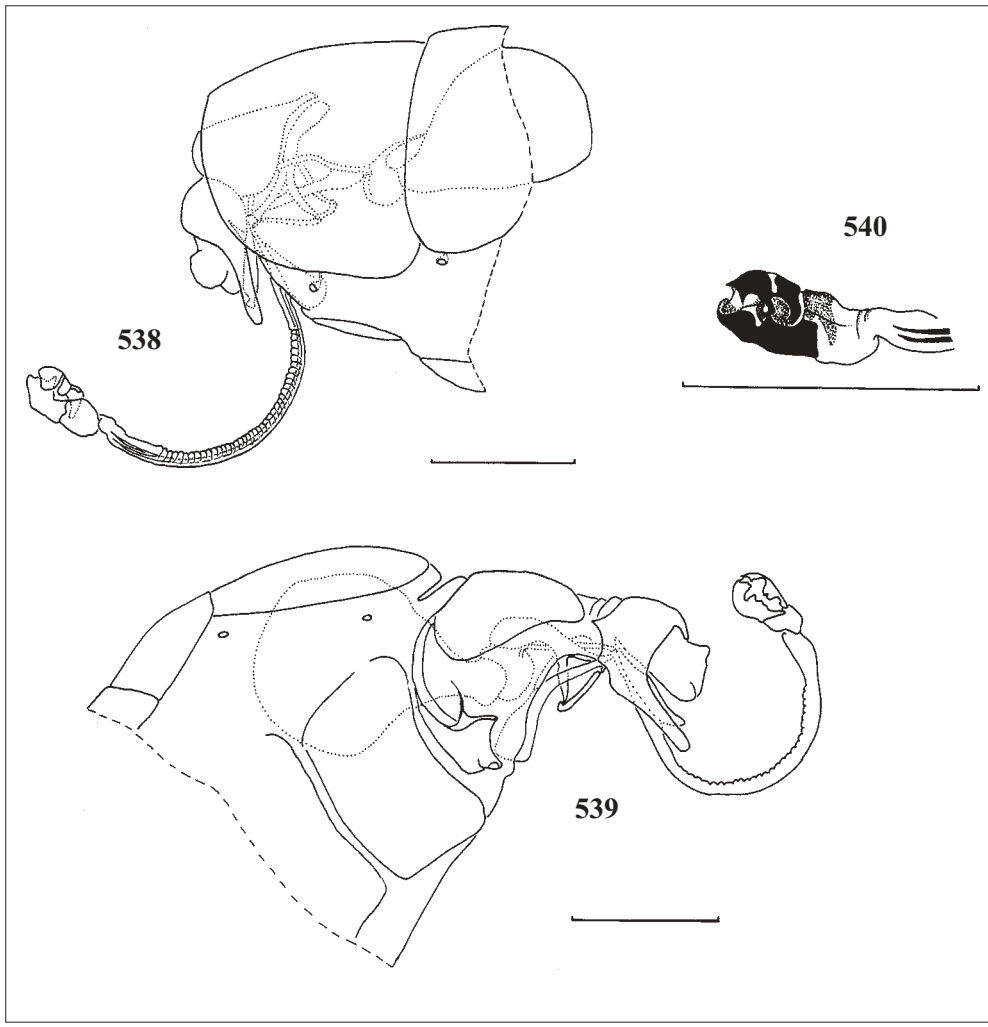
Description

Dimensions: ♀ Holotype. Body length 8,4 mm; wing length 9,3 mm. **Colour/Vestiture**: Ground-colour orange-brown, with two parallel, longitudinal brown stripes on occiput, notum, scutellum, subscutellum, mediotergite and abdomen. Longitudinal brown stripe on gena (Figs 533 & 534). Wing: longitudinally banded: orange on c, sc, r_1, r_{2+3} and bcu; dark brown on pterostigma, apex of r_1, postero-apical margin, apex and base of r_{2+3}, bm, br, r_{4+5} and along DM-Cu, paler brown on posterior wing margin; hyaline at apex of R_1 on dm (except postero-apical brown area), anterior half of m and entire alula. Wing veins coloured according to background membrane coloration. Calypter orange-brown with dark brown margin. Halter orange-brown. Fine silver microtrichia sparse and not at all distinct, visible on frons, occiput postalar wall and mediotergite.



Figs 533–537: *Pterogenomyia picta* (Bigot, 1891). ♂ and ♀ specimens. – **533**: Male head, frontal view; – **534**: Male head, profile; – **535**: Right wing, dorsal view; – **536**: Female ovipositor, ventral view; – **537**: Spermathecae.

Head: Anteroposteriorly compressed. In lateral view, face shallowly concave and projecting at lower facial margin as far as pedicel (Fig. 534). Ocellar triangle situated forward of the fronto-orbital setae (Figs 533 & 534). Eye elongate, ventrally narrow (Figs 533 & 534). Vertex one fifth width of head across extended genae; head wider than thorax. Antennal groove shallow, poorly developed. Ventral fringe of setulae on pedicel long. Flagellomere 1 rounded at apex, pendulous (Figs 533 & 534). Arista plumose, 2.5 times length of flagellomere 1; length of dorsal and ventral plumosity equal to width of flagellomere 1 (Fig. 533). Lower face with small tubercle below antennal groove. Palp elongate, many times longer than wide and tending to curl in dried specimen. Postgena slightly swollen (Fig. 534). Setulae mostly pale orange-brown, long posterior to subcranial cavity, short dark brown intermingled with long black setulae on brown genal stripes. Vertex asetose. Supracervical setulae in dense tuft. Setae as for generic description.



Figs 538–540: *Pterogenomyia picta* (BIGOT, 1891). ♂ specimen. – **538**: Male genitalia *in situ*, right lateral view; – **539**: Male genitalia *in situ*, left lateral view; – **540**: Male genitalia, detail of glans, right side.

Thorax: Pale orange-brown setulae on notum intermingled with black setulae, which are best viewed from posterior angle. Scutellum short; mediotergite noticeably large. Length of setulae on R_1 equal to length of R-M crossvein. Setae as for generic description.

Abdomen: As for generic description. Ovipositor (Fig. 536) – Taenia one third length of eversible membrane; ornamentation dense and reaching midway. Aculeus broad and strongly sclerotised.

Variation: ♂ Body length 6.8–11.3 mm, wing length 7–12.0 mm. ♀ Body length 6.5–12.0 mm, wing length 7,3–11.5 mm. Gena of some males laterally broadened, such that head in frontal view is triangular (Fig. 533); height of gena equal to length of flagellomere 1 (Figs 533 & 534). Extent of brown stripes across occiput, thorax and/or abdomen varies considerably, as does amount of brown on legs. Variable amounts of brown, orange and hyaline vary on wing, but basic pattern (Fig. 535) constant – most specimens lack (or exhibit varying degrees of) hyaline spot at apex of R_1 and brown along DM-Cu as in Holotype. Distribution of setulae on ventral surface of wing veins erratic. Some specimens have setulae on ventral surface of R_1 and on basal section of R_{4+5}, some only have a few at node of R_{2+3} and R_{4+5} and other specimens lack these setulae altogether. In some cases these setulae are orange-brown rather than

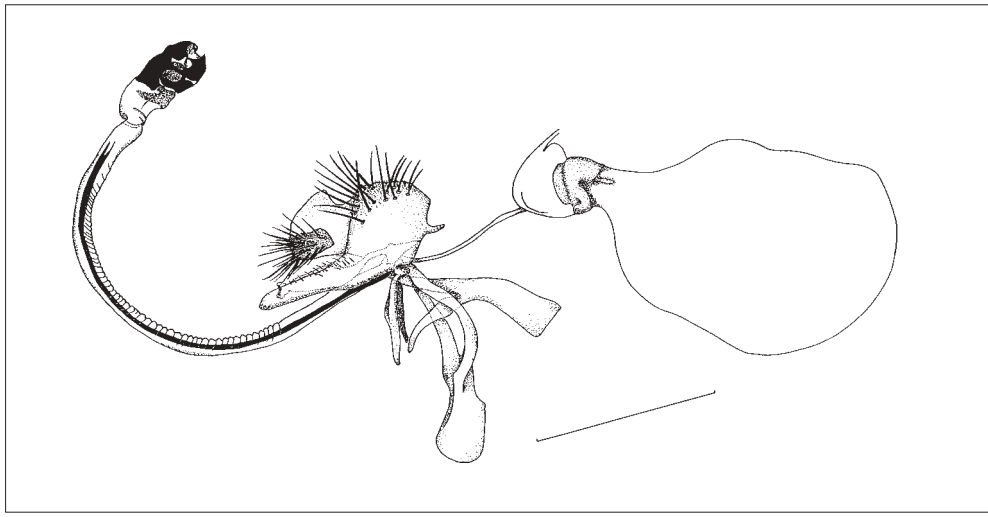


Fig. 541: *Pterogenomyia picta* (Bigot, 1891). ♂ specimen. Male genitalia dissected, right lateral view.

black. **Genitalia** (♂): Epandrium rounded (Figs 538, 539 & 541), dorsally setose (Fig. 541). Proctiger membranous, variable in shape from large and subsquare to not extending beyond sides of epandrium. Hypoproct fused to proctiger, shield-like over surstyli, strongly setose dorsally apex (Fig. 541). Lateral surstylus elongate (as long as epandrium) and narrow (Fig. 541). Medial surstylus bilobed apically, with outer lobe strongly sclerotised into a double peg; paired setulae ventral to pegs; row of fine setulae on inner surface. Distiphallus narrow by comparison with dimension of glans (Figs 538, 539 & 541), with annular impressions on dorsal surface. Glans elongate, basally bulbous (Figs 538–541), lateral sclerites strongly sclerotised (Fig. 540). Ejaculatory apodeme large, sclerotised, and broadly spatulate (Fig. 541). Vanes of phallapodeme and hypandrium broad; apices narrowly spatulate (Fig. 541).

Material examined: **Holotype**: IVORY COAST: ♀ (oxum) "Holotype" [round label with red boarder]; "Assinie [05°07'N; 03°17'W, ca. 0–100 m] / Afrique oc" [printed, blue label]; "Type / J. Bigot" [handwritten in red ink]; "*Melieria* / Rondani / *picta* ♀" [handwritten in black ink in two hands, the middle line being Bigot's writing (A. Pont, *in litt.* 24.ix.1998). In good condition, right wing slightly damaged.

Other material — SIERRA LEONE: **Holotype of P. mirifica**: ♂ (bmnh) "Type" [printed round label with red boarder]; "Pres. by / Imp. Inst. Ent / Brit. Mus. / 1931–56." [printed label with the t of "Inst." indistinct]; "*Pterogenomyia / mirifica* n. sp. / Frey det." [handwritten label with last line printed]; "Sierra Leone / Datu [unknown latitude and longitude] / June 1911 / Dr J.C. Murphy" [handwritten rectangular label]; "Spec. typ. / phot" [printed on pink card; "phot." handwritten on white card and adhered to lower half of label possibly referring to the photograph of the left wing in Frey (1932)]. "*Pterogenomyia / paradoxa* ♂ / Hendel, 1914 / Det. Whittington 1998" [printed on white card with gender sign handwritten]. In terrible condition, thorax completely filled and subsequently fragmented by verdigris with no evidence of pin remaining; wings, legs and head all broken off; head shrivelled and almost indistinguishable; head and parts of abdomen have naphthalene crystallising on the surface; all parts adhered to an old and large piece of acetate, from which some parts have been dislodged and have been re-adhered to a new piece of white card, now pinned above the acetate, genitalia dissected and stored in glycerine in microvial on same pin as specimen. IVOR♂ COAST: 1♀ Taí [05°52'N; 07°28'W; ca 100–200 m], ± 20.I.1978, G. Couturier (mnhn). CAMEROUN: 1♀ 20 km S. Bamenda [ca. 05°53'N; 10°09'E], 1800 m, 22.xi.1987, Fini Kaplan (taui); 1♂ Bambalang [05°53'N; 10°32'E], off Rt. N11 35km E Bamenda, 18–21.xi.1987, 1200 m, Amnon Freidberg; 1♀ Ekok, 24 mi. E. Tekmo [05°49'N; 08°53'E], 11–12.x.1966, E.S. Ross & K. Lorenzen, 650 m (casc); 1♂ Barombi Station [ca. 04°28'N; 09°15'E], S. Preuß, (**Syntype** of *Onceroparia strigata*; zmhb); 1♂ 1♀ Batanga [two possible localities: 04°24'N; 11°01'E or 04°10'N; 14° 28'E], 30.viii. and 13.xi.1911, A. I. Good (cmnh); 1♂ 1♀ Bibundi [04°13'N; 09°00'E; ca. 0 – 100 m], 1–15.v.1905, G. Teßmann S.G (**Syntype** of *Onceroparia strigata*; ♂ uzmh, ♀ zmhb); 1♂ Große Kamerunberg [= Mount Cameroun], Buea [04°09'N; 09°13'E], 3.x.1910, Hintz S.G., 1000 m, vii–viii.1908, (**Syntype** of *Onceroparia strigata*; bmnh); 1♀ Yaoundé [03°51'N; 11°31'E], 700 m, 1936, Van Zwaluwenburg & McGough (nmsa); 1♂ Bitye [03°01'N; 12°22"E], E. Ja River [south east Cameroun], no date, no collector, 1920.31.121 (nmse); 1♀ Akoafim [=♂en 02°19'N; 12°41'E, ca. 1000–1500 m], 1914, Teßmann S.G (zmhb); 1♀ [unknown locality] G. Teßmann S.G, numbered: 111–120 (**Syntype** of *Onceroparia strigata*; uzmh); 1♂ (**Syntype** of *Onceroparia strigata*; deic – incorrectly labelled as holotype) labelled only as "Kamerun / Conradt 8"

"Onceroparia / strigata / Type Enderl. ♂ / Dr ENDERLEIN det.1920"; "coll. Lichtwardt"; "Holotypus"; "Type" [crossed though in blue ink]; "Coll DEI / Eberswalde" and 1♂ (not a type – DEIC) [first label the but lacks the "8", det is by P. SPEISER and only one type label: "PARATYPUS"]; 1♀ Metet [conflicting co-ordinates], 16.xi.1918, A. I. GOOD (CMNH). EQUATORIAL GUINEA: ♂ **Holotype** (NHMW) "Fernando Póo / Sª Isabel [= Malabo 03°45'N; 08°48'E] / 12.5.1900 / L. Conradt S." [white card smeared with blue ink, day and month handwritten]; "Type" [maroon card]; "*Pterogenomyia* / *paradoxa* H. / det. Hendel" [white card, genus & species name handwritten]; "Coll. Hendel"; "= *Pterogenomyia* / *picta* Bigot, 1891 / syn. nov. / Det. A.E. WHITTINGTON" [red framed label with "Holotype" in red print, the remainder handwritten]. In good condition, left wing a little damaged, genitalia in capsule. ♂ **Holotype** (ZMHB) "Span. Guinea / Alcu [=alcubilla? Sp.f. – basin, reservoir] Benitogbt [=Benitogebiet, i.e. Benito District; 01°30'N; 09°45'E?] / 16–31 VII 06 / G. Teßmann S.G" [printed on blue card]; "Type" [dull orange card]. "*Onceroparia* / *parvisetula* / Type Endel. ♂ / Dr. ENDERLEIN det 1920" [white card, handwritten except for last line (excluding '20') which is printed]; "Zool. Mus. / Berlin"; "*Pterogenomyia / paradoxa* ♂ / Hendel, 1914 / Det. WHITTINGTON 1998" [printed on white card with gender sign handwritten]. In good condition, left wing a little damaged, genitalia dissected and stored in glycerine in capsule on pin. 2♂♂ 1♀ Alcu [=alcubilla? Sp.f. – basin, reservoir] Benitogbt [=Benitogebiet, i.e. Benito District; 01°30'N; 09°45'E?], 1–15 I♀ 06, G. TEßMANN S.G (1♂ 1♀ **Syntypes** of *Onceroparia strigata*; ZMHB, 1♂ not a type); 1♂ Benitogebiet [i.e. Benito District; 01°30'N; 09°45'E?], Uelleburg, [unknown latitude and longitude – incorrectly (?) listed as Nelleburg by ROHLFIEN & EWALD, 1972], 15–31.i.1907, G. TEßMANN S.G (**Syntype** of *Onceroparia strigata*; ZMHB); 1♂ 2♀♀ Benitogebiet [i.e. Benito District; 01°30'N; 09°45'E?], Uelleburg, [unknown latitude and longitude], vii–viii.1908, G. TEßMANN S.G (**Syntypes** of *Onceroparia strigata*; ZMHB); 1♂ Nkolentangan, [unknown latitude and longitude], 11.xii.1907, G. TEßMANN S.G (**Syntype** of *Onceroparia strigata*; ZMHB); 2♀♀ Nkolentangan [unknown latitude and longitude], xi.1907 – v.1908, G. TEßMANN S.G (1♀ **Syntype** of *Onceroparia strigata*; ZMHB, 1 ♀ not a type). GABON: 1♀ Ogooué [= province and river, conflicting co-ordinates], Sam Kita [= Samkita 00°27'S; 10°27'E], R. ELLENBERGER, 1910 (MNHN); 1♂ "Congo" [=Gabon] Ogooué Lambaréné [00°41'S; 10°13'E], R. ELLENBERGER, 1910. (MNHN).1♂ Mayumba [03°23'S; 10°38'E, ca. 0–100 m], R. MAYNÉ, 1917 (BMNH); 2♂♂ "Gabun" [= previous spelling of Gabon], 4500, no further data (ETHZ). ZAÏRE: 1♂ 1♀ Bambesa [03°25'N; 25°43'E], xi.1933 & 15.ix.1933, H.J. BRÉDO (MRAC); 1♀ Equateur [province], Cap. Van Gele [02°40'N; 19°16'E], [no date] (KBIN); 1♀ Mayumbe [02°30'N; 27°37'E], 1917, R MAYNÉ (MRAC); 1♀ Eala [00°02'N; 18°22'E], R MAYNÉ, 9.iii.1914 (MRAC); 20♂♂ 17♀♀ Eala [00°02'N; 18°22'E], J. GHESQUIÈRE, various dates between 03.v.1935 and 21.xi.1936 (2♂♂ 2♀♀ NMSE; remainder KBIN); 1♂ 1♀ Eala [00°02'N; 18°22'E], J. GHESQUIÈRE viii.1935 & xi.1935 (MRAC); 1♀ Tshuapa [= river or region]: Bokuma [00°40'S; 20°59'E], ix.1952, RÉV. P. LOOTENS (MRAC); 1♀ Equateur [= province] Bokuma [00°40'S; 20°59'E], xi.1936, R.P. HULSTAERT (MRAC); 1♀ Equateur [= province] Bokuma [00°40'S; 20°59'E], xii.1951, RÉV. P. LOOTENS (MRAC); 1♀ 39 km S. of Walikale [near Itebero 01°40'S; 28°06'E, ca. 500 – 1000 m], E.S. ROSS & R.E. LEECH, 28.xii.1957 (CASC); 1♀ Kil.345 de Kindu [02°57'S; 25°57'E], nuit, Dr RUSSO (MRAC); 1♀ Terr. De Banningville [03°19'S; 17°22'E], Dr FAIN, 1945 (MRAC); 4♀♀ Léopoldville [=Kinshasa 04°18'S; 15°18'E], 1911, Dr MOUCHET (3♀♀ MRAC & 1♀ BMNH); 1♂ 1♀ Sankuru [=river], Foret de Lonkala [04°37'S; 23°14'E], iii.1935, Lt J GHESQUIÈRE (MRAC); 1♀ Sankuru: Djeka [04°43'S; 24°17'E], 1955/1956, R. ROISEUX (MRAC); 1♂ Bassin Lukuga [05°00'S; 14°17'E], 1934, DE SAEGER (MRAC); 1♀ Mayidi [05°11'S; 15°09'E], 1942, RÉV. P. VAN EYEN (MRAC); 1♂ Kamaiembi, Luebo [05°20'S; 21°23'E], 19.ix.1921, Dr H. SCHOUTEDEN (MRAC); 1♂ Gandajika [06°45'S; 23°57'E], 21.ii.1947, P. HENRARD (MRAC); 1♀ Sankuru: M'Pemba Zeo (Gandajika [06°45'S; 23°57'E]), 19.iii1932, DON R. MARÉCHAL (MRAC); 1♂ Lomami–Luputa [07°07'S; 23°43'E], v.1935. Dr BOUVIER (MRAC); 1♀ Lomami–Kaniama [07°32'S; 24°11'E], iii–iv.1932, R. MASSART (MRAC); 1♂ 1♀ Lulua [=river],: Kapanga [08°22'S; 22°37'E, ca. 200–500 m], iv.1934, OVERLAET (MRAC); 1♀ Katanga [province], Kinda [09°20'S; 25°06'E, ca. 500–1000 m], [no collector, no date] (UZMH); 2♀♀ Lulua [=river]: Sandoa [09°41'S; 22°56'E], 14.ii.1932, F.G. OVERLAET (MRAC); 1♂ Mongende [unknown latitude and longitude], 21.iv1921, Dr H. SCHOUTEDEN (MRAC). UGANDA: 1♀ Kalinzu Forest [00°25'S; 30°05'E], T.H.E. JACKSON, [no date, but accessioned 1935.203] (BMNH); 3♂♂ 4♀♀ S.W. Maramegambo Forest [ca. 00°30'S; 30°05'E; 1900 m], I. YAROM & A. FREIDBERG, 5.i.1996, 1900 m (TAUI; 1♂ 1♀ NMSE).

Discussion. ENDERLEIN (1924) distinguished *O. parvisetula* from *O. strigata* by the following characters: brown stripes on abdomen not reaching fourth segment; cell r_{4+5} on wing not completely dark brown; legs monocolorous pale ochre-yellow, with hind tibia dark haired – and a little burnt throughout; both ocellar setae developed like small hairs. FREY (1932) accepted the distinction, based only on wing coloration and he noted the broken ocellar setae. He ignored the use of the leg colouring as a misleading character. Having accepted *Onceroparia* as a genus, FREY (1932) had only to compare *P. paradoxa* with the new species he described in *Pterogenomyia* (viz. *P. mirifica*). Again, he based the distinction between the two species on wing coloration and pattern and the extent of the expansion of the genae. In hindsight and with the aid of a longer series of specimens, both conditions are now known to be of dubious value.

It is clear that the character states previously used to separate the four species in this genus are inadequate, because of the amount of variability across the full range of material now available. The fresher

material from Cameroun, Zaïre and Uganda has darker and more distinctive characters. Other characters, including those of the genitalia, have also been found either to lack distinctive differences or to be variable and unreliable. Thus, it becomes evident that there is a single species, which according to priority is *Pterogenomyia picta* (BIGOT, 1891).

None of the syntypes of *Onceroparia strigata* have been given Lectotype status. The labels "Holotypus" and "PARATYPUS" on the two specimens from DEIC are incorrectly placed and should be ignored. The ♂ specimen is part of the syntype series and the ♀ specimen is not one of the original types listed by ENDERLEIN. Furthermore, two specimens from ZMHB bear type labels, but were also not listed by ENDERLEIN, even although they have identical data to other specimens in the syntype series. These specimens cannot be distinguished from the types, now that type labels have inadvertently been placed on the specimens.

Distribution. *P. picta* is widespread across West, Central and East Africa. It has been collected from Sierra Leone, Ivory Coast, Cameroun, Equatorial Guinea, Gabon, Zaïre and Uganda (Fig. 690). It is the most frequently encountered species of Plastotephritinae, probably on account of its relatively large size and conspicuous coloration.

Stellapteryx gen. nov

Type species: *Stellapteryx stellata* sp. nov.

Diagnosis. Arista pubescent. Setae on head cylindrical. Medial vertical setae clearly shorter and weaker than lateral vertical setae. Notum brown with a blue lustre; strongly microtrichose; setae black, setulae short and sparse. Postpronotal setae present. Three pairs of scutellar setae. Fore femur strongly setose ventrally, tending to be inserted on tubercles or spines. Hind trochanter of male rounded on inner ventral margin. Hind tibiae of male swollen at apex and slightly concave, concavity bounded by a dense fringe of black setulae. Wings with radiate brown pattern.

Etymology. *stella* L. f – star; *πτερψξ* – *pteryx* Gr. f. – wing; referring to the radial brown pattern on the wing membrane. Gender feminine.

Description

Dimensions: ♂ Body length 3.2–4.5 mm; wing length 3.5–4.9 mm. ♀ Body length 4.1 mm; wing length 3.2–4.5 mm. **Colour/Vestiture**: Ground colour predominantly pale cream, with darker thorax and abdominal markings and metallic blue or violet lustre present on darkly coloured body parts. Ocellar triangle brown. Antennae pale brown, flagellomere 1 grey or brownish towards apex, basal quarter of arista pale buff, distal three quarters dark brown to black. Legs pale cream banded with brown. Halter pale creamy-white. Abdominal sternites and pleurites pale brown. Male genitalia glossy brown. Microtrichia well defined on notum and to a lesser extent on frons, face, parafacial area, pleurites, subscutellum and abdomen.

Head: Subglobular, slightly anteroposteriorly compressed. Vertex narrow, approximately one third head width; head width slightly less than thorax width. Face projecting at lower facial margin to beyond apex of pedicel. Antennal grooves present, but not distinct. Flagellomere 1 oval, pendulous. Arista finely pubescent. Ocellar triangle situated adjacent to anterior reclinate orbital seta. Gena (in frontal view) with curved margin between lower margin of. Postgena weakly developed posteriorly such that it bulges little posterior to eye. Palp elongate, many times longer than wide. Setulae mostly pale cream. Vertex asetulose. Supracervical setulae sparse and minute. Setae – 1 ocellar (weak), 2 reclinate orbitals, 1 strong and 1 weaker vertical, 1 genal. Postocular row black and strongly developed.

Thorax: Longer than broad. Setulae pale cream; strongly reduced and fine on scutellum; thickened on coxae and ventral margin of katepisternum. Scutellum strongly rounded at margin.

Setae: 1 postpronotal, 2 notopleural (posterior one raised on a callus), 1 anepisternal, 1 supra-alar, 1 postalar, 1 intra-alar, 1 posterior acrostichal and 1 posterior dorsocentral; scutellum with 1 basal, 1 lateral and 1 apical. **Legs**: Fore coxae apically excavate anterior to trochanter insertion. Fore coxa with 2 long, curved apico-dorsal setae; mid coxa with 1 short lateral seta and hind coxa with 2 short lateral setae. Mid coxal prong distinct, narrow, slightly curved and pointed apically. Fore femora weakly spinose on ventral surface, but strongly setose. Apex of hind femur with two long, pale setulae, distinct from shorter background setulae, arising from dorsal surface within brown apical band. Mid tibia with short ventral pre-apical bristle (at most equal to width of tibia). Hind tibia expanded into concave scoop, densely setulose around its margin. Setulae pale cream, long and conspicuous ventrally on femora, short, dense and thickened on hind tarsomeres, brown on brown background markings. Anterior margin of tarsomeres with short, thick, black pre-apical setulae (most numerous on mid-leg). First three tarsomeres of each leg with slightly thickened ventral setulae. Setulae long and conspicuous dorsally on apex of final tarsomere, curving over apex in front of claws. Empodium small, setiform, obscured by rounded and densely setose pulvilli. Claws sharp, smooth and narrow; evenly curved. **Wing**: Costa with pre-humeral and humeral weakenings. Costa ending at apex of M, having black setulae becoming shorter toward wing apex. Costal cell broad (wider than length of crossvein R-M). Subcosta evanescent, weakened at wing flexion. R_{2+3} sinusoidal; distal portion of R_{4+5} slightly curved. Black setulae on entire R_1, and R_{4+5}. Wing flexion noticeable; at angle basad along sub-costal evanescence, across basal r_1 and RS bifurcation, then at an angle apicad across br, bm, through Cu and across basal cu_1. Crossvein R-M just beyond midway on dm. Cell bm longer than cell bcu. BM-Cu and Cu_2 approximately equal in length. Fine setulae along posterior wing margin pale. Calypter reduced to setose ridge. Tegula small with long black bristle-like setulae.
Abdomen: Ovate, widest at hind margin of T_{1+2}. Pleurites membranous, matt. Sternites glossy, poorly sclerotised, reduced to about one third width of abdomen. Setulae short and sparse, mostly pale coloured, but bronze-brown over dark areas of tergite. Genitalia (♂): epandrium subsquare, dorsally poorly setulose; lacking epandrial-surstylar suture. Proctiger membranous and small, just extended above sides of epandrium. Hypoproct fused forming short shield above surstyli, setose along ventral margin. Medial surstylus bilobed, apically setulose on inner lobe, apically toothed on outer lobe. Distiphallus short, narrow, with annular impressions on dorsal surface. Glans lacking basal caeca. Vanes of phallapodeme and hypandrium narrow. Ovipositor – Oviscape conical, slightly shorter dorsally than ventrally. Eversible membrane finely ornamented on apical half with fine transverse wrinkles. Tip of aculeus blunt and setulose. Spermathecae 1+2. Ovaries not observed.

Included species: *Stellapteryx minuta* **sp. nov.**
Stellapteryx stellata **sp. nov.**

Discussion. This genus clearly belongs to the *Cladoderris*-group of the Agrochirini. There is no sexual dimorphism in head width and the presence of the postpronotal setae distinguishes *Stellapteryx* and *Cladoderris* from *Eudasys* and *Agadasys*. *Stellapteryx* is distinguished from *Cladoderris* by cylindrical setae on the head, fore femur weakly spinose (or aspinose in some females), male hind tibia modified with a concave scoop at the apex (Fig. 554 & 555) and hind trochanter of male rounded at apex on inner surface. Although the modification of the male hind tibia is less pronounced than in *Atopocnema* and *Xyrogena*, it may share a similar pheromone transfer role to that proposed by WHITE (2000) for Dacinae (Tephritidae) and as suggested for *Atopocnema* and *Xyrogena*.

Distribution (Fig. 684) – *Stellapteryx* is only known from Madagascar.

Key to the species of *Stellapteryx*

1 Tiny (wing length 2.2 mm); central frons yellow-brown (Fig. 542); notum densely white microtrichose – brownish microtrichose pattern only visible with low incident light (Fig. 544); hyaline markings in wing rounded (Fig. 545); ..... ***S. minuta* sp. nov.**

– Small (wing length 4.9 mm); central frons dark brown, with a pale median longitudinal stripe (Fig. 548); notum densely white, silver-grey and brown microtrichose –pattern clearly visible (Fig. 552); hyaline markings in wing elongate and pointed (Fig. 556); ... . ***S. stellata* sp. nov.**

Stellapteryx minuta sp. nov.

(Figs 542 – 547, 684)

Diagnosis. Tiny (wing length 2.2 mm); central frons yellow-brown; notum densely white microtrichose – brownish microtrichose pattern only visible with low incident light; hyaline markings in wing rounded.

Etymology. *minutus* L. a. – tiny, referring to the diminutive size of this specimen.

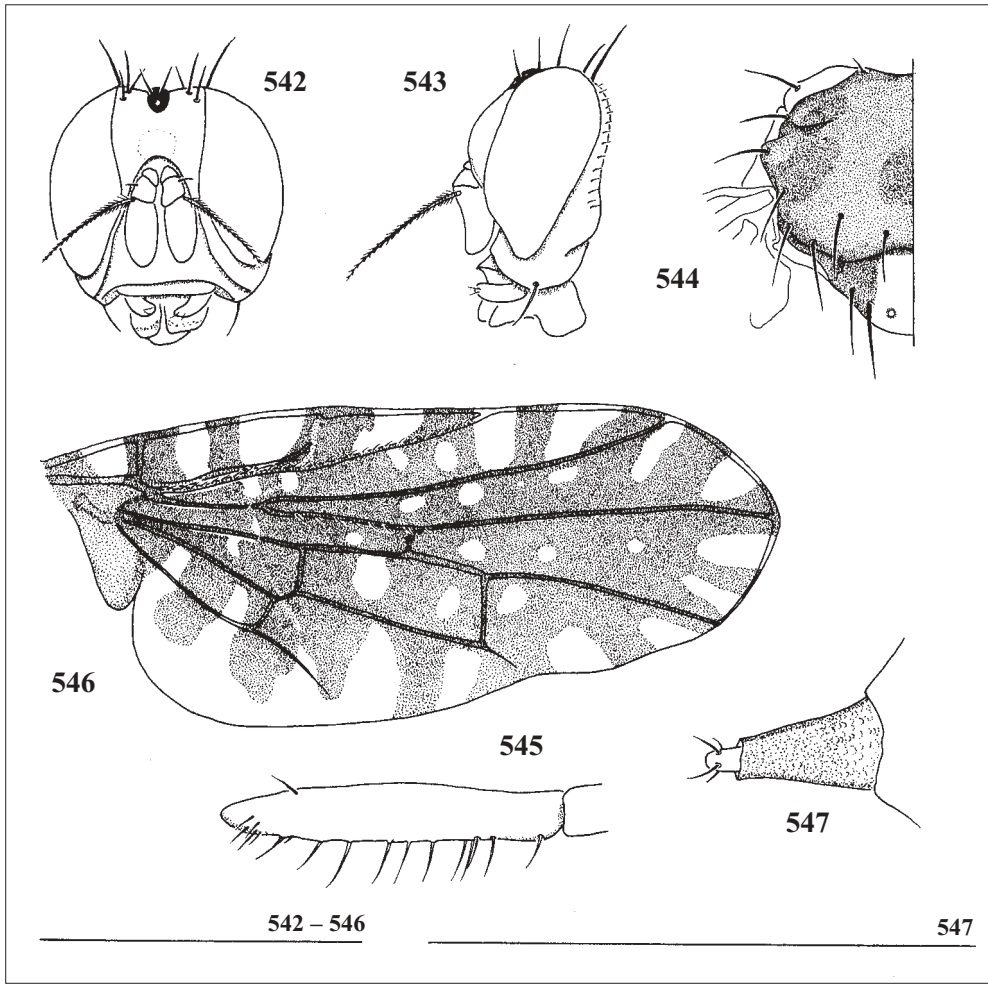
Description

Dimensions: ♀ Holotype. Body length 1.7 mm; wing length 2.2 mm. **Colour/Vestiture**: Ground-colour pale creamy-white (head, legs and scutellum) contrasting with dark brown thorax and abdomen; dark areas having metallic-blue lustre. Ocellar triangle brown (Figs 542 & 543). Vertex and dorsal portion of occiput yellowish, middle of occiput grey. Basal half of arista yellow, apical half brown. Margin of facial suture brown. Labellum brown. Notum and pleurites dark-brown to black with metallic violet and blue lustre; postpronotum and proepisternum pale creamy-white. Scutellum dark brown laterally only (Fig. 544), subscutellum and mediotergite brown. Fore femur and tibia unmarked. Mid and hind femora with apical brown bands. Mid and hind tibiae with basal brown bands corresponding in length to apical bands of femora. Hind tibiae with a sub-apical brown ring. Apex of first and fifth tarsomeres of all legs brown; pulvillae creamy-white. Wings – dark brown radial pattern; marked with sub-triangular hyaline patches from margins toward wing-centre (Fig. 546) and a few small central irregular and rounded dots. Veins generally dark brown, costa coloured according to membrane colour. Calypter off-white basally, otherwise smoky-grey, fringed with darker margin. Abdomen T_{1+2} unmarked, T_3 dark brown medially and laterally, T_4 all dark brown excepting two small patches of ground-colour on hind margin, T_5 with medial brown band; all dark brown parts glistening; sternites and pleurites membranous. Fine silver microtrichia on face, adjacent to eye margins, clypeus, occiput and sparsely behind ocellar triangle. Fine white microtrichia dense on notum (Figs 544) and on pleurites (viewed obliquely), subscutellum and mediotergite, and on pale parts of abdomen. Bronze-brown microtrichia present as three indistinct rectangles on notum (Figs 544).

Head: Frons narrowing from vertex toward antennal insertion (Figs 542); in lateral view strongly produced forwards. Face deeply concave below antennal insertion; lower facial margin extending to level with apex of pedicel (Fig. 543). Lower facial margin slightly curved (frontal view) (Fig. 542). Short white to pale brown setulae on frons anterior to ocellar triangle. Seta on pedicel short, interspersed with one or two longer setae. Postocular row distinct from white setulae on gena and occiput. Palp stout and apically setulose (Fig. 543).

Thorax: Pale setulae on notum interspersed with infrequent, erect, black setulae. Setae: as for generic description. **Legs**: Fore femur with eleven pale ventral setae (Fig. 545). Apex of hind femur with many long, brown dorsal setulae. Pulvillae and claws small. **Wing** (Fig. 546): Flexion line weak, not breaking longitudinal veins. Distal part of R_{4+5} almost straight, while R_{2+3} only slightly curved inward at middle, such that r_{2+3} is slightly restricted in middle from apical side. M weakly arched distal to DM-Cu.**Abdomen**: As for generic description. Genitalia (♀) – Ovipositor – Eversible membrane ornamented on apical half with minute, distinct wrinkles. Tip of aculeus with 2 pairs of fine apical setulae (Fig. 547).

Variation: ♂ unknown



Figs 542–547: *Stellapteryx minuta* sp. nov. ♀ Holotype. – **542**: Head, frontal view; – **543**: Head, profile; – **544**: Thorax, left half, dorsal view; – **545**: Left fore femur, outer surface, lateral view; – **546**: Right wing, dorsal view; – **547**: Tip of aculeus, dorsal view.

Material examined: **Holotype**: MADAGASCAR: ♀ (NMWC) "MADAGASCAR / near Ambilobe, Ankarana [conflicting co-ordinates] .ix.1986. / S.V. FOWLER. / NMW.Z. 1986–131." [printed on white card]; "HOLOTYPE / *Stellapteryx / minuta* sp nov. ♀ / Det. WHITTINGTON" [first and last lines printed, middle two handwritten on red card]. Double mounted on white card, in good condition, but apical scutellar setae and apical four tarsomeres of right hind leg missing.

Discussion – Although the label data are indistinct and despite that there are numerous places with the names Ambilobe and Ankarana in the range 12°22'–20°24' S; 46°50'–49°58'E, the co-ordinates for the type locality are estimated to be near 13°08'S; 49°05'E.

Distribution. *S. minuta* is restricted to Madagascar (Fig. 684).

Stellapteryx stellata sp. nov.

(Figs 548–561, 684)

Diagnosis. Small (wing length 4.9 mm); central frons dark brown, with a pale median longitudinal stripe; notum densely white, silver-grey and brown microtrichose – microtrichose pattern clearly visible; hyaline markings in wing elongate and pointed.

Etymology. *stellatus* L. a. = starred, starry, referring to the dark radial or star-like pattern on the wing.

Description

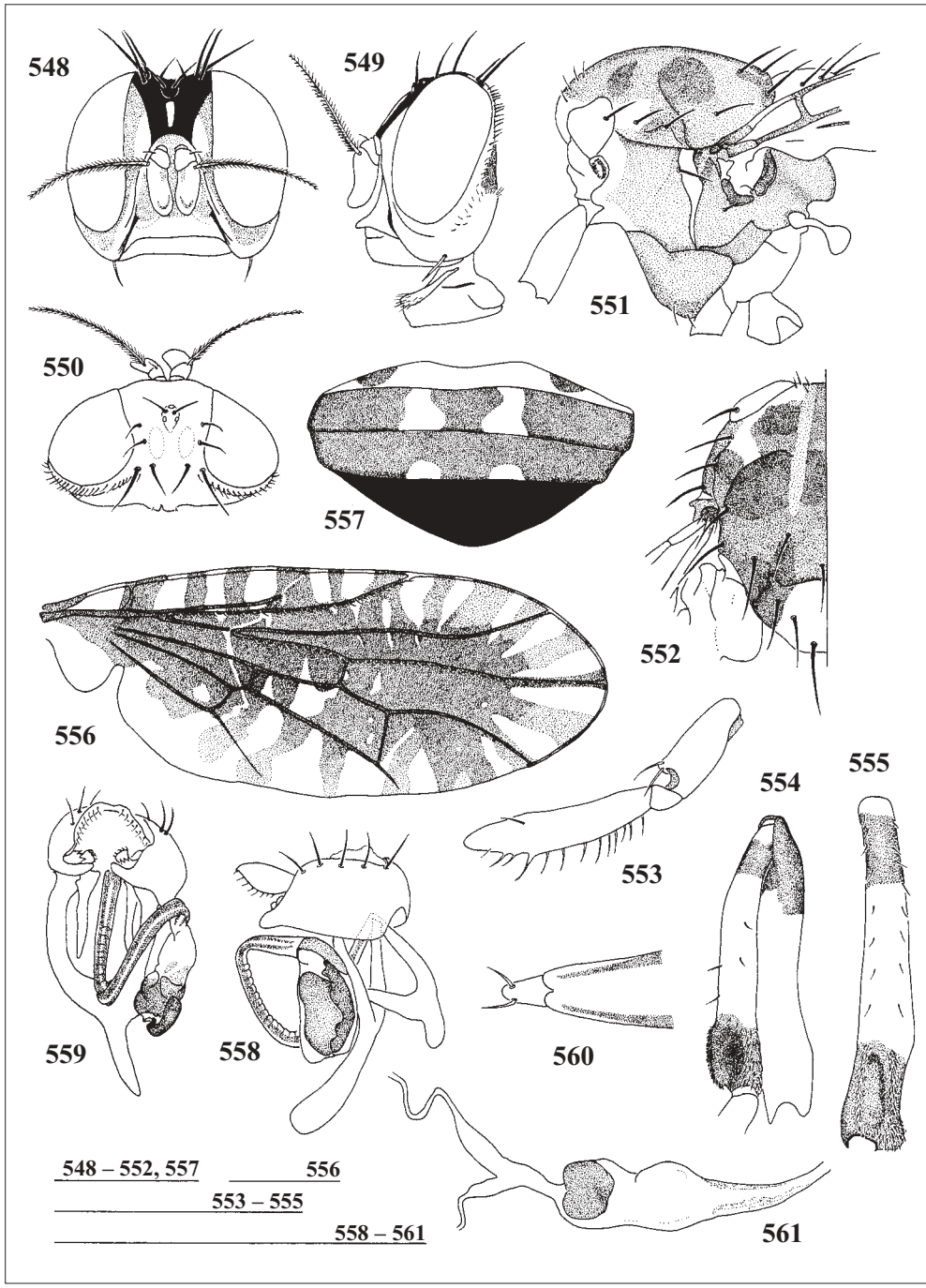
Dimensions: ♂ Holotype. Body length 4.5 mm; wing length 4.9 mm. **Colour/Vestiture**: Ground-colour pale creamy-white (head, legs and scutellum) contrasting with dark brown thorax and abdomen; dark areas having metallic-blue lustre. Head bronze brown on frons from ptilinum to vertex, with elongate pale creamy-white patch in front of ocellar triangle (Figs 548 & 549). Vertex and dorsal portion of occiput yellowish, middle of occiput grey (Fig. 549). Basal third of arista yellow, apical two-thirds black. Margin of facial suture brown. Labellum orange-brown. Notum and pleurites dark-brown to black with metallic violet and blue lustre; postpronotum and proepisternum pale creamy-white. Scutellum dark brown baso-laterally only (Fig. 552), subscutellum and mediotergite brown. Fore femur with indistinct inner and distinct outer lateral brown spots apically, mid and hind femora with apical brown bands. Fore tibia with basal brown spot. Mid and hind tibiae with basal brown bands corresponding in length to apical bands of femora (Fig. 554). Fore and mid tibiae with a sub-apical brown ring, hind tibia with apical band (Figs 554 & 555). First tarsomeres of all legs with brown apical band, last tarsomere of fore leg buff; pulvillae creamy-white with basal orange tint. Wings – dark brown radial pattern; marked with triangular hyaline patches from margins toward wing-centre (Fig. 556) and a few small central irregular and elongate dots. Veins generally dark brown, costa coloured according to membrane colour. Calypter off-white basally, otherwise smoky-grey, fringed with darker margin. Abdomen T_{1+2} slightly orange-brown with two small brown lateral spots, T_3 dark brown medially and laterally, T_4 all dark brown excepting two small patches of ground-colour on hind margin, T_5 completely black (Fig. 557); all dark brown and black parts with metallic violet and blue lustre; sternites and pleurites membranous. Male genitalia – Epandrium glossy brown, remainder pale brown. Fine silver microtrichia on face, adjacent to eye margins (Fig. 548 – stippled area) clypeus, occiput and sparsely behind ocellar triangle. Pattern of fine white, silver-grey and brown microtrichia dense and complex on notum (Figs 552). Silver-grey microtrichia also on pleurites (viewed obliquely), subscutellum and mediotergite, and on pale parts of abdomen. Bronze-brown microtrichia present as six squares on notum, on notopleural callosity (Figs 551 & 552), as a patch on hind margin of notum and on dark abdominal parts (in some angles golden on abdomen). Notum also with white microtrichia as two dorsocentral stripes, stripe across transverse suture and less distinct wavy stripe across hind margin.

Head: Frons narrowing only slightly toward vertex (Figs 548 & 550). Face concave below antennal insertion; lower facial margin extending to level with apex of pedicel (Fig. 549). Lower facial margin straight (frontal view) (Fig. 548). Short black setulae on frons anterior to ocellar triangle. Seta on pedicel short. Postocular row blending with black setulae on gena and occiput. Palp elongate and apically setulose (Fig. 549).

Thorax: Pale setulae on notum interspersed with infrequent, erect, black setulae. Setae: as for generic description. **Legs**: Fore femur with long medial ventral spine with a strongly developed pale apical seta and ten pale ventral setae (one seta anterior to spine weakly tuberculate) (Fig. 553). Apex of hind femur with two long, pale dorsal setulae. Apex of hind tibia bulging on exterior surface and with scoop-shaped depression on dorsal surface, densely surrounded with stout dark setulae (Figs 554 & 555). **Wing** (Fig. 556): RS broken by flexion line. Distal part of R_{4+5} curved forward in middle, corresponding to curve of R_{2+3}, such that r_{2+3} is restricted in middle from both sides. M strongly arched distal to DM-Cu.

Abdomen: As for generic description. Genitalia (♂) – Epandrium subsquare to globose and small, sparsely setulose along apical margin (Fig. 558). Proctiger membranous, small, partially exposed above sides of epandrium. Hypoproct ventrally curved (Fig. 558); fringed ventrally with stout setulae (Figs 558 & 559). Lateral surstylus blunt apically and curved around in front of medial surstylus (Fig. 559). Median surstylus stout, bifurcate – outer arm apically serrate and sclerotised; inner arm with apical row of, stout, inclinate setulae around outer margin. Glans large, equal in length to epandrium (Fig. 558), lateral sclerites overlapping. Ejaculatory apodeme large and spatulate.

Variation: ♂ Body length 3.2–4.5 mm, wing length 3.5–4.9 mm. ♀ Body length 4.1 mm, wing length 3.2–4.5 mm. No sexual dimorphism in head width. Entire frons bronze brown and pruinose, pale creamy-white patch in front of ocellar triangle lacking in some specimens. Ventral occiput sometimes creamy-white. A single anepimeral seta present in some specimens. Preapical setulae of tarsomeres most numerous on mid tarsomeres, sparse on fore and hind tarsomeres. Hind tibia with brown sub-apical band separated from apex by ring of ground-colour as in fore and mid legs. Hind tibia of females lack the



Figs 548–561: *Stellapteryx stellata* sp. nov. ♂ Holotype and ♀ Paratype. – **548**: Head, frontal view; stippled = areas of microtrichia; – **549**: Head, profile; – **550**: Head, dorsal view; – **551**: Thoracic pleurites, lateral view; – **552**: Thorax, left half, dorsal view; – **553**: Left fore coxa to femur, outer surface, lateral view; – **554**: Left hind femur and tibia, dorso-lateral view; – **555**: Left hind tibia, dorsal view; – **556**: Right wing, dorsal view; – **557**: Abdomen, dorsal view; – **558**: Male genitalia, right lateral view; – **559**: Male genitalia, oblique ventral view; – **560**: Tip of aculeus; – **561**: Anterior vagina and base of spermathecal ducts.

apico-dorsal depression found in male. Pulvillae orange-brown. Ovipositor – Eversible membrane ornamented on apical half with minute, indistinct wrinkles. Tip of aculeus with 2 fine apical setulae (Fig. 560). Anterior vagina sclerotised at base of spermathecal ducts (Fig. 561).

Material examined: **Holotype**: MADAGASCAR: ♂ (MNHN) "MADAGASCAR / BEKILY [24°12'S; 45°20'E, 900 m] / REG. SUD DE L'ILE" [printed on white card, with black boarder]; "MUSEUM PARIS / V.37 / A. SEYRIG" [printed on blue card, with middle sentence handwritten];"HOLOTYPE / *Stellapteryx / stellata* sp nov. ♂ / Det. WHITTINGTON" [first and last lines printed, middle two handwritten on red card]. Double mounted on white card, aristae and mid and left hind tarsi missing, right hind leg adhered to mount; genitalia dissected and stored in glycerine, in a microvial pinned on same in as specimen.

Other material – **Paratypes**: MADAGASCAR: 1♂ 1♀ Madagascar Est, Navana – Antongil [15°23'S; 49°53'E, ca. 200 – 500 m], 6m, det Maroantsetra 20 – 25.III.[19]58, B. STUCKENBERG (NMSA & TAUI); 1♂ Nosy Bé, Forest [ca. 13°24'S; 48°21'E, < 214 m] SE Lakobe Res, 5.iv.1991, A. FREIDBERG & FINI KAPLAN (TAUI); 1♀ Nosy – Komba [ca. 13°26'S; 48°12'E, ca. <600 m], Crête Nord v.1956, A.R. [collector not known] (SANC); 1♂ Bekily [24°12'S; 45°20'E, 900 m], i.1937 (MNHN); 1♀ same data, but dated x.1936 (headless) (MNHN).

Discussion. The Nosy Bé paratype was collected between the coastal Mangroves near the village of Ambatozavavy and the wooded hills of about 200 m altitude (FREIDBERG, *pers. comm.*).

Distribution. *S. stellata* is restricted to Madagascar (Fig. 684).

Venacalva gen. nov.

Type species: *Plastotephritis seriata* ENDERLEIN, 1924.

Diagnosis. Arista short plumose (dorsal and ventral plumes together less than or equal to width of flagellomere 1). Face concave – evenly curved between antennal sockets and lower facial margin, which extends forward no further than base of flagellomere 1, forming narrow "lip". Face and frons narrow (about as wide as length of antennae), frons less than twice as broad as high. Lateral vertical setae strongly developed, medial vertical setae reduced and setula-like, often indistinguishable from postocellar setulae. Postsutural acrostichal setulae present adjacent to hind margin of notum. Three pairs of scutellar setulae. Fore and mid femora at most strongly setulose, entirely lacking short setae. Hind tibiae of ♂ either not modified or modification only slight and not readily noticeable, without fringe of setulae. Inner surface of hind trochanter distally extended as a lobe. Setulae always absent on Cu. Costal cell narrower that twice length of R-M.

Etymology. *vena* L. = vein; and *calva* L. f. = bare, bald; referring to the lack of setulae on Cu and (in most species) on RS. Gender feminine.

Description

Dimensions: ♂ Body length 2.5 – 4.0 mm; wing length 2.7 – 4.3 mm. ♀ Body length 2.9 – 4.4 mm; wing length 3.3 – 4.7 mm. **Colour/Vestiture**: ground-colour pale cream to buff brown; ocellar triangle, post occipital sclerites and bands on some femora and tibiae dark brown. Eyes reddish-brown. Antennae buff tinged pale-brown at apex of flagellomere 1. Presutural notum sometimes marked with dark brown, post-sutural notum completely brown. Pleurites marked with brown. Scutellum entirely pale yellowish. Wings brown, spotted with hyaline marks. Calypter basally white, distally grey-brown with a darker margin. Halter pale-buff. Abdominal tergites four and five always dark brown. Abdominal pleurites and sternites pale brown. Silver microtrichia dominant over ground colour of frons adjacent to margins of eyes; but also visible on most other body parts.

Head: Elongate and antero-posteriorly compressed, vertex much narrower than thorax and sunken between margins of eyes. Ocellar triangle raised above sunken vertex to level with eye margin, positioned level with anterior orbitals. Ptilinal fissure describing high arc above insertion of antennae, such that lunule is deep. Face indented ventral to insertion of antennae, evenly con-

cave, with lower facial margin projecting at margin to form protruding lip, which extends no further than base of flagellomere 1; lower facial margin raised in middle (frontal view). Antennal sockets shallow, but distinctive. Low, poorly developed tubercle present below antennal socket. Eyes elongate, oval. Frons narrow dorsally and adjacent to antennal insertions; widest in middle. Antennae pendulous, scape inserted approximately midway down length of head. Arista short plumose (dorsal and ventral plumes no longer than width of flagellomere 1). Ventro-lateral fringe of long pale setulae on pedicel. Postgena slightly swollen, less than width across lower quarter of eye. Palp flattened, weakly setulose. Setae – 1 ocellar, 2 reclinate orbitals, 1 strong outer, 1 weak (hair-like) post-vertical, 1 weak dorsal pedicel and 1 genal. Postocular and subvibrissal rows conspicuous. Silver setulae prevalent on frons and postgena, sometimes mixed with brown setulae on postgena, sparse on mouthparts and less conspicuous elsewhere on head.

Thorax: Prosternal bulla present (Fig. 589; arrow). Setulae pale, short on pre-sutural notum, longer on pleurites; black on post-sutural notum, and central anepimeron. Setae – 1 postpronotal, 2 notopleural (posterior one on raise callus), 1 anepisternal, 1 supra alar, 1 postalar, 1 intra-alar, 1 prescutellar acrostichal and dorsocentral, 1 basal, 1 lateral and 1 apical scutellars. Distance between anepisternal and posterior notopleural setae equal to 1.5 times distance between notopleural setae. In many specimens anepisternum phragma present. **Legs**: Setulae on femora long on ventral margin and also on posterior surface of fore femur. Mid-coxal prong narrow, pointed and inconspicuous. Apex of mid coxa protruding under base of trochanter and strongly setulose. Pre-apical mid tibial setae present. Inner margin of hind trochanter extended into lobe and sometimes also lobate on dorsal surface. Setulae on apex of final tarsomere conspicuous and long, curving over the apex in front of claws. Tarsomeres of each leg with ventral pad of stout, pale setulae. Short black preapical setulae across latero-ventral margins of mid-tarsus. Empodium setiform, small and inconspicuously situated between large, pale pulvilli. Claws strongly developed. **Wing**: Humeral break present, but not particularly distinct. Costal cell broad, slightly longer than R-M. Subcosta sinuous and evanescent basally, ending abruptly before curving toward costa, beyond which point membrane is distinctly folded until junction with costal node. Sc-R spur incomplete. Setulae on dorsal surface (only) of entire length of R_1 and R_{4+5}. Flexion line forming a distinct line across apex of Sc, and nodes on RS and M, but otherwise sometimes poorly developed. RS weakly sclerotised. R_{2+3} and R_{4+5} diverging at apex of wing. Cu-bm almost straight, length equal to BM-Cu. DM-Cu straight. R-M evanescent in middle and situated beyond midway on dm; M angled slightly at R-M and curved beyond DM-Cu.

Abdomen: Ovate, widest across apex of T_{1+2}. Segments T_{1+2}, S_1 and S_2 covered sparsely with pale setulae, remainder covered with short, black setulae. Setulae longest along lateral margins of tergites. Male genitalia – Posterior margin of S_1 to S_4 produced into shallow lobe on midline, which is minutely setulose. Sternite 5 strongly reduced to narrow band tucked beneath apex of S_4; sternites 6 & 7 fused into ring bounding genital pouch, broadened distally. Hypoproct large and fused into undersurface of membranous proctiger, apically and ventrally setulose. Epandrium rounded. Lateral surstylus wrapped around apex of medial surstylus. Medial surstylus apically lobed and setulose or armed with spines. Phallapodeme and hypandrium varying from robust and strongly sclerotised to weakly developed. Distiphallus of moderate length, annulate. Glans smaller than epandrium, comprised of short claw-like overlapping plates, apically enlarged into cup-like structure. Gonostyle inconspicuous. Base of ejaculatory apodeme membranous large and bulbous, with paired sclerotised plates. Ovipositor – T_6 absent, although intersegmental membrane 6 present. Oviscape conical, shorter dorsally than ventrally, T_7 with distinct internal apodeme. Ovipositor elongate – up to three times length of oviscape when fully extended; eversible membrane ornamented with fine parallel transverse wrinkles, sometimes somewhat rugose. Aculeus finely ornamented with transverse wrinkles, setulose. Tip of aculeus bluntly rounded,

basal and apical setulae present. Three spherical spermathecae without apical modification (Fig. 571), spermathecal ducts in 1+2 arrangement.

Included species: *dichas* **sp. nov.**
margarita **sp. nov.**
seriata (ENDERLEIN, 1924) **comb. nov.**
virga **sp. nov.**

Discussion. The general morphology of *Venacalva* is closely similar to *Atopocnema* ENDERLEIN, 1922. It is distinguished from *Atopocnema* by a number of characters, not least of which are the baldness of the Cu and (usually) the RS in *Venacalva*. Although the body size ranges overlap considerably, males of *Venacalva* tend to be smaller than males of *Atopocnema* (body 2.5–4.0 and wing 2.7–4.3 versus 3.2–4.4 and 3.7–4.8 respectively). The overlap in female specimens of both species is greater and hence less useful. In addition, males of *Atopocnema* have a distinctive modification to the hind tibia. A similar modification exists in *V. margarita*, but lacks any fringe setulae around the modification.

Specimens of *Venacalva* are rarely encountered – only 14 specimens being available for study in this revision. It is not clear why this is so, but it may be attributed in part to the small size. Given that these specimens come from long series of material collected at specific localities in Zaïre, this low number may reflect true rarity, relative to more common species from other genera collected at the same localities.

An important character in this genus is the presence of a subcostal node on the costa. Most Platystomatidae have the "subcosta evanescent and incomplete, stopping abruptly at the flexion line. In all species of *Venacalva*, the subcostal vein continues beyond the flexion line as a strongly sclerotised fold in the wing membrane. The distal portion of the subcosta is most complete in *V. dichas*, in which the fold is actually a complete vein. This is the only species in the Plastotephritinae that has this apical portion of the subcostal vein and is considered a most unusual character state for this subfamily.

An interesting feature, is the presence of the enlarged bulla (Fig. 589) either side of the prosternum. In the Plastotephritinae, the prosternum is usually simple, sometimes inconspicuously bullate, but in *Venacalva* the bulla bulges slightly into the space between the head and proepisternum. The function of this bulla is unknown.

The nature of sternite seven is also unusual in Plastotephritinae, since it appears to include the plesiomorphic vestiges of sternite 6 (Fig. 576). All the higher tephritoid families share a strongly reduced sixth sternite (KORNEYEV 2000a) and in Plastotephritinae it is usually absent. Thus, loss of sternite 6 is an apomorphic character in the Platystomatidae, and is complete in most Plastotephritinae. There is a suture across the base of sternite 7 in *Pterogenomyia picta* (BIGOT, 1891), which suggests a partial presence of this vestigial sternite. The status of this character across all the subfamilies of Platystomatidae needs to be more closely examined.

Distribution (Fig. 691) – West and Central African, but predominantly from Zaïre.

Key to the species of *Venacalva*

1 Notum anterior to transverse suture partially or wholly cream coloured **2**
– Notum mostly dark brown (in dorsal view), only cream coloured on postpronotal lobe and notopleural callus and along transverse suture with no pattern on dorsal surface notum **3**

2 Palp stout, not extending beyond clypeus (Fig. 562); posterior half of anepisternum brown; apex of mid and hind femora and bases of mid and hind tibia brown; all tibiae with feint subapical brown band; r_{4+5} marked with one or two insignificant spots, plus apical incision (Fig. 565); hind tibiae of ♂ unmodified ..... ***V. dichas*** **sp. nov.**

– Palp narrow and long, extending beyond clypeus, reaching level with lower facial margin (Fig. 573); anepisternum with only small amount of brown at posterodorsal angle, otherwise pale throughout; all legs pale; r_{4+5} marked with row of five prominent hyaline spots (including apical incision) (Fig. 575); apex of ♂ hind tibiae slightly swollen and bent at angle, with flat glabrous outer surface (Fig. 574), but without fringe of setulae ... ***V. margarita*** **sp. nov.**

3 Gena and postgena, mouthparts and legs pale coloured (Figs 581 & 582); occiput brown to half way down head; setulae absent from RS ..... ***V. seriata*** **(ENDERLEIN, 1924)**

– Brown band running from lower eye margin across gena and continuing as band across posterior parts of mouthparts and basal half of palp, (Figs 588 & 589); occiput and postgena dark brown (Fig. 589); setulae present on RS ..... ***V. virga*** **sp. nov.**

Venacalva dichas sp. nov.

(Figs 562 – 571, 691)

Diagnosis. Palp stout, not extending beyond clypeus. Notum anterior to transverse suture partially or wholly cream coloured; posterior half of anepisternum brown. Apex of mid and hind femora and bases of mid and hind tibia brown. All tibiae with feint subapical brown band; hind tibiae of ♂ unmodified. Setulae absent from RS. Cell r_{4+5} marked with one or two insignificant spots, plus apical incision.

Etymology. *διχηασ – dichas* Gr. f. = half; referring to the distinct separation of dark brown and hyaline marks on the anterior three quarters and posterior quarter of the wing membrane.

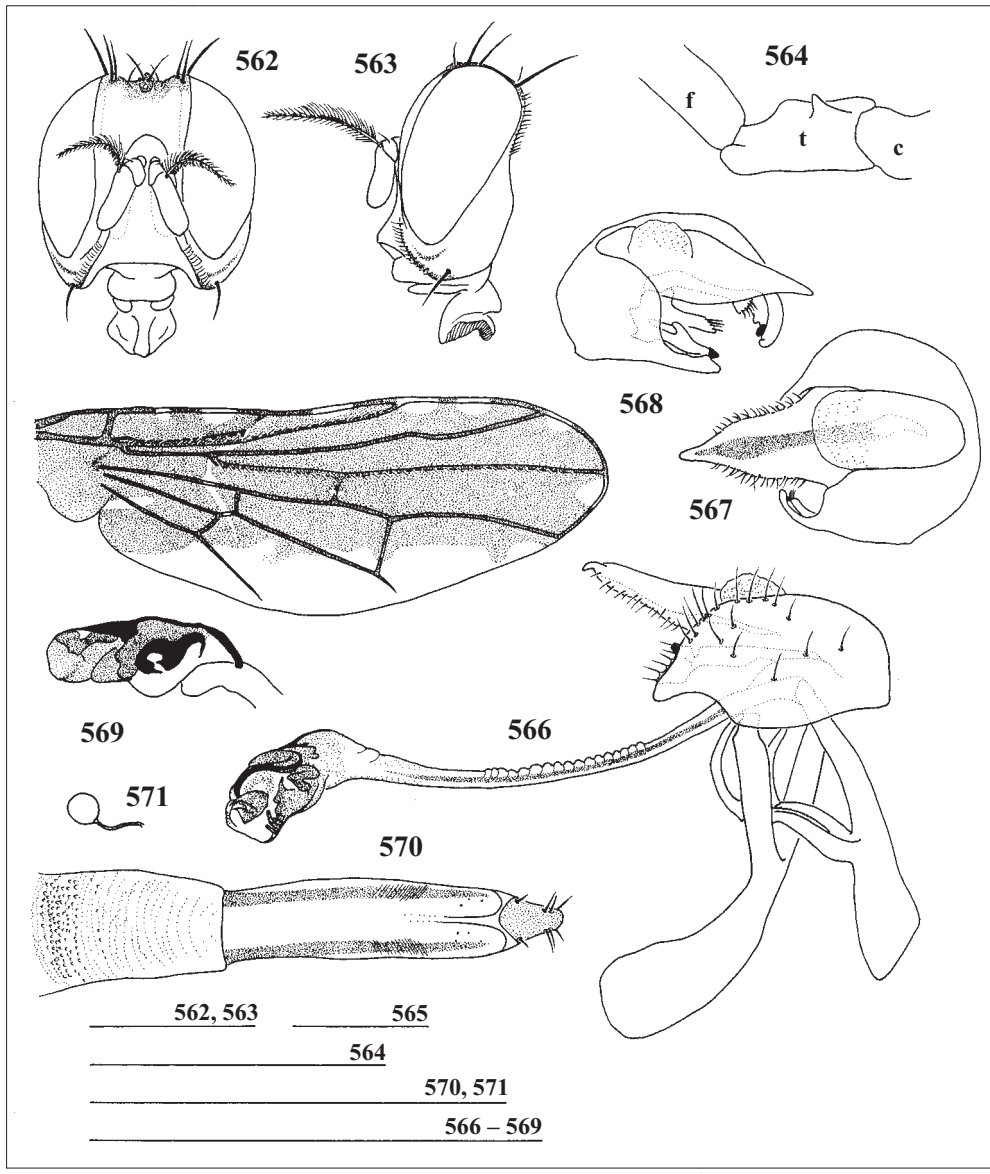
Description

Dimensions: ♂ Holotype body length 4.0 mm; wing length 4.3 mm. **Colour/Vestiture**: Ground-colour buff; ocellar triangle and bases of orbitals brown; two brown stripes below eye – along parafacial sutures and genal groove (that of the genal groove less distinct); dorsal half of occipital sutures dark brown. Base of clypeus, palp and anterior part of labellum brown. Notum marked with three brown oval spots anterior of transverse suture and completely dark brown posterior to transverse suture. Posterior half of anepisternum and of katepisternum, and all of anepimeron, katatergite, mediotergite and subscutellum dark brown. All abdominal tergites and genitalia dark brown. Legs feint band sub-apically on fore tibia; apex mid and hind femora and base of mid and hind tibiae brown; apical three tarsomeres of fore leg dark buff, and of mid and hind legs paler buff. Wings – dark brown, hyaline along posterior margin and lightly speckled with hyaline spots, mostly along costa (Fig. 565). Cell r_{4+5} marked with one or two insignificant spots, plus apical incision. Veins brown, except along costa where there are hyaline incisions. **Silver microtricha**: Dense, but narrow bands adjacent to margins of eyes, on face in and between antennal sockets and on rear of head, where it is denser immediately dorsal to occipital foramen; dense on notum anterior to transverse suture, anepisternum, katepisternum and mediotergite; also present on rest of body, but less conspicuous. Gold microtrichia in centre of frons.

Head: Frons elongate, but more than one third width of head (Figs 562 & 563). Genal groove distinct (Figs 562 & 563). Palp short and narrow, not extending apex of clypeus (Fig. 563). Setulae silver-blond; dense, but short on frons; sparse, but longer on gena and postgena; interspersed with black setulae on gena. Subvibrissal setulae as long as dorsal plume of arista.

Thorax: Setulae long and sparse throughout, silver-blond, but slightly bronze-brown on posterior half of notum. Lobe at apex of hind trochanter slightly pointed, but not much enlarged; dorsobasal lobe pointed into sharp spur (Fig. 564). **Wing**: Flexion line distinctly present. Subcostal node on costa well developed and distinctly reaching flexion break as a vein (Fig. 565).

Abdomen: As for generic description. Genitalia (♂) – Epandrium rounded, slightly compressed (Fig.566). Proctiger a small rounded dome (Figs 566 & 568). Hypoproct fused into undersurface of membranous



Figs 562–571: *Venacalva dichas* sp.nov. ♂ Holotype and ♀ Paratype. – **562**: Male head, frontal view; – **563**: Male head, profile; – **564**: Male right hind trochanter, lateral view; c = coxa, f = femur, t = trochanter; – **565**: Right wing, dorsal view; – **566**: Male genitalia, right lateral view; – **567**: Male genitalia, dorsal view; – **568**: Male genitalia, oblique frontal view; – **569**: Male genitalia, detail of glans, left side; – **570**: Female ovipositor, dorsal view; – **571**: spermatheca.

proctiger and extended beyond apex of lateral surstylus into spear-shaped protrusion with down curved apex, ventrally setulose only (Figs 566 – 568). Lateral surstylus short and narrow, apex simple, wrapped around apex of median surstylus (Fig. 567). Medial surstylus deeply bilobed; dorsal lobe armed with stiffly projecting setulae; ventral lobe strongly sclerotised apically (prensiseta?), with a baso-clinate lobe part way along dorsal surface of stem (Fig. 568). Phallapodeme and hypandrium robust, apically spatulate (Fig. 566). Distiphallus weakly annulate on dorsal surface (Fig. 566). Glans narrow, cup-shaped at apex, basally slightly bulbous (Figs 566 & 569).

Variation: ♂ known only from holotype. ♀ Body length 3.5 – 4.4 mm; wing length 4.1 – 4.7 mm. In both ♀ specimens apical three fore tarsomeres are brown. One specimen has no anterior notal markings, other has medial spot lengthened and developed into medial band, producing a mark similar to that on *V. margarita*. Ovipositor – taenia of eversible membrane noticeably long (one third of full ovipositor length). Middle portion of sheath finely ornamented with parallel transverse, slightly rugose, wrinkles (Fig. 570). Aculeus strengthened by internal sclerotised taenia equal in length to taenia of eversible membrane; lightly setulose near apex (Fig. 570). Tip of aculeus armed with three pairs of long apical setulae and pair of short, fine, basal setulae (Fig. 570).

Material examined: **Holotype**: ZAÏRE: ♂ (MRAC) "MUSÉE DU CONGO / Lulua [= river]: Kapanga [08°22'S; 22°37'E, ca. 200 – 500 m] / – I – 1933 / Overlaet." [printed on off-white card, with "– I –" and second "3" of date handwritten]; " Kapanga / (Katanga, Congo) / JAN 1933 / F.G. Overlaet." [printed on white card, with date handwritten]. " HOLOTYPE / *Venacalva* / *dichas* / sp. nov. ♂ / Det WHITTINGTON" [rectangular red label, first and last lines printed, middle three handwritten]. In good condition, wings slightly torn. Genitalia dissected and stored in glycerine in microcapsule on same pin as specimen.

Other material – **Paratypes**: ZAÏRE: 1♀ Thysville [= Mbanza – Ngungu, 05°16'S;14°53'E, ca. 500 – 1000 m], 31.vii.1957, E. S. ROSS & R. E. LEECH (CASC); 1♂ P.N.U. Ganza pr.r. Kamandula affl. Dr. Lukoka [09°14'S; 26°46'E], 12 – 18.vi.1949, G.F. DE WITTE, 860 m, 2684a (MRAC); 1♀ P.N.U., R. Bowaaf. dr. Kalule – N[ord] [09°43'S; 25°53'E, ca. 200 – 500 m], près Kiamalwa, 3.iii.1949, G. F. DE WITTE, 2396a (MRAC).

Discussion. *V. dichas* is easily distinguished from the other species in this genus, by the clearly bi-coloured, longitudinal wing pattern and by the elongate, pointed hypoproct and deeply bi-lobed medial surstylus of the male genitalia. The basal lobe on the hind trochanter tends to be more sharply pointed than in other species and the frons is narrow.

Distribution. *V. dichas* is known only from Zaïre (Fig. 691).

Venacalva margarita sp .nov.

(Figs 572 – 580, 691)

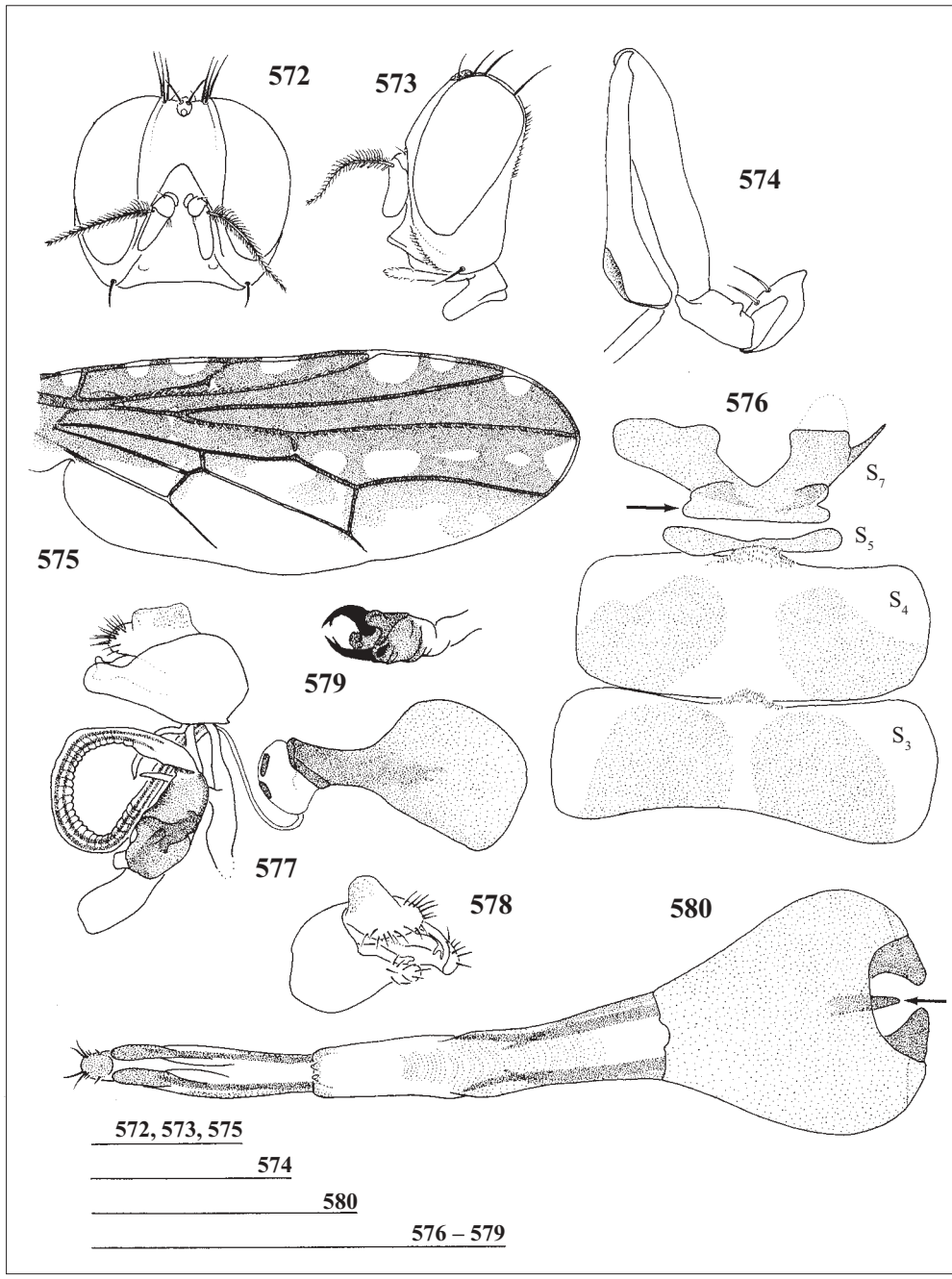
Diagnosis. Palp narrow and long, extending beyond clypeus, reaching level with lower facial margin. Notum anterior to transverse suture partially or wholly cream coloured; anepisternum with small amount of brown at postero-dorsal angle only, otherwise pale throughout. All legs pale. Apex of ♂ hind tibiae slightly swollen and bent at an angle, with flat glabrous outer surface, but with no fringe of setulae. Cell r_{4+5} marked with row of five prominent hyaline spots (including the apical incision). Setulae absent from RS.

Etymology. *margarita* L. f. – pearl; referring to the general pearl colour of the ventral body parts and the "string of peals" – like pattern of hyaline marks on the wing membrane in cell r_{4+5}.

Description

Dimensions: ♂ Holotype. Body length 4.0 mm; wing length 3.9 mm. **Colour/Vestiture**: Ground-colour pale cream-white; ocellar triangle brown; dorsal half of occipital sclerite and lateral margins of medial occipital sclerite dark brown. Notum: a broad dark brown division-sign (¸) longitudinally along midline, anterior to transverse suture; completely dark brown posterior to suture. Dorso-posterior angle of katepisternum, ventral half of anepimeron, dorsal two-thirds of katatergite and all of mediotergite and subscutellum dark brown. T_4, T_5 and genitalia dark brown. Legs completely pale, tending to be buff on tarsi. Wings dark brown, speckled with hyaline spots and hyaline along posterior margin; r_{4+5} marked with row of five prominent hyaline spots (including the apical incision) (Fig. 575). Veins brown, except where there are hyaline marks. **Silver microtricha**: Dense but narrow bands around margins of eyes and dense triangle on centre of medial occipital sclerite dorsal to occipital foramen when viewed from dorsal aspect, distributed more lightly across occipital sclerites and postgena when angle of view is altered toward lateral. Dense on notum anterior to transverse suture and on mediotergite. Also present on rest of body, but less conspicuous.

Head: Frons elongate, little more than one third width of head (Figs 572 & 573). Genal groove distinct, but not coloured differently to rest of head. Palp long and narrow, extending beyond clypeus to level with lower facial margin; covered with sparsely distributed black setulae (Fig. 573). Setulae silver-



Figs 572–580: *Venacalva margarita* sp. nov. ♂ Holotype and ♀ Paratype. – **572**: Male head, frontal view; – **573**: Male head, profile; – **574**: Male right hind coxa to tarsus, lateral view; – **575**: Right wing, dorsal view; – **576**: Male abdominal sternites, ventral view; S_3-S_7 = sternites three to seven; arrow = vestigial sternite six; – **577**: Male genitalia, right lateral view; – **578**: Male genitalia, oblique frontal view; – **579**: Male genitalia, detail of glans, dorsal view; – **580**: Female ovipositor, dorsal view; arrow = internal apodeme on tergite seven.

blond; dense, but short on frons; replaced on gena and postgena with sparse, but longer black setulae. Subvibrissal setulae as long as ventral plume of arista.

Thorax: Setulae long and sparse throughout, silver-blond, tinged golden on notum posterior to transverse suture. Apex of hind tibiae slightly swollen and bent at angle, with flat glabrous outer surface, but with no fringe of setulae (Fig. 574). Lobe at apex of hind trochanter extended into distinct point, with second smaller lump on inner surface toward base (Fig. 574). **Wing**: Flexion line present, but weakly formed. Subcostal node on costa indistinct and R-M clearly evanescent (Fig. 575).

Abdomen: As for generic description. Sternite 5 reduced to narrow band tucked beneath apex of S_4 (Fig. 576). Sternite 6 vestigial, but fused into base of S_7 (Fig. 576). Genitalia (♂) – Epandrium rounded (Fig. 577). Proctiger subsquare (Fig. 577). Hypoproct fused into undersurface of membranous proctiger and extending beyond its apex; apically and ventrally setulose (Figs 577 & 578). Lateral surstylus subsquare, apically broad, wrapped around apex of median surstylus and strongly setulose on outer surface (Fig. 578). Median surstylus apically bilobed, with few fine setulae on dorsal lobe (Fig. 578). Phallapodeme and hypandrium weakly developed, but with disproportionately large apical spatulate tips (Fig. 577). Distiphallus strongly annulate on dorsal surface (Fig. 577). Glans narrow and apically produced into paired (but broad) claws (Figs 577 & 579).

Variation: ♂ known only from holotype. ♀ Body length: 3.3 mm; wing length: 3.5–4.1 mm. In female specimens approximately one third of katepisternum is dark brown, centred on dorsoposterior angle. Ovipositor — taenia of eversible membrane noticeably long (one quarter of full ovipositor length); basal and middle portion of sheath finely ornamented with parallel transverse wrinkles (Fig. 580). Aculeus strengthened by internal sclerotised taenia; lightly setulose near apex (Fig. 580). Tip of aculeus with two long apical setulae, two fine lateral setulae and a pair of short basal setulae (Fig. 580).

Material examined: **Holotype**: NIGERIA: ♂ (USNM) "NIGERIA: Lagos [06°27'N; 03°28'E, ca. 0–100 m], / Ikoyi Park. / 9–19.i.1973. / J.C. DEEMING." [printed on off-white card]. "HOLOTYPE / *Venacalva* / *margarita* / sp.nov. ♂ / Det WHITTINGTON" [rectangular red label, first and last lines printed, middle three handwritten]. In good condition, double mounted. Genitalia dissected and stored in glycerine in microcapsule on same pin as specimen.

Other Material — **Paratypes**: SIERRA LEONE: 1♀ Bo [07°58'N; 11°45'W, ca. 0–100 m], 9.vii.[19]09, H.E. ARBUCKLE, 1911–415 (BMNH). GHANA: 1♀ Obuasi [06°15'N; 01°36'W, ca. 200 m], Ashanti, 25.v.1907, W.M. GRAHAM, caught on window, [photographed – by FREY, 1932 Pl.viii fig. 35] (BMNH).

Discussion. The elongate palp of *V. margarita* separates it from other species in this genus.

Distribution. *V. margarita* is known from West Africa and has been collected in Sierra Leone, Ghana and Nigeria (Fig. 691).

Venacalva seriata (ENDERLEIN, 1924) comb. nov.

(Figs 581–587, 691)

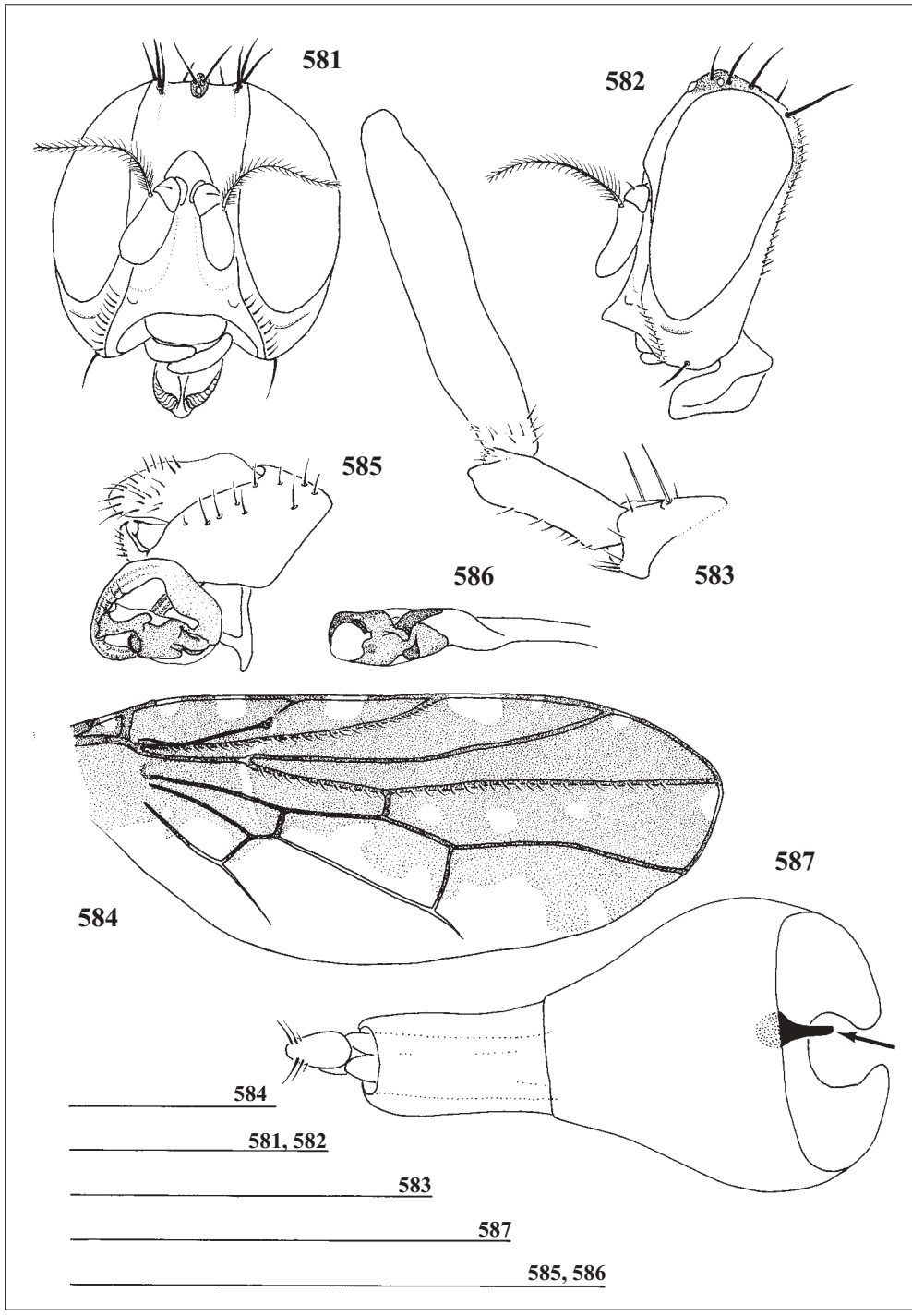
***Plastotephritis seriata* ENDERLEIN, 1924** – ENDERLEIN (1924: 153) [description] STEYSKAL (1965: 172) [list], fig. 4 [wing]; STEYSKAL (1980: 565) [catalogue]. **Comb. nov**.

Diagnosis. Gena and postgena, mouthparts and legs pale coloured; occiput brown to half way down head. Notum mostly dark brown (in dorsal view), only cream coloured on postpronotal lobe and notopleural callus and along transverse suture with no pattern on dorsal surface of notum. Setulae absent from RS.

Etymology. *series* L. f. = row, succession, series; perhaps referring to the row of hyaline spots on the membrane of the wing.

Description

Dimensions: ♀ Holotype body length 2.9 mm; wing length 3.4 mm. **Colour/Vestiture**: Ground-colour buff; ocellar triangle brown; two brown stripes below eye – along parafacial sutures and genal groove; dorsal half of occipital sutures dark brown. Notum dark brown, except for band of ground-colour across postpronotal lobe and notopleural callus. Posterior half of anepisternum and all of katepisternum, anepimeron, katatergite, mediotergite and subscutellum dark brown. T_4, T_5 and genitalia dark brown. Legs completely buff, tending to be paler (and more yellow) on tibiae and tarsi. Wings dark brown, lightly speckled with hyaline spots and hyaline along posterior margin (Fig. 584). Veins brown, except along costa where there are hyaline incisions. **Silver microtrichia**: Dense bands on frons adjacent to margins of



Figs 581–587: *Venacalva seriata* (Enderlein, 1924). ♀ Holotype and ♂ specimen. – **581**: Female head, frontal view; – **582**: Female head, profile; – **583**: Male right hind coxa to femur, lateral view; – **584**: Right wing, dorsal view; – **585**: Male genitalia, right lateral view; – **586**: Male genitalia, detail of glans, dorsal view; – **587**: Female ovipositor, dorsal view; arrow = internal apodeme on tergite seven.

eyes, and on face in and between antennal sockets; dense vertical band in centre of medial occipital sclerite when viewed from dorsal aspect, distributed across occipital sclerites and postgena when angle of view is altered toward lateral; dense on notum anterior to transverse suture, anepisternum and katepisternum. Microtrichia also present on rest of body, but less conspicuous. Gold microtrichia in centre of frons.

Head: Frons elongate, little more than one third width of head (Figs 581 & 582). Genal groove distinct (Figs 581 & 582). Palp short and narrow, not extending beyond clypeus (Fig. 582). Setulae silver-blond; dense, but short on frons; sparse, but longer on gena and postgena; interspersed with a few black setulae on gena. Subvibrissal setulae as long as dorsal plume of arista.

Thorax: Setulae long and sparse and silver-blond throughout. Lobe at apex of hind trochanter slightly pointed, but not much enlarged, no basal lobe (Fig. 583). Wings – flexion line present, but weakly formed. Subcostal node on costa distinct, R-M only slightly weakened in centre (Fig. 584).

Abdomen: As for generic description. Ovipositor – Apodeme on interior surface of T_7 elongate and densely sclerotised (Fig. 587). Apex of aculeus with three pairs of setulae and one fine seta, decreasing in length serially toward base of ovipositor (Fig. 587).

Variation: ♂ Body length: 2.5–3.2 mm; wing length: 2.7–3.5 mm. ♀ Body length: 2.9–3.7 mm; wing length: 3.3–3.7 mm. In one female specimen from Eala (Zaïre) ground colour pale cream coloured and in a male from same locality basal abdominal tergites are dark brown. Apex of ♂ hind tibia almost imperceptibly bent downwards. Genitalia (♂) – Epandrium rounded to sub-rectangular (Fig. 585). Proctiger and hypoproct fused into large rounded membranous sac with hypoproct indistinctly delimited – combined structure dominating over epandrium, apically and ventrally setulose (Fig. 585). Lateral surstylus short and narrow, wrapped around apex of median surstylus and setulose on outer surface (Fig. 585). Median surstylus apically square and armed with dorsal and ventral spine (Fig. 585). Phallapodeme and hypandrium weakly developed. Distiphallus weakly annulate on dorsal surface. Glans small and narrow, with only on lateral sclerite claw-like (Fig. 586).

Material examined: **Holotype**: CAMEROUN: ♀ (ZMBH) "S.O. Kameroun / Jaúndé Gebiet [i.e. Yaounde District ca. 03°51'N; 11°31'E, ca. 550–1000 m], Lúff—al– [illegible] / G. TEßMANN S.G." [printed on blue card; middle line handwritten] + "16–24.10. / 1914" [handwritten sideways at left]. "Type" [printed on orange card, with date handwritten]. "Plastotephritis / seriata / Type ENDERL. ♀ / Dr. ENDERLEIN det. 1924" [handwritten except last line up to and including 19, which is printed]. "Zool.Mus. / Berlin" [printed on yellow paper]. "HOLOTYPE / *Venacalva* / *seriata* ♀ / (ENDERLEIN, 1924) / Det WHITTINGTON" [rectangular red label, first and last lines printed, middle three handwritten]. In good condition, double mounted, left wing crumpled, some setae broken. Genitalia dissected and stored in glycerine in microvial on same pin as specimen.

Other material — SIERRA LEONE: 1♀ Bo [07°58'N; 11°45'W, ca. 0–100 m], 2.viii.[19]09, H.E. ARBUCKLE, 1911–415 (BMNH). ZAÏRE: 1♀ Eala [00°02'N; 18°22'E; ca. 200–500 m], ix.1930, P. STANER (KBIN); 1♀ Eala [00°02'N; 18°22'E, ca. 200–500 m], ix,1930, P. STANER (MRAC); 3♂♂ 2♀♀ Eala [00°02'N; 18°22'E, ca. 200–500 m], vii,1936 (1♀ viii.1935), J. GHESQUIÈRE (KBIN; 1♂ NMSE).

Discussion. This species was overlooked in the key produced in 1932 by FREY, but was included as a member of *Plastotephritis* by STEYSKAL (1965, 1980). In the former publication by STEYSKAL (1965), 1 specimen is listed from Liberia, but two conflicting locations are given: Bendu [07°29'N; 12°27'W, ca. 0–100 m; actually in Southern Province, Sierra Leone] and Robertsport [06°45'N; 11°15'W, ca. 0–100 m; Liberia being correct], collected 2.ii – 5.iii.1943 by F. M. SNYDER (AMNH). I have not examined this (or these) specimen(s).

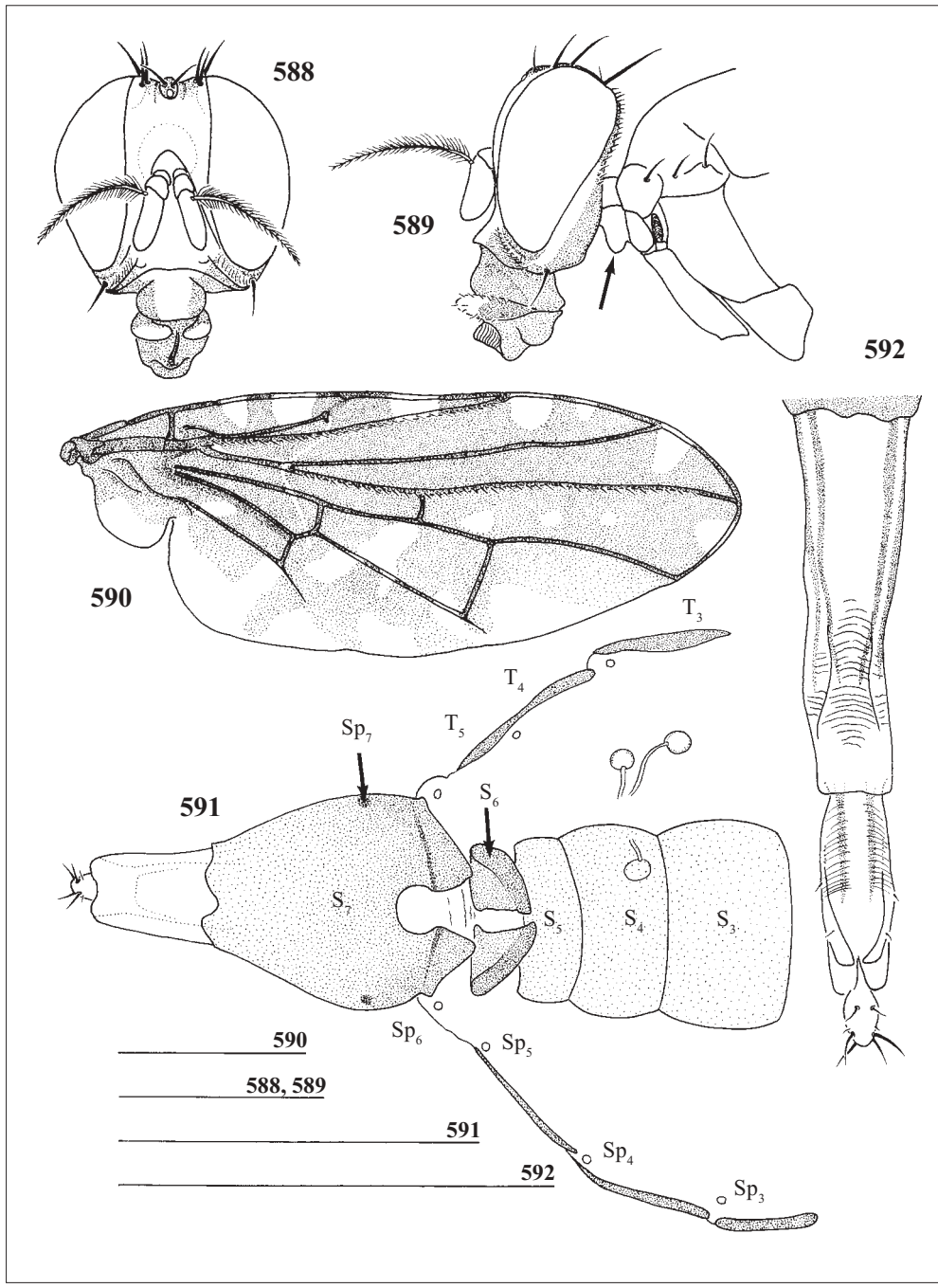
The combination of brown notum and pale head distinguishes *V. seriata* from the other three species in *Venacalva*. Male specimens are the smallest in the genus and certainly among the smallest Plastotephritinae. The male genitalia are distinctive.

Distribution. *V. seriata* has a West-Central African distribution, known from Sierra Leone, Liberia, Cameroun and Zaïre (Fig. 691).

Venacalva virga sp.nov.

(Figs 588–592, 691)

Diagnosis. Brown band running from lower eye margin across gena and continuing as a band across posterior parts of mouthparts and basal half of palp. Occiput and postgena dark brown. Notum mostly dark brown (in dorsal view), only cream coloured on postpronotal lobe and



Figs 588–592: *Venacalva virga* sp.nov. ♀ Holotype. – **588**: Head, frontal view; – **589**: Head and anterior portion of thorax, profile; arrow = prosternal bulla; – **590**: Right wing, dorsal view; – **591**: Female abdominal sternites and ovipositor, ventral view; S_3-S_7 = sternites three to seven, sp_3-sp_7 = spiracles three to seven, T_3-T_5 = tergites three to five; – **592**: Female ovipositor, dorsal view.

notopleural callus and along transverse suture with no pattern on dorsal surface of notum. Setulae present on RS.

Etymology. *virga* L. f = branch, rod, stripe; referring to the stripe across the genae and mouthparts in this species.

Description

Dimensions: ♀ Holotype body length 3.2 mm; wing length 3.6 mm. **Colour/Vestiture**: Ground-colour pale cream; ocellar triangle brown; brown band from ventral margin of eye, across gena, base of palp and mouthparts, giving lower face a striped appearance; this band most intense along lower facial margin (Figs 588 & 589). Occipital sclerite and postgena dark brown (Fig. 589). Notum dark brown, except for band of ground-colour across postpronotal lobe, dorsal half of notopleuron and continuing along transverse suture. Only proepimeron, anterior half of anepisternum, a small area around posterior spiracle and scutellum coloured pale cream, remainder of thorax dark brown. Posterolateral margin of T_2, all of $T_3 – T_5$ and genitalia dark brown. Apex of mid and hind femora and bases of mid and hind tibiae dark brown. Wings dark brown, speckled with hyaline spots and mottled with hyaline along posterior margin. Veins brown, except along costa where there are hyaline incisions. **Silver microtricha**: Dense bands on frons and postgena adjacent to margins of eyes, and on face in and between antennal sockets. Centre of medial occipital sclerite obscured from, but microtrichia lightly distributed across, occipital sclerites and postgena when angle of view is altered toward lateral. Lightly distributed on rest of body. **Head**: Frons elongate, one third width of head (Figs 588 & 589). Genal groove distinct (Figs 588 & 589). Palp short and broad, extending beyond clypeus (Fig. 589). Setulae silver-blond; dense, but short on frons; sparse, but longer on gena and postgena; interspersed with black setulae on postgena. Subvibrissal setulae as long as ventral plume of arista.

Thorax: Setulae moderately long and sparse throughout, dark brown interspersed with silver-blond. Lobe at apex of hind trochanter slightly pointed, but not much enlarged. **Wing**: Flexion line distinctly present (Fig. 590). Subcostal node on costa small, membranous fold strongly developed, Sc-R spur distinct; R-M weakened medially, but complete (Fig. 590).

Abdomen: As for generic description. S_6 fragmented in two; sixth spiracle situated close to base of T_7 (Fig. 591). Ovipositor – taenia of eversible membrane noticeably long (approximately two-thirds to half ovipositor length); middle and distal portion of sheath finely ornamented with parallel transverse wrinkles (Fig. 592). Aculeus also transversely marked by fine wrinkles and lightly setulose (Fig. 592). Tip of aculeus with four long apical setulae (two dorsal, two ventral) and one fine basal setula (Fig. 592). Spermathecae spherical (Fig. 591).

Variation: This species is known only from the type specimen.

Material examined: **Holotype**: TOGO: ♀ (TAUI) "TOGO / ~~Akposso~~ Sodo [07°19'N; 00°49'E] / 2 – 21.I.[19]82 / G.J. STECK" [printed on off-white card]. "HOLOTYPE / *Venacalva* / *virga* / sp.nov. ♀ / Det WHITTINGTON" [rectangular red label, first and last lines printed, middle three handwritten]. In good condition, double mounted. Genitalia dissected and stored in glycerine in microcapsule on same pin as specimen.

Discussion. No males are known for *V. virga*, which is a distinctively darkly marked species.

Distribution. *V. virga* is known only from the type locality in Togo (Fig. 691).

Xyrogena gen. nov.

Type species: *Plastotephritis gratiosa* ENDERLEIN, 1922.

Diagnosis. Arista plumose. Head of males usually triangular in frontal view, with gena expanded laterally; gena shallow (< 15 % of height of head in frontal view). Face tuberculate or concave, lower facial margin protruding forward beyond line level with apex of pedicel; face and frons broad (wider than length of antennae), frons at least twice as broad as height between ptilinal fissure and medial ocellus. Only lateral vertical setae strongly developed (medial vertical setae reduced and setula-like, often indistinguishable from postocellar setae). Postsutural acrostichal seta absent; 3 pairs of scutellar setae. Apex of ♂ hind tibia elaborately modified.

Etymology. *ξυρον* – *xyron* Gr. n. = razor; and *gena* L. f – cheek; referring to the sharply pointed gena of some male specimens. Gender feminine.

Description

Dimensions: ♂ Body length 3.4 – 5.9 mm; wing length 3.8 – 6.1 mm. ♀ Body length 2.9 – 5.2 mm; wing length 3.0 – 6.1 mm. **Colour/Vestiture**: Ground-colour pale cream yellow with brown to dark brown marks around ocellar triangle and vertex, apex of extended gena in males, notum, bands on legs, apical three tarsomeres on fore leg and all but basal tergites of abdomen. Eyes reddish-brown, with occasional green lustre. Wing membrane brown, spotted with hyaline incisions and spots, sometimes banded and sometimes also marked with orange. Calypter pale grey, tinged with brown and bordered with dark grey or dark brown. Halter pale-buff to pale cream yellow. Apical three tarsomeres of fore leg frequently darker than basal pair. Abdominal pleurites and sternites coloured as ground colour, at least basally. Silver microtrichia over most of body, conspicuously dense adjacent to eyes in many species, but usually sparse throughout. Occasionally bronze on frons or notum. Absent on vertex and midline on mediotergite.

Head: Elongate and antero-posteriorly compressed, vertex much narrower than thorax. Face tuberculate or concave, lower facial margin protruding forward beyond line level with apex of pedicel; face and frons broad (wider than length of antennae), frons at least twice as broad as height between ptilinal fissure and medial ocellus. Gena in male usually extended into an acute triangular projection, either inclined ventrally slightly or bent anteriorly slightly – hence head triangular in frontal view. Gena shallow (< 15 % of height of head in frontal view). Eyes elongate, oval, slightly distorted by extension of gena in males. Antennal groove shallow; low, poorly developed facial tubercle present below it. Frons parallel sided in females, but narrowed dorsally in males. Ocellar triangle positioned forward of orbitals, raised above vertex to just above level of upper margin of eye; vertex sunken between eyes. Antennae pendulous, scape positioned approximately midway down length of head; arista strongly plumose. Pedicel with ventral-lateral fringe of long setulae; dorsal setulae occasionally thickened. Postgena not noticeably swollen. Palp flattened, sparsely setulose. Setae – 1 ocellar, 2 strong reclinate orbitals (posterior seta weaker than anterior seta), 1 strong lateral, 1 weak and pale medial vertical, 1 short dorsal pedicel and 1 genal (absent in males). Pale, secondary genal seta present on ventral surface of post-gena. Postocular row distinct. Subvibrissal setulae present. Postocellars weak and hair-like.

Thorax: Setulae generally sparse, short and pale; longer on pleurites, sometimes brown on posterior margin of anepisternum and on anepimeron. Setae – 1 postpronotal, 2 notopleural (posterior seta on raised callus), 1 anepisternal, 1 supra-alar, 1 postalar, 1 intra-alar, 1 prescutellar acrostichal and 1 basal, 1 lateral and 1 apical scutellar. **Legs**: Hind trochanter in male modified with various tufts of stiff setulae, spurs or bulges; ♂ hind tibia with varying modifications, including scoop-shaped apical flange or medial bulges. Pre-apical mid tibial setae present. Setulae on apex of final tarsomere conspicuous and long, curving over apex in front of claws. First two tarsomeres of each leg with ventral pad of stout, pale setulae; fore and mid tarsi with short black preapical setulae across latero-ventral margins. Empodium setiform, small and inconspicuously situated between large, pale pulvilli. Claws strongly developed. **Wing**: Costa with pre-humeral weakened (but no distinct break) marked by change in costal-setula length. Costal cell broad, but less than twice R-M. Subcosta kinked basally; ending abruptly distally before turning toward costa, beyond which point membrane is folded until junction with costa. Sc-R spur variable in length. Setulae on entire length of R_1 (dorsal only) and three-quarters of R_{4+5} (dorsal and a few midway on ventral surface). R_1 slightly curved; R_{2+3} arching forward slightly in line with apex of R_1. R_{4+5} and M divergent. M virtually straight beyond dm. R-M beyond midway on dm.

Abdomen: Ovate, widest at distal margin of T_{1+2}. Sternites narrow (less than one third width of abdomen). Male genitalia – Epandrium rounded to subsquare or trapezoid. Proctiger con-

spicuous, finely setulose. Hypoproct setulose ventrally and apically, usually triangular in dorsal view. Lateral surstylus elongate and broad apically. Apex of medial surstylus with strongly sclerotised (sometimes bi-lobed) knob (= prensiseta?). Glans large in comparison with epandrium, divided into complex array of sclerotised processes. Vanes of phallapodeme, hypandrium and lateral sclerite narrow, considerably weakened toward apex. Base of ejaculatory apodeme membranous, with two partially sclerotised patches, sometimes flattened out at distal edge. Female genitalia – T_6 represented by small sclerotised segment within intersegmental membrane folded under T_5. Interior of T_7 with short, but strongly sclerotised, peg-like apodeme on basal margin. Oviscape conical, shorter dorsally than ventrally, strongly setulose. Eversible membrane plain with very fine ornamentation. Aculeus blunt ended, tip with 2 pairs of strong and 1 pair of very small apical setulae. Three spherical spermathecae.

Included species: *campiglossoides* (FREY, 1932) **comb. nov.**
camura **sp. nov.**
flocca **sp. nov.**
gratiosa (ENDERLEIN, 1922) **comb. nov.**
grossa **sp. nov.**
hispida **sp. nov.**
hypena **sp. nov.**
ligula **sp. nov.**
linea **sp. nov.**
loxa **sp. nov.**
pannosa (ENDERLEIN, 1922) **comb. nov.**
recta **sp. nov.**

Discussion. The characters of the male head, hind trochanter and hind tibia are the most useful for distinguishing species in this genus. These characters are supported by differences in the male genitalia. Conversely, the characters available in female specimens are more difficult to assess, since they tend to merge across a range of species and may lead to inappropriate identification. The female ovipositor is plain and provides little assistance. This is not to imply that the species concepts themselves are poor, but rather that decisions concerning placement of female specimens may be subjective.

Certain other characters are highly variable and little regard should be given to them for species recognition. Most obvious of these is the pattern on the notum, which can vary within a species from being mostly brown to pale cream or orange with four to six spots or stripes. General patterns of the wing membrane have proven useful, but caution is suggested in the use of and interpretation of the finer detail and placement of hyaline spots. These can also vary, within a single species, from completely absent, to a fine hyaline speck, a spot or even a large block of a cell.

The female genitalia exhibits very few variations across the genus and is generally of little use for species identification. Only two species (*X. camura* and *X. gratiosa*) have any features suitable for species recognition, the former having fine transverse wrinkles and the latter with fine denticles on the eversible membrane. Furthermore, in both species, the ventral pair of setulae on the apex of the aculeus is noticeably long.

The male sub-genal seta is unusual in Plastotephritinae with modified gena. This seta is inserted on the ventral margin of the postgena and, because of its placement, I do not consider it

to be homologous with the genal seta. Some female specimens have a secondary seta in the same position as those of the males, similarly pale in colour.

As mentioned for *Atopocnema* and *Stellapteryx*, the modification of the hind tibia may have a pheromone transfer function, similar to that described by White (2000) for some Dacinae (Tephritidae).

Distribution (Fig. 692). *Xyrogena* is mostly distributed in West and Central Africa, with a few East African specimens coming from Uganda.

Key to the species of *Xyrogena*

1 All tarsomeres on foreleg dark brown and setulae on front of fore tibia predominantly black; wing pattern indistinct toward apex of wing, creating pale wing tip (Fig. 620); scoop at apex of ♂ hind tibia slightly kidney-shaped (Figs 618 & 619) ..... ***X. gratiosa* (Enderlein, 1922)**

– At least first tarsomere of foreleg pale coloured *and* setulae on front of fore tibia predominantly pale; wing pattern distinct throughout wing, wing tip marked with distinct brown and hyaline pattern; apex of ♂ hind tibia different **2**

2 Almost entire katepisternum dark brown (pale only along ventro-medial margin); male hind tibia straight or wider at point three-quarters along length than at apex, without scoop-shaped modification (Fig. 597) **3**

– At most katepisternum has brown band across posterior half, more usually all or mostly pale; male hind tibia usually wider at apex than base, often with scoop-shaped modification (Figs 607, 634, 650 & 665) or otherwise modified (Figs 643 & 670) **4**

3 Scutellum pale yellow with dark brown basal and baso-lateral margin (Fig. 596); apex of hind tibia (in males and females) distinctly banded with dark brown (Fig. 597); male hind tibia wider sub-apically than apically, with a longitudinal band of black setulae on outer side (Fig. 597) ..... ***X. campiglossoides* (Frey, 1932)**

– Scutellum entirely pale yellow; apex of hind tibia (in males and females) narrowly banded with diffuse pale brown; male hind tibia straight, with pale setulae only ..... ***X. recta*** sp.nov.

4 Wing membrane banded (Figs 604, 660 & 666) **5**

– Wing membrane spotted (Figs 608, 631, 635, 644, 651 & 671) **7**

5 Diagonal hyaline band across wing membrane curved in r_{4+5} toward posterior margin at apex of M (Fig. 604); dorsal posterior angle of katepisternum dark brown; palp broad (length less than three times width – Fig. 602) (♂ unknown) ..... ***X. camura* sp.nov.**

– Diagonal hyaline band across wing membrane continuing straight across base of r_{4+5} into r_{2+3}, and to wing margin at apex of R_{2+3} (Figs 660 & 666); katepisternum completely pale coloured; palp elongate (length = four times width) **6**

6 Diagonal hyaline band on wing membrane with uneven margin; one incision at each of R_1 and R_{4+5} (Fig. 666); posterior margin of wing suffused with pale brown and indistinct pale brown to hyaline incisions (Fig. 666); small dark brown spot situated over anepimeral setulae; hind trochanter ventrally bulbous and densely setulose ventrally, with apical tuft of stiff setulae (Fig. 665); apex of ♂ hind tibia broadened and modified into shallow scoop (Fig. 665) ..... ***X. loxa* sp.nov.**

– Diagonal hyaline band on wing membrane with straight margin (Fig. 660); one incision in r_{4+5} only and posterior margin of wing hyaline (Fig. 660); anepimeral completely pale yellowish; hind trochanter ventrally bulbous and densely setulose ventrally (Fig. 659); apex of ♂ hind tibiae not broadened and unmodified ..... ***X. linea* sp.nov.**

7 Wing membrane tri-coloured orange, brown and hyaline or dark buff, brown and hyaline (Figs 635 & 651) **8**

– Wing membrane bi-coloured, brown and hyaline only (Figs 608, 631, 644 & 671) **9**

8 Black setulae on apex of katepisternum, mid coxa and ventral apex of hind coxa; apical fringe of setulae on pedicel black; ♂ hind tibia gradually expanding toward apex, scoop-shaped modification at apex approximately as wide as tibia (Fig. 634) .... ***X. hispida* sp. nov.**

– Pale setulae present on apex of katepisternum, mid coxa and ventral apex of hind coxa; apical modification of ♂ hind tibia a broad scoop, approximately one and a half times as wide as tibia (Fig. 650) ..... ***X. ligula* sp. nov.**

9 Palp elongate, narrow (six times longer than wide) and having long black apical setulae (Fig. 641); gena marked with two diagonal lines at right angles to each other from lower eye margin to apex of gena and to lower facial margin respectively (Fig. 640); hind tibia of ♂ medially slightly bent, a patch of dark brown setulae on outer surface from midway to apex (Fig. 643) ..... ***X. hypena* sp. nov.**

– Palp elongate, but broad (less than six times longer than wide) and having pale setulae at apex; gena unmarked; hind tibia of ♂ apically expanded (Fig. 607) or otherwise modified (Fig. 670) **10**

10 Hyaline markings on wing membrane dominating and large: incision near apex of sc continuing to RS, incisions at apex of R_1 and R_{2+3} enlarged, such that they touch R_{2+3} and R_{4+5} and four hyaline spots along R_{4+5} (Fig. 631) ..... ***X. grossa* sp. nov.**

– Hyaline markings on wing membrane restricted: incision near apex of sc continuing in RS as flexion line only, incisions at apex of R_1 and R_{2+3} short, such that they do not reach R_{2+3} and R_{4+5} and one or two hyaline spots along R_{4+5} (Figs 608 & 671) **11**

11 Hind tibia of ♂ distinctly and strongly bent, roughly zigzag-shaped as a result of medial and apical swellings (Fig. 670); hyaline spot in r_{4+5} with a corresponding spot at its apex, in r_{2+3} (Fig. 671) ..... ***X. pannosa* (ENDERLEIN, 1922)**

– Hind tibia of ♂ without zigzag bend, but swollen apically into distinct lobe (Fig. 607); hyaline spot in r_{4+5} without corresponding spot at its apex, in r_{2+3} (Fig. 608); .... ***X. flocca* sp. nov.**

Xyrogena campiglossoides (FREY, 1932) comb nov.

(Figs 593 – 600, 692)

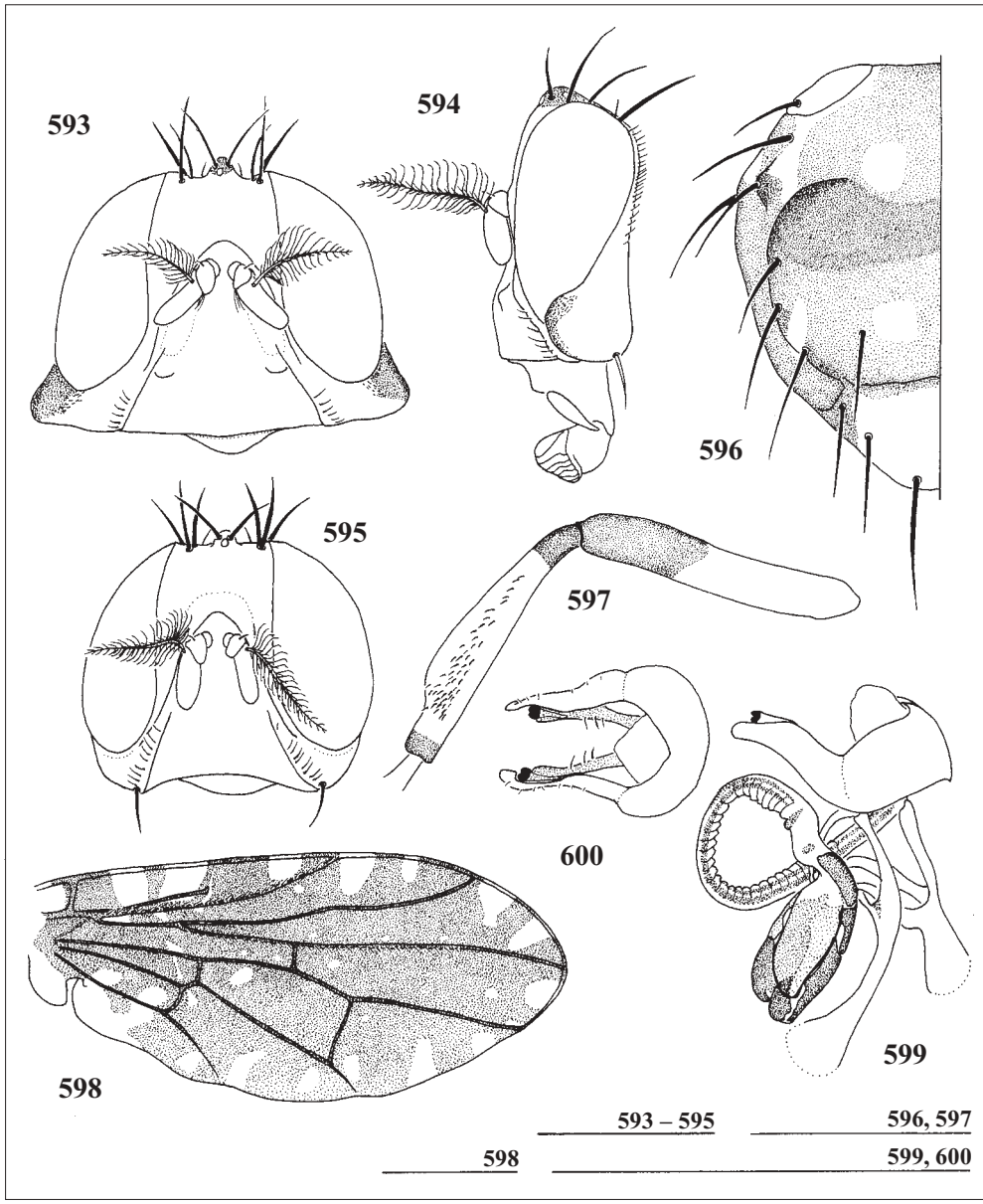
***Plastotephritis campiglossoides* FREY, 1932** – FREY (1932: 262, pl. VIII, fig. 37) [description & key]. STEYSKAL (1980: 565) [catalogue].

Diagnosis. Katepisternum dark brown (pale only along ventro-medial margin); Scutellum pale yellow with dark brown basal and basolateral margin. Apex of hind tibia (in males and females) distinctly banded with dark brown. Male hind tibia wider sub-apically than apically, without scoop-shaped modification, but with distinct black setulae on outer surface. Wing tip marked with distinct brown and hyaline pattern.

Etymology. *campus* L. m. = plain, field, *γλοσσα* – *glossa* Gr. f. – tongue and – *oides* L. suffix like or resembling; it is unclear to what this combination of words refers, but FREY may have considered the species to be similar to species belonging to the Tephritid genus *Campiglossa* RONDANI, 1870.

Description

Dimensions: ♀ Lectotype. Body length 3.7 mm; wing length 4.0 mm. **Colour/Vestiture**: Ground-colour dark pitch brown, with creamy yellow head, prothorax, anterior margin and dorsal band on anepisternum, legs (with dark bands as described below), disc and apex of scutellum and basal tergites of abdomen. Ocellar triangle brown; gena brown (as a result of a dense mat of short stout setulae); broad



Figs 593–600: *Xyrogena campiglossoides* (Frey, 1932). ♀ Lectotype and ♂ specimen. – **593**: Male head, frontal view: – **594**: Male head, profile; – **595**: Female head, frontal view; – **596**: Thorax, dorsal half view; – **597**: Male right femur and tibia, lateral view; – **598**: Right wing, dorsal view; – **599**: Male genitalia, right lateral view; – **600**: Male genitalia, dorsal view.

brown triangle on occiput from vertical seta and margin of eye to occipital foramen, extending into medial occipital sclerite in lower portion adjacent to foramen. Postpronotal lobe, proepimeron, dorsal band on anepisternum and dorsal third of meron pale. Scutellum pale, but bordered along base and on lateral margins (as far as basal seta) by dark pitch brown (Fig. 596). Fore and hind coxae and all trochanters pale. Apices of mid and hind femora and bases of mid and hind tibiae banded with brown, apex of hind tibia brown (Fig. 597) and terminal three tarsomeres of foreleg and terminal two tarsomeres of

hind leg brown. Wing membrane dark brown with hyaline incisions and occasional small spots (Fig. 598). Veins brown, but hyaline over hyaline markings. T_{1+2} and two basal triangular shaped marks on T_3 either side of midline all pale. Silver microtrichia on most of body, particularly dense beside margin of eyes and on notum and pleurites; absent from medial band across mediotergite. Bronze coloured transverse band of microtrichia across post sutural notum immediately posterior to transverse suture.

Head: Subsquare (Fig. 593). Vertex slightly sunken in middle; ocellar triangle raised up above level of dorsal eye margin (Fig. 593 & 594). Dorsal setulae of aristal plume longer than width of flagellomere 1, ventral plume a little shorter than width of flagellomere 1 (Fig. 593). Ventral fringe of setulae on pedicel pale. Palp elongate, apical setulae short, fair. Setulae fine and pale, mostly short, but black on gena and around to ventral setulae of subvibrissal setulae. Subvibrissal setulae mostly pale. Postocular row pale, continuous with postgenal setulae.

Thorax: Katepisternum and mid coxa with black setulae and setae; ventral apex of hind coxa with fair setae. Apex of hind trochanter plain, not elaborately developed. **Wing**: Sc-R spur weakly developed represented by small expansion at apex of Sc; apical portion of Sc not evident (Fig. 598). Flexion line weakly developed (Fig. 598).

Abdomen and **genitalia**: As for generic description.

Variation: ♂ Body length 3.7 – 4.4 mm; wing length 3.9 – 4.1 mm. ♀ Body length 3.1 – 3.7 mm; wing length 4.0 – 4.1 mm. Head of male triangular, gena extended and pointed with small cluster of black setulae on apex of gena (Figs 593 & 594). Pattern on notum variable, sometimes completely dark brown (as described for Lectotype), sometimes broken up into series of spots and bands (Fig. 596). Nigerian specimen lacks apical scutellar spot and only has indistinct basal-lateral brown markings. Hind tibia of male broadened toward apical third, then abruptly narrowed, outer surface with longitudinal band of black spine-like setulae (Fig. 597). Variation in wing pattern: one or both distal spots in dm often missing; female specimens from Zaïre have streaks of hyaline running lengthways through apical part of dm. In Nigerian specimen, hyaline markings enlarged and sometimes slightly differently shaped. Genitalia (♂) – Epandrium small, subsquare (Fig. 599). Proctiger dome-shaped (Fig. 599). Hypoproct fused along midline and fused to proctiger, pointed at apex (Fig. 600), setulose ventrally and apically. Lateral surstylus elongate, weakly sinusoid, with gently rounded apex (Figs 599 & 600). Apex of medial surstylus with strongly sclerotised, slightly bilobed, bar (Figs 599 & 600). Stem of medial surstylus setulose along latero-ventral margin (Fig. 600). Distiphallus stout, annulated on dorsal surface, not reaching beyond apex of lateral surstylus by more than surstylus length. Glans disproportionately large compared to epandrium. Vanes of phallapodeme, hypandrium and lateral sclerite thin though strongly sclerotised, considerably weaker toward apex.

Material examined: **Lectotype**: GHANA: ♀ (UZMH) "Dunkwa / Ashanti, [05°59'N; 01°45'W, ca. 0 – 100 m] / West Africa. / 19.vii.1907 / Dr W,M, GRAHAM. / 1908 – 245." [printed on off-white card with first line and day+month of date handwritten]; "LECTOTYPE / *Xyrogena* / *campiglossoides* / (FREY, 1932) ♀ / Det WHITTINGTON" [rectangular red label, first and last lines printed, middle three handwritten]. In good condition, double mounted. Genitalia dissected and stored in glycerine in microvial on same pin as specimen.

Other material — NIGERIA: 1 ♀ Ilaro Forest [06°50'N; 03°05'E, ca. 0 – 100 m], 1.iv.1973. M.A. CORNES, 1157 (NMWC). CAMEROUN: 1♂ Edea [03°47'N; 10°13'E, ca. 100 – 200 m], 27.xi.1987, A. FREIDBERG (TAUI). ZAÏRE: 1♂ Basoko [01°14'N; 23°36'E, ca. 200 – 500 m], i.1948, P.L.G. BENOIT (MRAC); 1♂ 2♀♀ Bolingo [03°31'S; 23°43'E, ca. 100 – 200 m], (Busira river), vii.1936, J. GHESQUIÈRE, 2929 (KBIN).

Discussion. Lectotype designation: The female specimen from Dunkwa (Ashanti, Ghana) has a red "Allotypus" label (probably added after FREY's 1932 description, as it is clearly a new label in a different typeface). It is listed as the first of the two syntype specimens seen by FREY (1932) and assigned to the species *Plastotephritis campiglossoides* FREY, 1932. It was evidently the specimen used for the wing photograph (FREY, 1932, Pl.viii, fig. 37). The wing of the second specimen (from Obuasi (BMNH)) lacks the two distal spots in dm and has a much enlarged first r_{4+5} spot, in addition to badly damaged wings, in a position that could not have provided the full wing figure given by FREY (1932). The two syntype specimens represent two species, one of which must be designated as the Lectotype for *Plastotephritis campiglossoides* FREY, 1932 and the other belongs to another species. Since FREY (1932) did not designate a primary type, I have selected the Dunkwa (UZMH) specimen as Lectotype for *P. campiglossoides* FREY, 1932 and included the Obuasi (BMNH) specimen under the new species name *P. grossa*.

The Nigerian specimen is tentatively placed under this species. It lacks the distinct brown markings on the scutellum (although pale basal markings are visible) and has many of the spots on the wing enlarged or slightly differently shaped compared to the other specimens available.

Distribution. *P. campiglossoides* is a West and Central African species, known from Ghana, Cameroun, Nigeria, Zaïre (Fig. 692).

Xyrogena camura sp. nov.

(Figs 601 – 605, 692)

Diagnosis. Palp broad (length less than three times width). Dorsal posterior angle of katepisternum dark brown. Wing membrane banded; diagonal hyaline band across wing membrane curved in r_{4+5} toward posterior margin at apex of M; membrane orange between hyaline band and dark brown costal band.

Etymology. *camur* L. a. – turned inward; referring to the backward loop of the diagonal hyaline band on the wing membrane.

Description

Dimensions: ♀ Holotype. Body length 4.2 mm; wing length 4.3 mm. **Colour/Vestiture**: Ground-colour pale orange brown. Ocellar triangle brown, vertex tinged brown immediately around ocellar triangle almost to base of anterior orbital seta; brown triangle on occiput reduced to small area adjacent to occipital suture. Notum with dark brown wavy mark on postsutural area (Fig. 603) and small spot of brown in cleft at base of notopleural callus and transverse suture. Brown in centre of anepimeron extending as band across dorsal half of katatergite and all of mediotergite and subscutellum. Scutellum with brown apical spot surrounding apical setae (Fig. 603). Medial third of T_3 pale, with central dark brown spot, linked crossways to lateral dark brown marks; all of T_4–T_5 and genitalia dark brown. Diagonal hyaline band across wing membrane curved back in r_{4+5} toward M; membrane orange between hyaline band and dark brown costal band (Fig. 604). Veins brown, but orange over orange band and hyaline over hyaline markings respectively. Microtrichia mostly obscured by greasy film, but silver where visible and sparse.

Head: Subsquare (Fig. 601), face slightly tuberculate (Fig. 602). Dorsal and ventral setulae of aristal plume longer than width of flagellomere 1 (Figs 601 & 602). Ventral fringe of setulae on pedicel pale. Palp broad (length less than three times width – Fig. 602). Setulae golden and long on frons in front of ocellar triangle (but black adjacent to eye margin) and on postgena; black from postocular row onto gena and round to subvibrissal setulae. Postocular row black but short, merging into pale postgenal setulae along dorsal half of eye margin. Subvibrissal setulae black until level with facial tubercle, whence it consists of pale setulae.

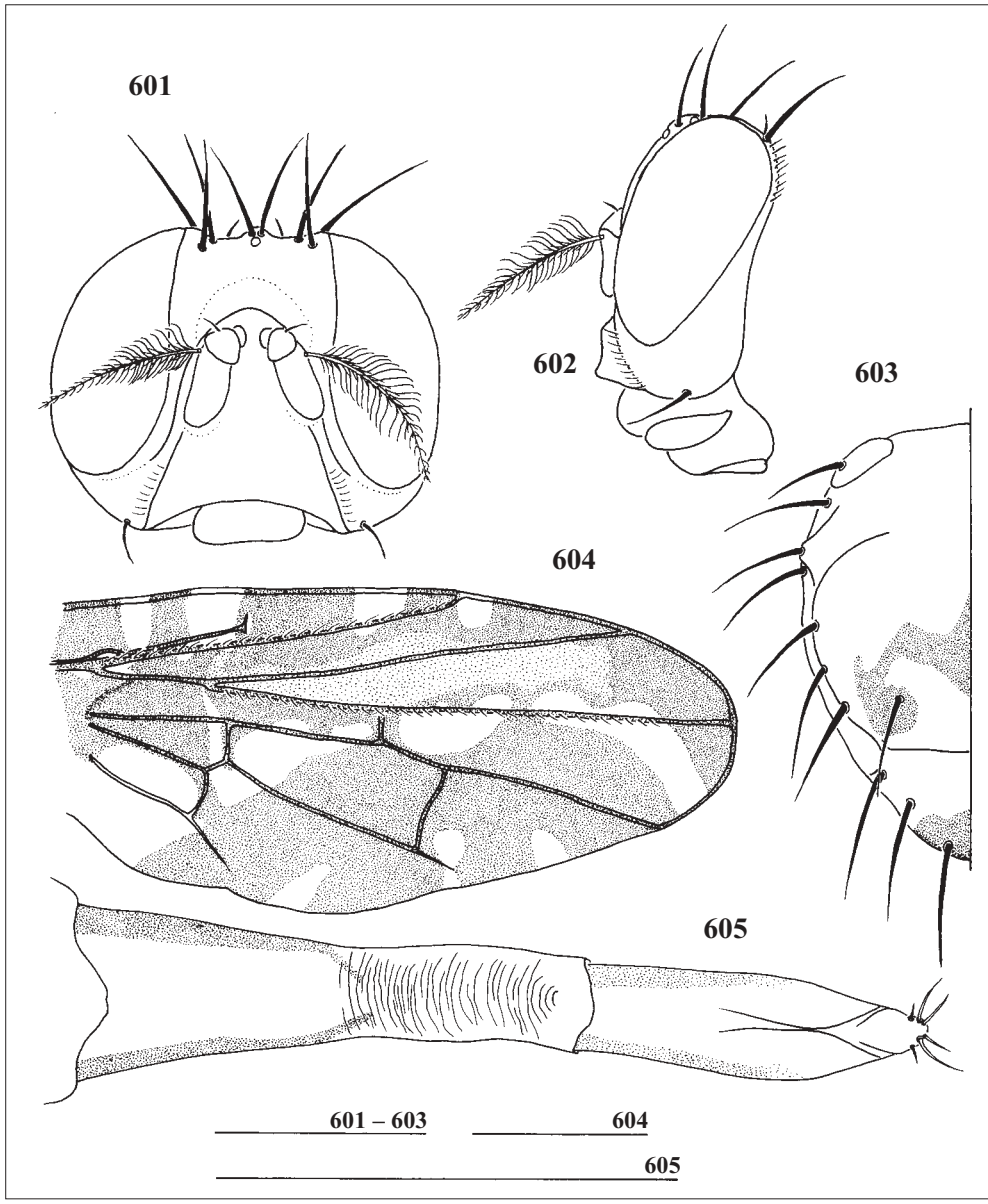
Thorax: Setulae on notum black from line anterior to transverse suture; apical mid coxal setae black; setulae on legs generally pale, but interspersed at apex of hind femora, on tibiae and distal tarsomeres with black setulae. **Wing**: Sc-R spur well developed resulting in T-shaped terminus to R_1; apical portion of Sc evanescent (Fig. 604). Flexion line faint (Fig. 604).

Abdomen: As for generic description. Ovipositor – Taenia long, half length of eversible membrane. Transverse wrinkles on eversible membrane fine and almost indiscernible (Fig. 605). Aculeus narrow, tip blunt, ornamented with 1 pair of short setulae and two pairs of long setulae on each side at apex – those on ventral surface noticeably long (Fig. 605).

Variation: This species is known only from the Holotype. ♂ unknown.

Material examined: **Holotype**: CAMEROUN: ♀ (USNM) "nr. Douala.Fr. / Cameroun, [04°04'N; 09°43'E, ca. 0 – 100 m] / 3 – 23 – VI – 17 – 36" [handwritten on off-white card]; "Swept in / Forest clear- / ing" [handwritten on off-white card]; "VanSwaluwen- / burg / & McGough" [printed on off-white card and folded in half]. "HOLOTYPE / *Xyrogena* / *camura* / sp.nov. ♀ / Det Whittington" [rectangular red label, first and last lines printed, middle three handwritten]. In good condition, but body a little greasy and wings a little dirty; double mounted. Genitalia dissected and stored in glycerine in microvial on same pin as specimen.

Discussion. A notable feature of this species (apart from the diagnostic wing coloration) is that the palp is broad (length less than three times width). All other species in *Xyrogena* have a narrow palp (length = four times width).



Figs 601–605: *Xyrogena camura* sp.nov. ♀ Holotype. – **601**: Head, frontal view; – **602**: Head, profile; – **603**: Thorax, dorsal half view; – **604**: Right wing, dorsal view; – **605**: Ovipositor, ventral view.

X. camura and *X. gratiosa* are the only species in this *Xyrogena* which has any clear differences in the ♀ genitalia. In this species, the eversible membrane is transversely wrinkled with fine lines and the ventral setulae on the tip of the aculeus are noticeably long.

Distribution. *X. camura* is known only from the type locality in Cameroun (Fig. 692).

Xyrogena flocca sp. nov.

(Figs 606–612, 692)

Diagnosis. Gena unmarked. Palp elongate, but broad (less than six times longer than wide) and having pale setulae at apex. Anepisternum and katepisternum completely pale. Hind trochanter bulbous ventrally, with dense tuft of setulae on ventral apex. Hind tibia of ♂ without zigzag bend, but swollen apically into distinct lobe. Wing membrane brown, spotted with hyaline marks. Hyaline markings on wing membrane restricted: incision near apex of subcosta continuing in RS as flexion line only; incisions at apex of R_1 and R_{2+3} short, such that they do not reach R_{2+3} and R_{4+5} and one or two hyaline spots along R_{4+5}; hyaline spot in r_{4+5} without a corresponding spot at its apex, in r_{2+3}; hyaline spot over base of dm large and rectangular.

Etymology. *floccus* L. m. = tuft, lock of hair; referring to ventral tuft of setulae at the apex of the trochanter.

Description

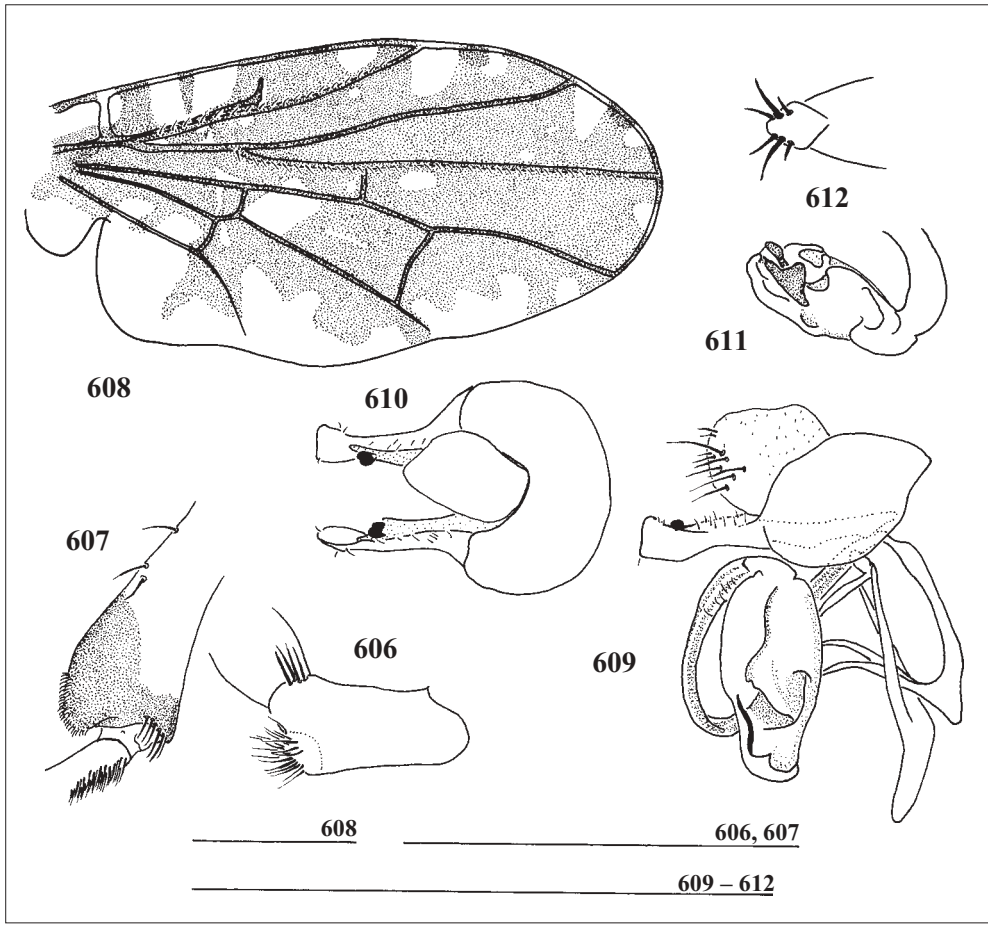
Dimensions: ♂ Holotype. Body length 4.0 mm; wing length 4.5 mm. **Colour/Vestiture**: Ground-colour creamy yellow; ocellar triangle brown, vertex tinged brown immediately around ocellar triangle almost to base of anterior orbital seta; pale brown triangle on occiput from vertical seta and margin of eye to occipital foramen only extending into medial occipital sclerite in lower portion adjacent to foramen. Postsutural notum with pale brown "hawk-silhouette" shaped mark. Small spot of brown in cleft at base of notopleural callus and transverse suture; narrow pale brown across centre of anepimeron; and across all of posterior half of katatergite, mediotergite and subscutellum; scutellum with minute pale brown marks latero-ventrally at base. At least first tarsomere of foreleg pale coloured *and* setulae on front of fore tibia predominantly pale. Lateral third of T_3 and all of T_4–T_5 and genitalia brown. Wing membrane pale brown with hyaline incisions and occasional spots. Hyaline markings on wing membrane restricted: incision near apex of subcosta continuing in RS as flexion line only; incisions at apex of R_1 and R_{2+3} short, such that they do not reach R_{2+3} and R_{4+5} and one or two hyaline spots along R_{4+5}; hyaline spot over base of dm large and rectangular (Fig. 608). Veins brown, but hyaline over hyaline marks along costa. Sparse silver microtrichia on most of head, thorax and legs; absent from vertex, medial occipital sclerite and medial mediotergite.

Head: Subtriangular with slightly extended, but nevertheless pointed, gena. Dorsal setulae of aristal plume longer than, and ventral plume as long as, width of flagellomere 1. Ventral fringe of setulae on pedicel pale, tending to be slightly orange on inner margin. Setulae fine and pale, mostly short, but longer on postgena and brown from postocular row onto gena and round to lower half of subvibrissal setulae. Remainder of subvibrissal setulae pale and fine. A small cluster of black setulae on apex of gena. Postocular row black and merging ventrally with postgenal setulae.

Thorax: Setulae pale, except bronze-brown on notum, brown setulae over brown marks on legs and pale orange-brown on tarsi. Apex of hind trochanter bulbous ventrally and covered with stiff, pale setulae; and also with a smaller dorsal tuft on inner surface (Fig. 606). Apex of ♂ hind tibia swollen apically into distinct lobe, only slightly concave (Fig. 607). **Wing**: Sc-R spur poorly developed; it and apical portion of Sc only a fold (Fig. 608). Flexion line weakly developed (Fig. 608).

Abdomen: As for generic description. Genitalia (♂) – Epandrium narrow (Fig. 609). Proctiger large and rounded, finely covered with microtrichia dorsally (Fig. 609). Hypoproct triangular at apex in dorsal view, setulose ventrally and apically, with single prominent seta (Fig. 609). Lateral surstylus elongate rectangular with abruptly straight apex, finely setulose on dorsal surface (Figs 609 & 610). Apex of medial surstylus with strongly sclerotised knob and straight spur which appears to fuse with lateral surstylus (Fig. 610). Distiphallus short (barely reaching beyond apex of lateral surstylus) and narrow, poorly annulated (Fig. 609). Glans large in comparison with epandrium, narrow toward apex (Figs 609 & 611). Vanes of phallapodeme and hypandrium narrow and weakly developed, with small, narrow apex (Fig. 609).

Variation: ♂ Body length 3.7–4.0 mm; wing length 4.1–4.5 mm. ♀ Body length 3.5 mm; wing length 3.6–3.7 mm. Other materials examined have short longitudinal band of pale brown between the postpronotal lobe and midline, which in female specimens, joins with post-sutural pattern. Wing membrane of one male has hyaline steaks along length of cells, but this is most likely a teneral condition. Ovipositor – aculeus blunt and rounded apically, with brush of setulae on each side at apex consisting of two (one dorsal and one ventral) long setulae and one fine setula (Fig. 612).



Figs 606–612: *Xyrogena flocca* sp. nov. ♂ Holotype and ♀ Paratype. – **606**: Male left trochanter, lateral inner view; – **607**: Apex of male right femur, lateral view; – **608**: Right wing, dorsal view; – **609**: Male genitalia, right lateral view; – **610**: Male genitalia, dorsal view; – **611**: Male genitalia, detail of glans, left side; – **612**: Female ovipositor, tip of aculeus, dorsal view.

Material examined: **Holotype**: ZAÏRE: ♂ (KBIN) "Congo-Belge Bolingo [03°31'S; 23°43'E, ca. 100 – 200 m] / (rives Busira) / ~~24~~.vii.1936 / J. GHESQUIÈRE/ 2929 [sideways on left of label] " [printed on off-white card, 24 crossed though with ink, second "I" of month and code number handwritten]. "R. Mus. Hist. Nat. / Belg. 10482" [printed on off-white card]. "A. COLLART / Ortalidae" [printed on off-white card with fine black frame; family name hand-written] "HOLOTYPE / *Xyrogena* / *flocca* / sp.nov. ♀ / Det WHITTINGTON" [rectangular red label, first and last lines printed, middle three hand-written]. In poor condition, teneral with poor colour differentiation, right mid and hind legs missing, double mounted. Genitalia dissected and stored in glycerine in microvial on same pin as specimen. Other material: **Paratypes** – ZAÏRE: 2♂♂ 2♀♀ same data as holotype (but 1♂ in NMSE).

Discussion. Despite the teneral nature of the type series, the key diagnostic characters are sufficiently clear to distinguish this species from other members of the genus. All five specimens seen are in a teneral condition and the four paratypes are squashed as though mounted from papered material. The head has not been illustrated, since all specimens have the heads collapsed. In frontal and lateral view, the male head is most like that illustrated for *X. hispida*. The pattern on the wing membrane of *X. hispida* is, however, distinct from that of *X. flocca*, which in any case keys out closer to *X. pannosa*. Both *X. flocca* and *X. pannosa* have similar wing patterns. The clause in the key referring to the small spot in r_{2+3} was added in an attempt to separate female specimens, but this may not hold true once a long

series of each species is available for examination. Male specimens of these two species can easily be distinguished by the shape of the hind tibia.
The teneral state of these specimens has also affected the male genitalia. The glans is poorly sclerotised and the sclerites difficult to evaluate; vanes of phallapodeme and hypandrium are weakly sclerotised and underdeveloped apically; and the phallapodeme is narrow and short.

Distribution. *X. flocca* is known only from Zaïre (Fig. 692).

Xyrogena gratiosa (Enderlein, 1922) comb nov.

(Figs 613 – 627, 692)

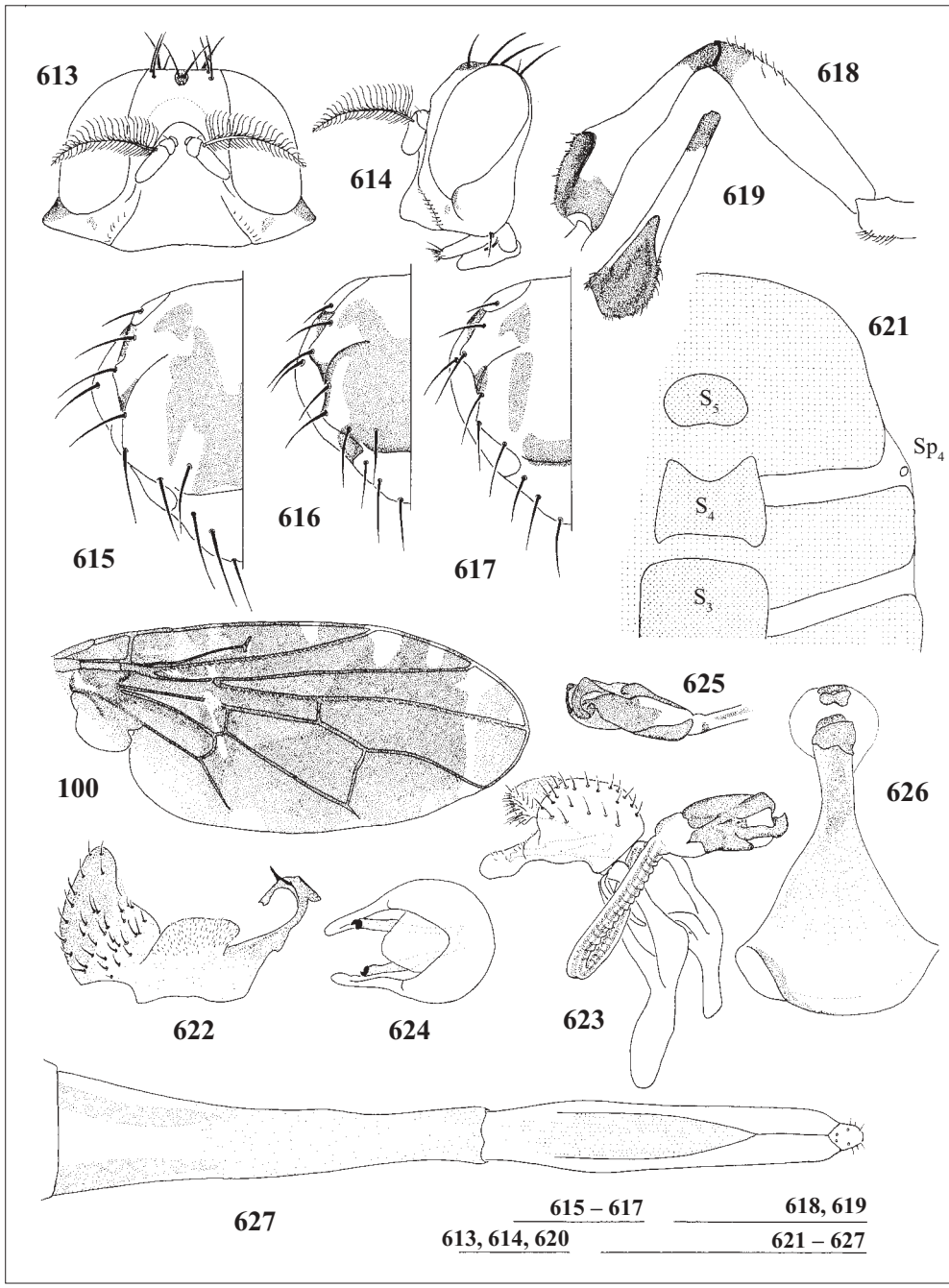
***Plastotephritis gratiosa* Enderlein, 1922** – Enderlein (1922: 9) [description] Steyskal (1965: 172) [list], Steyskal (1965: fig. 4) [wing]; Steyskal (1980: 565) [catalogue]. **Comb. nov**.

Diagnosis. All tarsomeres on foreleg dark brown and setulae on front of fore tibia predominantly black. Wing pattern indistinct toward apex of wing, creating pale wing tip. Scoop at apex of ♂ hind tibia slightly kidney-shaped.

Etymology. *gratiosus* L. a. = popular, full of favour or beauty.

Description

Dimensions: ♀ Holotype. Body length 3.1 mm; wing length 4.2 mm. **Colour/Vestiture**: Ground-colour creamy yellow. Ocellar triangle brown (Figs 613 & 614); occiput brown in dorsal third adjacent to occipital suture, gradually fading away toward margins of eye and ventrally. Notum broadly brown – creamy yellow ground-colour present across postpronotal lobe and notopleural callus, along transverse suture and on side of postsutural notum from across postalar and intra-alar setae and forward as narrow triangle to beyond supra-alar seta (Figs 615 – 617). Pale brown on posterior margin of anepisternum and katepisternum, all of anepimeron; katatergite, mediotergite and subscutellum. Apex of tibiae, all fore tarsomeres and distal two tarsomeres of mid and hind legs dark brown. Wing membrane pale brown, diffuse toward apex and posterior margin; hyaline incisions present along wing margin (most obvious along costa) and few scattered hyaline spots, giving wing dark appearance with pale tip (Fig. 620). Veins brown, darker over brown markings and lighter over hyaline markings. $T_3 - T_5$ brown, genitalia pale brown. Abdominal sternites dark brown. Silver microtrichia on most of head, thorax and legs; absent from vertex and medial occipital sclerite; with slight brass colour on frons.
Head: Subsquare (Fig. 613). Dorsal setulae of aristal plume longer than width of flagellomere 1. Antennal groove narrow, small tubercle present below it. Palp elongate, apical setulae long and black (Fig. 614). Setulae generally short and brown, but fair and longer on posterior parts of head. Postocular row fair.
Thorax: Setulae mostly brown, but fair on pale coloured sclerites; ventral row of long setae and dorsal setulae on apex of fore femur dark brown; setulae on front of fore tibia predominantly black, setulae on other legs intermingled with black setulae especially distally on tibia. Scoop at apex of ♂ hind tibia slightly kidney-shaped (Figs 618 & 619). **Wing**: Pre-humeral and humeral breaks present. Sc terminates beyond bend (Fig. 620); distal to which only a slight fold visible. Sc-R spur strong (Fig. 620). Flexion line clearly visible.
Abdomen: As for generic description. Ovipositor – Taenia short, one third length of eversible membrane. Ornamentation on eversible membrane consisting of fine denticles, almost indiscernible (Fig. 627). Aculeus narrow, finely ridged longitudinally (Fig. 627). Tip of aculeus blunt, ornamented with four setulae ventrally on main body and with a brush of three short setulae on each side at apex (Fig. 627) [two pairs of long setulae are missing from holotype].**Variation**: ♂ Body length 3.5 – 4.5 mm; wing length 4.0 – 4.7 mm. ♀ Body length 3.1 – 4.7 mm; wing length 3.4 – 4.8 mm. All other specimens have much darker brown marks on body and wings than holotype. Markings much more distinct, notably that pre-sutural notum is mostly pale orange-brown, with dark brown comma-shaped mark laterally and small triangular spot between postpronotal lobe, notopleuron and anepisternum (Figs 615 – 617). Pale supra-alar triangle reaches as far forward as transverse suture in many specimens, more frequently, in others it is considerably expanded to create a less extensive dark brown pattern on ground colour of notum, restricted in some cases to six independent spots (Fig. 617). Gena of males often laterally expanded into sharp point, resulting in triangular shaped head (Fig. 613). Gena (even in females) sometimes with brown spot just



Figs 613–627: *Xyrogena gratiosa* (ENDERLEIN, 1922). ♀ Holotype and ♂ specimen. – **613**: Male head, frontal view; – **614**: Male head, profile; – **615**: Male thorax, dorsal half view; – **616**: Male thorax, dorsal half view variation; – **617**: Female thorax, dorsal half view; – **618**: Male left hind trochanter, femur and tibia, inner lateral view; – **619**: Male right hind tibia, dorsal view; – **620**: Right wing, dorsal view; – **621**: Male abdominal sternites, ventral view; S_3-S_5 = sternites three to five, sp_4 = abdominal spiracle four; – **622**: Male abdominal sternite seven and eight; – **623**: Male genitalia, right lateral view; – **624**: Male genitalia, dorsal view; – **625**: Male genitalia, detail of glans, left side; – **626**: Male genitalia, ejaculatory apodeme; – **627**: Female ovipositor, ventral view.

below eye margin (Figs 613 & 614). Some female specimens have diffuse brown oblong spot basally on fore tibia. Scoop at apex of ♂ hind tibia is slightly kidney-shaped, fringed by widely spaced black setulae along outer margin (Figs 618 & 619). Male abdomen sternites about one third width of tergites and S_4 is strongly concave distally (Fig. 621). Genitalia (♂) – Sternites 7 & 8 fused, S_7 with long basal spur (Fig. 622). Epandrium subglobose (Fig. 623). Proctiger subsquare, fused with hypoproct, finely covered with microtrichia dorsally (Fig. 623). Hypoproct fused along midline and fused to proctiger, angular at apex, setulose ventrally and apically (Figs 623 & 624). Lateral surstylus elongate (Figs 623 & 624), club-shaped, finely setulose on dorsal exterior surface (Fig. 623). Medial surstylus free from lateral surstylus, apex a strongly sclerotised knob and forward curved spur (Fig. 624). Distiphallus short (barely extending beyond apex of lateral surstylus) and stout, annulated on dorsal surface (Fig. 623). Glans having ventral-most plate (or process) hooked at apex (Figs 623 & 625). Ejaculatory apodeme, strongly sclerotised basally, with large bulbous basal lobe attached to short, unsclerotized ejaculatory duct; apical fan flattened at apex (Fig. 626). Vanes of phallapodeme and hypandrium broad and well developed, strongly sclerotised, but narrow at apex, lateral sclerite weakly developed (Fig. 623). Ovipositor – ventral setulae at tip of aculeus noticeably long.

Material examined: **Holotype**: EQUATORIAL GUINEA: ♀ (ZMBH) "Span. Guinea / Alcu Benitogbt. [= Benitogebiet, i.e. Benito District; 01°30'N; 09°45'E?] / 16 – 31.viii.[19]06 / G. Teßmann S.G." [printed on blue card]; "Type" [printed on orange card]; "*Plastotephritis* / *gratiosa* / Type Enderl. ♀ / Dr.Enderlein det.1920" [handwritten on off-white card, but with last line except "20" printed]; ""Zool.Mus. / Berlin" [printed on yellow card]; "holotype / *Xyrogena* / *gratiosa* ♀ / (Enderlein, 1922) / Det Whittington" [rectangular red label, first and last lines printed, middle three handwritten]. Lightly sclerotised and faintly coloured, perhaps teneral, right wing a little damaged, double mounted. Genitalia dissected and stored in glycerine in microvial on same pin as specimen.
Other material – SIERRA LEONE: 1♂ 1♀ Njala [26 conflicting localities between 08°27' – 07°05'N; 11°38' – 11°23'W], ♀ 11.i.[19]33 & ♂ 21.i.[19]33, E. Hargreaves, (BMNH); 1♀ unspecified location but labelled "58.166 5 / S. Leone" [printed, cross handwritten] (BMNH). LIBERIA: 1♂ 12.9 km [8mi] N.W. Belefuanai [ca. nr. Tinsou 07°27'N; 09°25'W, ca. 200 – 500 m], S. fork St. Paul River, 11.viii.1966, E.S. Ross & K. Lorenzen (CASC); 1♂ Harbel, Firestone Plantation [06°25'N; 10°15'W, ca. 150 m], 27.vii.1966, E.S. Ross & K. Lorenzen (CASC). GHANA: 2♀♀ Ashanti, Obuasi [06°15'N; 01°36'W, ca. 200 m], 6 & 19.vi.1907, W.M. Graham, the former caught on leaf (BMNH & UZMH). CAMEROUN: 1♂ Makak [conflicting co-ordinates within 03°59' – 03° 26'N; 10°37' – 12° 47'E], 31.i.1950, J.B. – S. & J.D., 617 (UZMC); 1♀ 11.3km [7mi] S. Ebolowa [02°56'N; 11°11'E, ca. 500 – 1000 m], 15 – 17.x.1966, E.S. Ross & K. Lorenzen, 580 m (CASC). CENTRAL AFRICAN REPUBLIC: 1♀ La Maboké [03°54'N; 17°53'E], 19.ix.1967, L. Matile (MNHN). ZAÏRE: 1♂ 1♀ Tshuapa [= river or region], Ikengo (♂) [conflicting co-ordinates] & Bokuma (♀) [00°40'S; 20°59'E, ca. 200 – 500 m], 7.xii.1952 (♂) & 1954 (♀), P. Basilewsky (♂) R.P. Lootens (♀) (MRAC); 3♀♀ Stanleyville [00°33'N; 25°14'E, ca. 200 – 500 m], iv.1926 (1♀) and v.1926 (2♀♀), J. Ghesquière (MRAC).

Discussion. The male specimen from Tshuapa, Bokuma in Zaïre (MRAC) bears a generic manuscript label by Steyskal. This generic name is unpublished, but indicated that Steyskal also considered that this species previously assigned to Plastotephritis, did not belong there. A similar label appears on a specimen from *X. hispida* sp. nov. No dissections had been made, indicating that he hadn't fully worked the species concepts at that stage.
Despite the considerable variation in the pattern of the notum, this species can readily be distinguished from all others by two key characters: namely the dark tibiae and tarsi (the former caused by setulae; the latter by pigmentation) and the diffuse wing patterning at the wing apex.
X. gratiosa and *X. camura* are the only ones in this genus which display any clear differences in the ♀ genitalia. In this species, the eversible membrane is finely denticulate and there is a indistinct impression of longitudinal furrows on the main body of the aculeus.

Distribution. *X. gratiosa* is a West and Central African species, collected in Equatorial Guinea, Sierra Leone, Liberia, Ghana, Cameroun, Central African Republic and Zaïre (Fig. 692).

Xyrogena grossa sp. nov.

(Figs 628 – 631, 692)

Diagnosis. Palp elongate, but broad (less than six times longer than wide) and having pale setulae at apex. Gena unmarked. Anepisternum and katepisternum completely pale. At least first tarsomere of foreleg pale coloured *and* setulae on front of fore tibia predominantly pale.

Wing membrane brown and hyaline spotted. Hyaline markings on wing membrane dominating and large: incision near apex of sc continuing to RS, incisions at apex of R_1 and R_{2+3} enlarged, such that they touch R_{2+3} and R_{4+5} and four hyaline spots along R_{4+5}. (♂ unknown).

Etymology. *grossus* L. a. = large, thick; referring to the large markings on the wing membrane at the apex of R_1 and R_{2+3}, which touch R_{2+3} and R_{4+5}.

Description

Dimensions: ♀ Holotype. Body length 3.3 mm; wing length 3.3 mm. **Colour/Vestiture**: Ground-colour pale cream. Ocellar triangle brown, vertex tinged brown immediately around ocellar triangle to base of anterior orbital seta; brown triangle on occiput large, extending from vertical seta and margin of eye to occipital foramen only into medial occipital sclerite in lower portion adjacent to foramen. Gena unmarked except for slight shadow in groove (Figs 628 & 629). Anterior notum with two anterior brown stripes, and weaker, incomplete medial stripe; posterior notum largely brown with two small spots of ground colour adjacent to base of posterior dorsocentral (Fig. 630). A further spot of brown on posterior half of notopleural callus, in cleft at base of callus and transverse suture; anepimeron, katatergite, mediotergite and subscutellum brown; scutellum with narrow basal band, expanded laterally to base of basal seta (Fig. 630). $T_3 – T_5$ and genitalia dark brown. Fore legs pale except for light brown distal four tarsomeres. Mid and hind femora brown for apical quarter; mid and hind tibiae only narrowly pale brown at base, but hind tibia brown at apex. Distal two tarsomeres of mid and hind legs brown. Wing membrane brown with large hyaline incisions and spots (Fig. 631). Veins brown, but hyaline over hyaline markings on costa. Sparse silver microtrichia over most of head and thorax; slight gold colour on frons and notum.

Head: Subsquare (Fig. 628). Tubercle of face protruding to just beyond level with apex of pedicel and lower facial margin pushed upwards in centre (particularly evident in lateral view – Fig. 629). Dorsal and ventral setulae of aristal plume longer than width of flagellomere 1 (Figs 628 & 629). Ventral fringe of setulae on pedicel pale. Setulae fine, pale and short; setulae on gena black. Postocular row black and merging ventrally with postgenal setulae. Subvibrissal setulae long and black. Sub-genal seta present (Fig. 629).

Thorax: Setulae pale, except black fringe on posterior margin of anepisternum and small clump of black setulae on anepimeron. Apex of hind trochanter plain with short, pale setulae. **Wing**: Sc-R spur weakly developed, Sc continuous just beyond angle, resulting in small L-shaped terminus to Sc (Fig. 631); apical portion of Sc represented only by membranous fold. Flexion line well developed.

Abdomen: As for generic description. Ovipositor unknown.

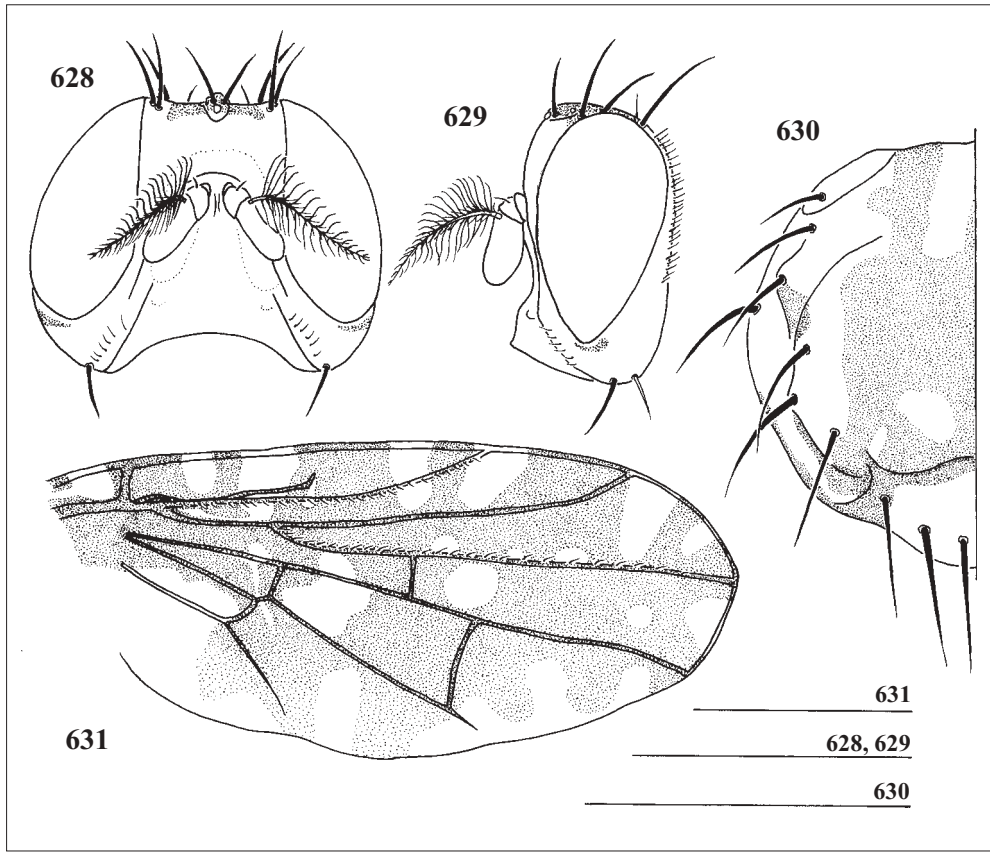
Variation: ♂ unknown; ♀ Body length 3.2 – 3.3 mm; wing length 3.3 – 3.8 mm. Paratype has medial band of pale cream colour across T_3, which in turn has a brown spot on it.

Material examined: **Holotype**: NIGERIA: ♀ (NMWC) "1158 / Ilaro Forest [06°50'N; 03°05'E, ca. 0 – 100 m] / W.Nigeria / 1.iv.[19]73 / M.A. CORNES" [handwritten on off-white card]. "HOLOTYPE / *Xyrogena* / *grossa* / sp.nov. ♀ / Det WHITTINGTON" [rectangular red label, first and last lines printed, middle three handwritten]. In good condition, but tip of aculeus broken off, double mounted.

Other material: **Paratype** – GHANA: (BMNH) 1 ♀ "Type" [circular printed label with red margin]; "Obuasi, [06°15'N; 01°36'W, ca. 200 m] / Ashanti, / W.Africa. / 7.viii.1907. / Dr.W.M.GRAHAM" [printed on off-white card, with day+month handwritten]; ""Caught in bush"" [handwritten on off-white card]; "Pres. by / Imp.Inst.Ent. / Brit.Mus. / 1931 – 56." [printed on off-white card]; "Plastotephritis / campiglossoides / n.sp. FREY det." [handwritten on off-white card but with "Frey det." pre-printed]; "Spec. typ." [printed on pink paper with dashed line across under words; facing downwards on pin]; "PARATYPE / *Xyrogena* / *grossa* / sp. nov. ♀ / Det WHITTINGTON" [rectangular yellow label, first and last lines printed, middle three handwritten]. In poor condition.

Discussion. FREY (1932) listed two syntype specimens under the description for the new species. I have selected the Dunkwa (Ashanti, Ghana (UZMH)) specimen as Lectotype for *P. campiglossoides* FREY, 1932, thus the second specimen (from Obuasi (BMNH)) is placed here as a new species, *Xyrogena grossa*. The specimen is in poor condition with the antennae, forelegs, apex of aculeus and many setae missing and other setae and wings damaged. Thus I have not used it as the holotype, but have given it paratype status only. For completeness the labels are listed verbatim.

Distribution. *X. grossa* is a West African species, known from Ghana and Nigeria (Fig. 692).



Figs 628–631: *Xyrogena grossa* sp. nov. ♀ Holotype. – **628**: Head, frontal view; – **629**: Head, profile; – **630**: Thorax, dorsal half view; – **631**: Right wing, dorsal view.

Xyrogena hispida sp. nov.

(Figs 632 – 639, 692)

Diagnosis. Apical fringe of setulae on pedicel black. Dark brown band on posterior half of katepisternum. First tarsomere of foreleg pale coloured and setulae on front of fore tibia predominantly pale. Black setulae on apex of katepisternum, mid coxa and ventral apex of hind coxa. Hind tibia of ♂ gradually expanding toward apex, modification scoop-shaped, slightly convex on outer surface as well as concave on inner surface, approximately as wide as tibia. Wing membrane orange and brown with hyaline spots and incisions.

Etymology. *hispidus* L. a. = bristly; referring to the black setae on the ventral apex of the hind coxae and katepisternum.

Description

Dimensions: ♂ Holotype. Body length 4.8 mm; wing length 5.4 mm. **Colour/Vestiture**: Ground-colour creamy yellow. Ocellar triangle brown, vertex tinged brown immediately around ocellar triangle almost to base of anterior orbital seta; brown triangle on occiput from vertical seta and margin of eye to occipital foramen only extending into medial occipital sclerite in lower portion adjacent to foramen. Small brown spot below ventral margin of eye (Figs 632 & 633). Notum with two anterior brown spots and brown "hawk-silhouette" shaped mark on postsutural area. Small spot of brown in cleft at base of notopleural callus and transverse suture, dark brown band on posterior half of katepisternum, brown in centre of anepimeron; posterior half of katatergite and all of mediotergite and subscutellum; scutellum

with brown apical spot surrounding apical setae. Lateral third of T_3 and all of $T_4 – T_5$ and genitalia dark brown. Wing membrane brown with an orange band across cells r_{2+3} and r_{4+5} and hyaline incisions and occasional spots (only 2 spots in r_{2+3} adjacent to R_{4+5}) (Fig. 635). Veins generally brown, but orange over orange band and hyaline over hyaline markings respectively. Silver microtrichia on most of head, thorax and legs; absent from vertex and medial occipital sclerite; brass lustre on frons.

Head: Subsquare with slightly extended, but nevertheless pointed, gena (Fig. 632). Dorsal setulae of aristal plume longer than, and ventral plume and as long as, width of flagellomere 1 (Figs 632 & 633). Ventral fringe of setulae on pedicel black; dorsal apical setulae stout, orange-brown. Setulae fine and pale, mostly short, but longer on postgena and black from postocular row onto gena and round to subvibrissal setulae. Small cluster of black setulae on apex of gena (Figs 632 & 633). Postocular row black and merging ventrally with postgenal setulae.

Thorax: Katepisternum and mid coxa with black setulae and setae and ventral apex of hind coxa with black setae. Apex of hind trochanter covered with stiff, pale setulae. Scoop at apex of ♂ hind tibia kidney-shaped and entirely dark brown, slightly convex on outer surface as well as concave on inner surface; densely setulose at apex on ventral surface (Fig. 634). **Wing**: Sc-R spur weakly developed, Sc ending after angle resulting in a L-shaped terminus to Sc (Fig. 635); apical portion of continued beyond apex as fold to costa. Flexion line well developed.

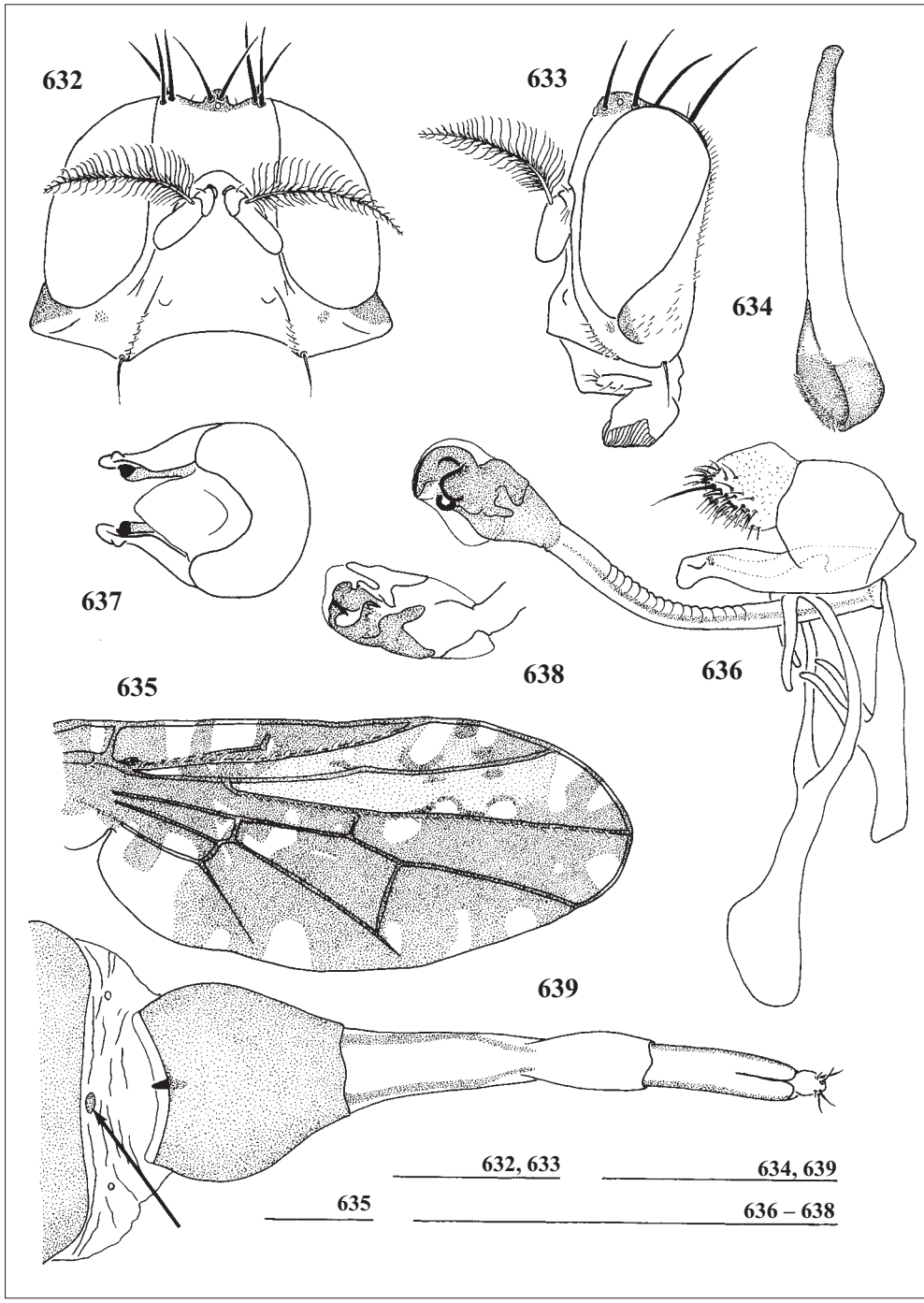
Abdomen: As for generic description. Genitalia (♂) – Epandrium subsquare (Fig. 636). Proctiger subsquare, fused with hypoproct, finely covered with microtrichia dorsally (Fig. 636). Hypoproct fused along midline and fused to proctiger, pointed at apex, setulose ventrally and apically, with single prominent seta (Fig. 636). Lateral surstylus elongate rectangular, gently rounded apex slightly turned downwards (Fig. 636), small lobe on exterior surface (Fig. 637). Apex of medial surstylus with strongly sclerotised knob and short forward curved spur (Fig. 637). Distiphallus stout, annulated dorsally (Fig. 636) and finely setulose. Glans disproportionately large compared to epandrium (Figs 636 & 638). Ejaculatory apodeme, strongly sclerotised basally, with large bulbous basal lobe attached to short, unsclerotized ejaculatory duct. Vanes of phallapodeme hypandrium and gonostylus thin and strongly sclerotised, but sclerotisation weaker toward apex (Fig. 636).

Variation: ♂ Body length 4.1 – 5.9 mm; wing length 4.7 – 6.1 mm. ♀ Body length 3.8 – 5.2 mm; wing length 4.4 – 6.1 mm. Small spot of brown below eye spreads ventrally inwards towards the subcranial cavity in one male specimen, thus resembling the stripe found in ♀. *hypena* (Fig. 640). Single female specimen (Taí region, Ivory Coast, TAUI) has apical fringe on pedicel pale. Pattern on notum variable, sometimes broken up into series of spots and bands. Orange memberane on wings sometimes darkened to dark buff. Hyaline spots on wing sometimes surrounded on anterior margin by darker brown pigmentation and then forming slight bulla. Ovipositor (Fig. 639) – as for generic description, taenia long, about half length of eversible membrane.

Material examined: **Holotype**: CAMEROUN: ♂ (TAUI) "CAMEROUN / Bambalang, 1200 m / Off Rt.N11 / 35Km E. Bamenda [05°55'N; 10°09'E] / 18,21.XI.1987, Amnon FREIDBERG" [printed on white card]. "HOLOTYPE / *Xyrogena* / *hispida* / sp.nov. ♂ / Det WHITTINGTON" [rectangular red label, first and last lines printed, middle three hand-written]. In good condition, but some slight damage to wings; double mounted. Genitalia dissected and stored in glycerine in microvial on same pin as specimen.

Other material: **Paratypes** – IVORY COAST: 1♀ Taí region [05°15' – 06°07'N; 07°25' – 07°54'W, 80 – 623m], environs of the Tropical Ecology Station, 16 – 20.iv.1985, G. COUTURIER & V. VAN ZEIJST, ORSTOM – Paris Mission UNESCO, Biotype 25, under wood, dense humid evergreen forest (TAUI). CAMEROUN: 1♂ 2♀♀ same data as Holotype (TAUI; 1♀ NMSE); 1♀ Rt. N11, Bafut [06°06'N; 10°07'E, 1000 m], 20 km North of Bamenda [05°55'N; 10°09'E, 1000 m], 17, 24.xi.1987, A. FREIDBERG, (TAUI). ZAÏRE: 1♀ Sankuru [= river], Komi [03°29'S; 23°19'E], 12.iii.1930, J. GHESQUIÈRE, fruits (MRAC); 1♀ P.N.A. May ya Moto [precise latitude and longitude unknown, but within 00°55'N – 01°40'S; 29°00' – 30°05'E], 6 – 9.xi.1934, G.F. DE WITTE, 950 m, 729 (MRAC). UGANDA: 1♀ Kibale Forest National Park [00°30'N; 30°25'E] 10.i.1996, I. YAROM & A. FREIDBERG, 1400 m (TAUI); 3♂♂ 2♀♀ F[orest] Kawanda [00°25'N; 32°32'E], 19.ix.1939 (1♂) 17.x.1939 (1♀), 4.xi.1939 (1♀) & 11.iv.1940 (2♂♂), H. HARGREAVES (BMNH; 1♂ NMSE); 1♀ Namanve [00°21'N; 32°41'E; ca. 1440 m], 11.x.1934, J. FORD (BMNH); 1♂ Budo [00°15'N; 32°29'E, ca. 1000 m], 10.i.1927, G.L.R. HANCOCK (BMNH); 1♂ Entebbe [00°04'N; 32°27'E, ca. 1000 m], 5.xi.1909, C.C. GOWDEY (BMNH);.

Discussion. The female specimen from May ya Moto, P.N.A. in Zaïre (MRAC) bears an unpublished generic name, indicating that STEYSKAL also considered there to be a new genus within the specimens



Figs 632–639: *Xyrogena hispida* sp. nov. ♂ Holotype and ♀ Paratype. – **632**: Male head, frontal view; – **633**: Male head, profile; – **634**: Male right hind tibia, lateral view; – **635**: Right wing, dorsal view; – **636**: Male genitalia, lateral view; – **637**: Male genitalia, dorsal view; – **638**: Male genitalia, detail of glans, left side; – **639**: Female ovipositor, dorsal view; arrow = T_6.

previously assigned to *Plastotephritis*. Disregarding the strongly developed generic characters of the head and hind tibia, this species closely resembles *P. compta* ENDERLEIN, 1922. In addition to the generic characters *X. hispida* has a dark brown band on the posterior half of the katepisternum, more incisions and spots on the wing, a more pronounced rounded club at the apex of the lateral surstylus in the male, and plain ovipositor without ornamentation and blunt apex to aculeus in the female. In comparison *P. compta* has a completely pale katepisternum, fewer spots and incisions on the wing, an evenly rounded apex to the lateral surstylus in the male and fine transverse wrinkles across the eversible membrane and a pointed aculeus in the female.

Distribution. *X. hispida* is distributed from West Africa across Central Africa to East Africa. It has been collected in: Ivory Coast, Cameroun, Zaïre and Uganda (Fig. 692).

Xyrogena hypena sp. nov.

(Figs 640 – 647, 692)

Diagnosis. Palp elongate, narrow (six times longer than wide) and having long black apical setulae. Gena marked with two diagonal lines at right angles to each other from lower eye margin to apex of gena and to lower facial margin respectively. Posterior angle of katepisternum brown. Hind tibia of ♂ medially slightly bent, patch of dark brown setulae on outer surface from midway to apex. Wing membrane brown with hyaline spots and incisions.

Etymology. *ηψπενε – hypene* Gr. f. = moustache; referring to the distinct facial markings.

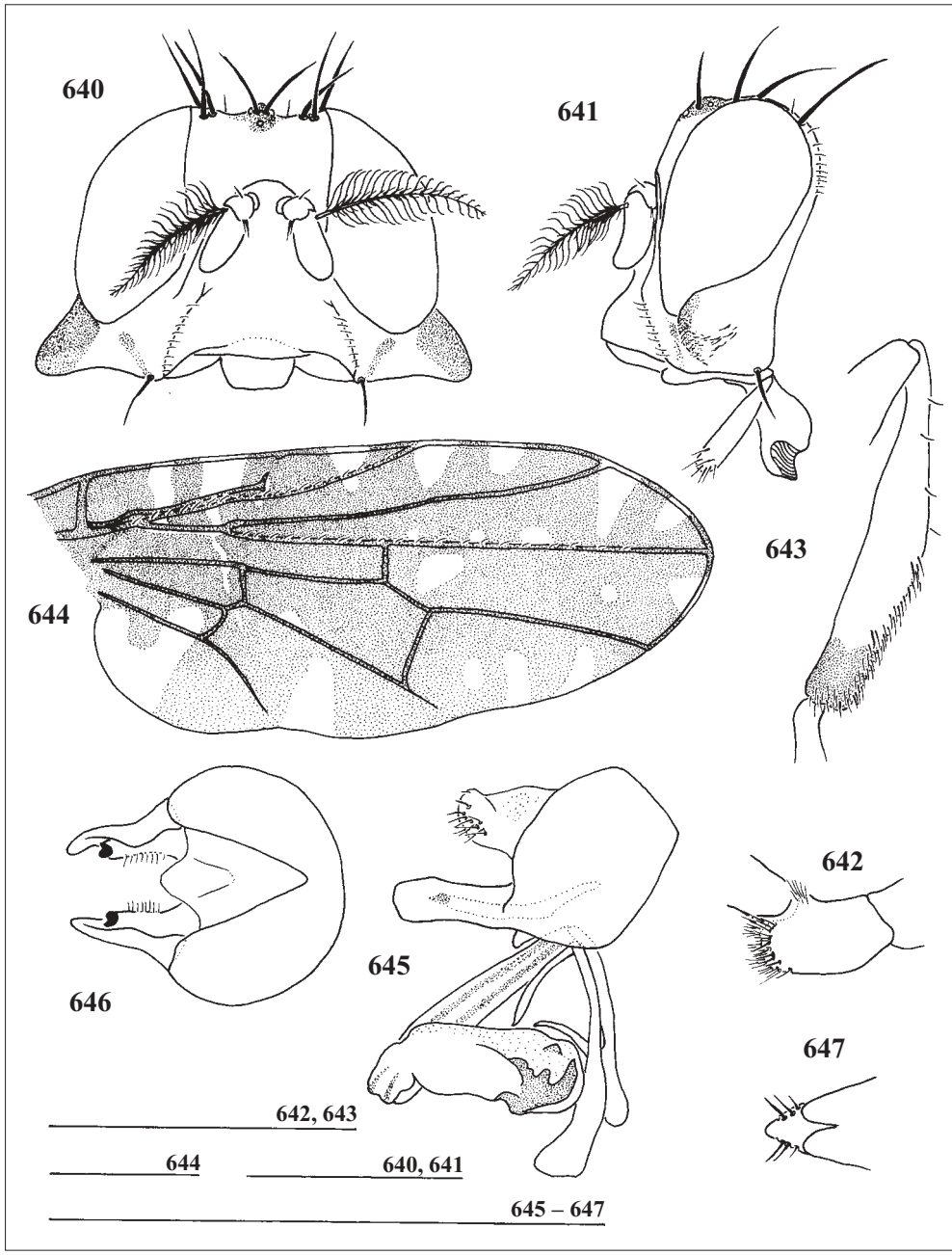
Description

Dimensions: ♂ Holotype. Body length 4.2 mm; wing length 4.7 mm. **Colour/Vestiture**: Ground-colour pale cream. Ocellar triangle brown, vertex tinged brown immediately around ocellar triangle almost to base of anterior orbital seta; brown triangle on occiput from vertical seta and margin of eye to occipital foramen only extending into medial occipital sclerite in lower portion adjacent to foramen. Notum with two anterior brown spots and brown "hawk-silhouette" shaped mark on the postsutural area. Small spot of brown in cleft at base of notopleural callus and transverse suture, brown in centre of anepimeron; posterior angle of katepisternum, katatergite and all of mediotergite and subscutellum; scutellum with brown apical spot surrounding apical setae. $T_3 - T_5$ and genitalia dark brown (T_{1+2} discoloured, probably pale). Apex of ♂ hind tibia dark brown (Fig. 643). Wing membrane brown with large hyaline incisions and spots (Fig. 644). Veins brown, but hyaline over hyaline markings on costa. Sparse silver microtrichia over most of head and thorax; gold lustre on frons.

Head: Subtriangular with pointed gena extended and slightly curved forward (Figs 640 & 641). Facial tubercle protruding to beyond level with apex of pedicel (Fig. 641). Dorsal setulae of aristal plume longer than, and ventral plume as long as, width of flagellomere 1 (Figs 640 & 641). Ventral fringe of setulae on pedicel black. Setulae fine, pale and short; small cluster of black setulae on apex of gena. Postocular row black and merging ventrally with postgenal setulae. Subvibrissal setulae black.

Thorax: Katepisternum and mid coxa generally with pale setulae, katepisternum with single black seta. Apex of hind trochanter bulbous and covered with stiff, pale setulae (Fig. 642). Apex of ♂ hind tibia lacking scoop-shaped modification, tibia widening about midway slightly bent and with longitudinal patch of dark brown setulae on outer surface from midway to apex (Fig. 643). **Wing**: Sc-R spur weakly developed and Sc continuing beyond angle resulting in T-shaped terminus to Sc; apical portion of Sc represented by fold, ending in costal node (Fig. 644). Flexion line well developed.

Abdomen: As for generic description. Genitalia (♂) – Epandrium subrectangular, taller than long (Fig. 645). Proctiger subrectangular, fused with hypoproct, finely covered with microtrichia dorsally (Fig. 645). Hypoproct fused along midline and fused to proctiger, triangular at apex in dorsal view, setulose ventrally (Figs 645 & 646). Lateral surstylus elongate rectangular with slightly convex apex (Fig. 645). Medial surstylus fused to lateral surstylus (at least along apical part of stem); apex of medial surstylus with strongly sclerotised, bi-lobed knob; ventral margin of stem finely setulose (Fig. 646). Distiphallus short (barely reaching beyond apex of lateral surstylus) and stout (Fig. 645). Glans weakly sclerotised and difficult to differentiate any structures (Fig. 645). Vanes of phallapodeme and hypandrium narrow (Fig. 645) and weakly developed, narrow at apex.



Figs 640–647: *Xyrogena hypena* sp. nov. ♂ Holotype and ♀ Paratype. – **640**: Male head, frontal view; – **641**: Male head, profile; – **642**: Male left hind trochanter, inner lateral view; – **643**: Male left hind tibia, lateral view; – **644**: Right wing, dorsal view; – **645**: Male genitalia, lateral view; – **646**: Male genitalia, dorsal view; – **647**: Female ovipositor, tip of aculeus, dorsal view.

Variation: ♂ Body length 4.2–4.7 mm; wing length 3.3–4.0 mm. ♀ Body length 4.3 mm; wing length 4.7–4.9 mm. Female paratype has darker, more yellow, ground colour, spot on katepisternum more restricted, and hind tibia closely resembles that of Holotype, being curved and black setulose toward distal half. Ovipositor – Ornamentation on eversible membrane fine and dense near to base, becoming

finer distally, consisting of minute dimples. Tip of aculeus pointed (Fig. 647), with brush of two (or possibly three) long setulae on each side at apex (apical most setulae broken off in specimen) and one short basal setula.

Material examined: **Holotype**: ZAÏRE: ♂ (MNHN) "MUSEUM PARIS / Rep.Pop.Congo / L.MATILE" [printed on pale blue card]; "POOL FORÊT DE / MBYA NZOUARI [unknown latitude and longitude], / 3 – XI – 1975" [printed on pale blue card but "3" of date handwritten]; "HOLOTYPE / *Xyrogena* / *hypena* / sp. nov. ♂ / Det WHITTINGTON" [rectangular red label, first and last lines printed, middle three hand-written]. In good condition, but some setae on head missing and genitalia teneral; double mounted. Genitalia dissected and stored in glycerine in microvial on same pin as specimen. Other material: **Paratypes** – ZAÏRE: 1♂ Mayumbe [02°30'S; 27°37'E]: Tshela [04°59'S12°56'E – conflicting co-ordinates], 13 – 27.ii.1916, R. MAYNÉ (MRAC) [this specimen has an unpublished STEYSKAL manuscript label "*FEYELLA* / *MAYNEI n.sp.*"]; 1♀ Mayumbe [02°30'S; 27°37'E]: Tshela [04°59'S12°56'E– conflicting co-ordinates], v.1923, L[r] J. GHESQUIÈRE (MRAC).

Discussion. The dark brown stripe from the ventral margin of the eye slanting away from the gena and toward the subcranial cavity in males occurs in this species and less distinctly in *X. flocca* and in *X. ligula*. The males of these species can easily be distinguished by the shape of the modification on the hind tibia, the shape of the surstyli and glans and by the wing patterns and colour.

Distribution. *X. hypena* is known only from Zaïre (Fig. 692).

Xyrogena ligula sp. nov.

(Figs 648 – 655, 692)

Diagnosis. Katepisternum pale. Pale setulae present on apex of katepisternum, mid coxa and ventral apex of hind coxa. Basal three tarsomeres of foreleg pale *and* setulae on front of fore tibia predominantly pale. Apical modification of ♂ hind tibia broadly scooped, approximately one and a half times width of tibia. Wing membrane spotted with orange, brown and hyaline.

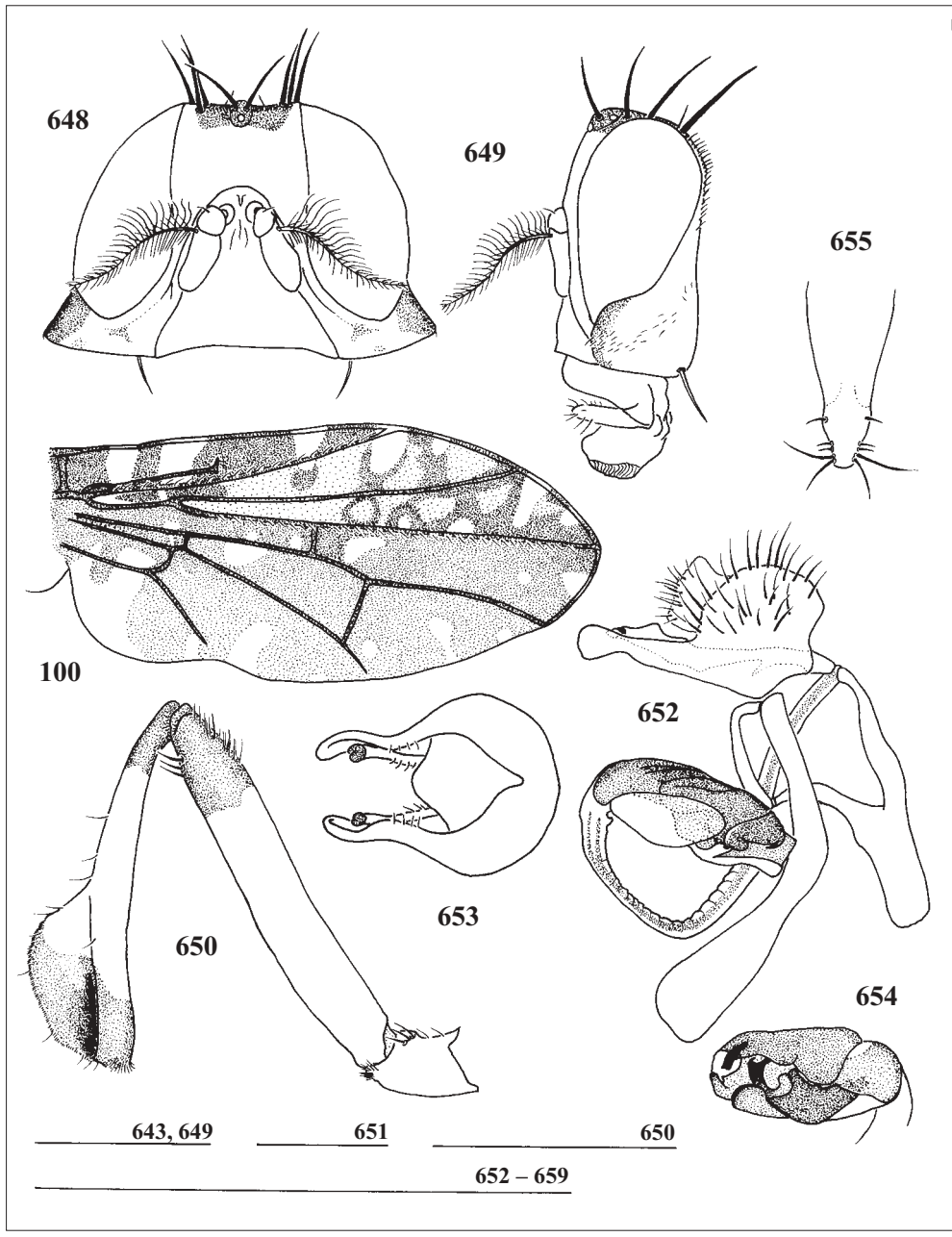
Etymology. *ligula* L. f. = ladle, spoon or skimmer; referring to the broad modification at the apex of the hind tibia in the male.

Description

Dimensions: ♂ Holotype. Body length 4.0 mm; wing length 4.8 mm. **Colour/Vestiture**: Ground-colour cream to off-white. Ocellar triangle and vertex brown, to base of anterior orbital seta; brown triangle on occiput from vertical seta and margin of eye to occipital foramen only extending into medial occipital sclerite in lower portion adjacent to foramen. Notum with two anterior brown stripes and brown "hawk-silhouette" shaped mark on post-sutural area. Small band of brown in centre of anepimeron; posterior half of katatergite and all of mediotergite and subscutellum brown. Scutellum with small brown apical spot between apical setae. Bands at apex of mid femora pale brown; those at apex of hind femora and base and apex of hind tibia dark brown (Fig. 650). Fore and mid tarsomeres darker yellow than rest of body, apical two tarsomeres tinged brown. Lateral third of T_3 and all of $T_4 - T_5$ and genitalia dark brown. Wing membrane brown with orange band across R_{2+3} and hyaline incisions and occasional spots; dark brown pterostigma and posterior margins of hyaline incisions in R_{2+3} (Fig. 651). Veins brown, but orange over orange band and hyaline over hyaline markings respectively. Silver microtrichia on most of body, but difficult to discern against pale background colour; absent from vertex and medial occipital sclerite.

Head: Subtriangular with slightly extended and pointed gena (Fig. 648). Dorsal setulae of aristal plume longer than and ventral plume and as long as width of flagellomere 1 (Figs 648 & 648). Ventral fringe of setulae on pedicel orange. Setulae fine and pale, mostly short, but longer on frons and postgena (some as long as genal seta) and black from postocular row onto gena. Small cluster of black setulae on apex of gena. Postocular row black and merging ventrally with postgenal setulae. Subvibrissal setulae pale.

Thorax: Katepisternum, mid coxa and ventral apex of hind coxa with pale setulae. Brown setulae on legs over brown markings. Apex of hind trochanter with a small spur, below which is small tuft of pale setulae (Fig. 650). Hind tibia abruptly expanding two thirds along length, resulting in broad scoop-like apical modification, approximately one and a half times as wide as tibia (Fig. 650). **Wing**: Sc-R spur weakly developed resulting in slight T-shaped terminus to Sc; apical portion of Sc evanescent (Fig. 651). Flexion line well developed. Slightly raised bullae in r_{2+3} and r_{4+5} where dark brown membrane surrounds hyaline spots.



Figs 648–655: *Xyrogena ligula* sp. nov. ♂ Holotype and ♀ Paratype. – **648**: Male head, frontal view; – **649**: Male head, profile; – **650**: Male left hind trochanter, femur and tibia, inner lateral view; – **651**: Right wing, dorsal view; – **652**: Male genitalia, right lateral view; – **653**: Male genitalia, dorsal view; – **654**: Male genitalia, detail of glans, left side; – **655**: Female ovipositor, tip of aculeus, dorsal view.

Abdomen: As for generic description. Genitalia (♂) – Epandrium rounded, densely setulose (Fig. 652). Proctiger raised hook-like at apex (Fig. 652). Hypoproct triangular at apex in dorsal view (Fig. 653), setulose apically (Fig. 652). Lateral surstylus elongate, rectangular with rounded, spoon-shaped apex, lightly setulose along inner dorsal margin (Fig. 652). Apex of surstylus with strongly sclerotised bi-

lobed knob (Fig. 653). Stem sinusoidal in middle (Fig. 652), inner margin with short setulae (Fig. 653). Distiphallus short (but reaching beyond apex of lateral surstylus), narrow and annulated on dorsal surface (Fig. 652). Glans elongate, lateral sclerites with hooks (Fig. 654). Vanes of phallapodeme and hypandrium broad and well developed, strongly sclerotised, narrow spatulate at apex (Fig. 652).

Variation: ♂ Body length 4.0–4.3 mm; wing length 4.7–4.8 mm. ♀ Body length 4.3 mm; wing length 4.7–4.9 mm. Second male specimen and female from Bokuma, have posterior portion of notum coloured more widely brown. Orange membrane on wing of female specimens less pronounced than in male, but nevertheless brown parts of membrane are differentiated into dark brown, brown and orange-brown. Small brown spot in centre of pale medial third of T_3 in female specimens. Ovipositor – ornamentation on eversible membrane fine and dense near to base, becoming finer distally, consisting of minute dimples. Tip of aculeus rounded, with brush of setulae on each side at apex consisting of one pair long setulae dorsally and ventrally, two pairs fine lateral setulae and short basal setula (Fig. 655).

Material examined: **Holotype**: ZAÏRE: ♂ (MRAC) "COLL. MUS. CONGO / Tshuapa [= region], Bokuma [00°40'S; 20°59'E], II/III–1954 / R. P. LOOTENS" [printed on off-white card]; "HOLOTYPE / *Xyrogena* / *ligula* / sp. nov. ♂ / Det WHITTINGTON" [rectangular red label, first and last lines printed, middle three hand-written]. In good condition, eyes slightly crumpled; double mounted. Genitalia dissected and stored in glycerine in microvial on same pin as specimen.
Other material: Paratypes – ZAÏRE: 1♀ same data as Holotype (MRAC); 1♂ 1♀ Tshuapa, Eala [00°02'N; 18°22'E, ca. 200–500 m], 8.xii.1952, P. BASILEWSKY (MRAC). UGANDA: Semiliki Forest [unknown co-ordinates], 8.i.1996, I. YAROM & A. FREIDBERG, 1250 m (TAUI).
Other material excluded from the type series – ZAÏRE: 1♂ Eala [00°02'N; 18°22'E, ca. 200–500 m], x.1935, J. GHESQUIÈRE (KBIN).

Discussion. The male specimen from Eala is excluded from the type series, because of its poor condition, lacking all but the right fore and mid legs and having the scutellum damaged. Although the wing of female specimens looks more like that of *X. hypena*, than is evident in the males, females of this species can be distinguished by the three-phase wing colour **and** by the relatively short palp, whereas in *X. hypena*, the palp is long and narrow.

Distribution. *X. ligula* is known only from Zaïre (Fig. 692).

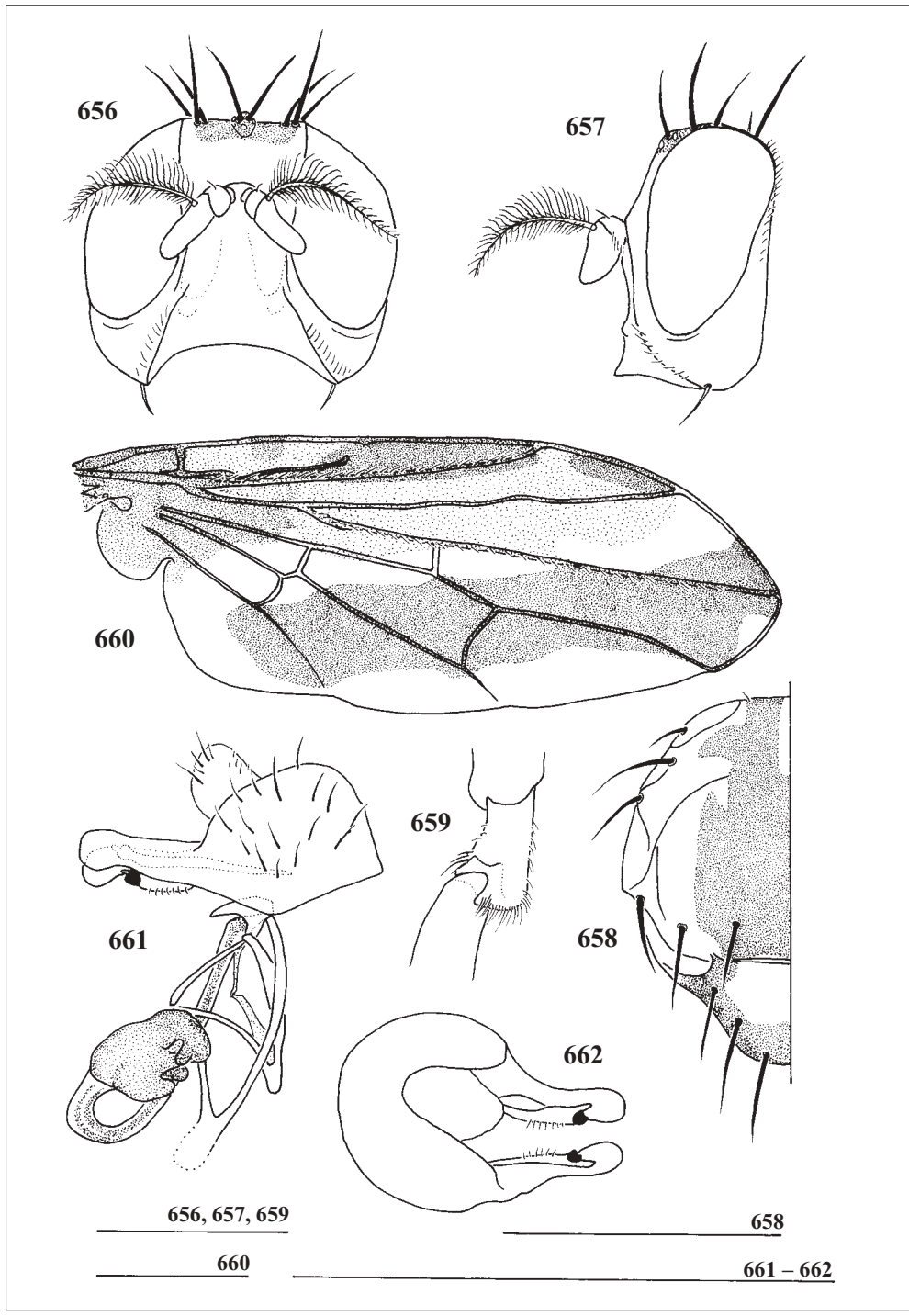
Xyrogena linea sp. nov.

(Figs 656–662, 692)

Diagnosis. Palp elongate (length = four times width). Katepisternum and anepimeral completely pale yellowish. Wing membrane banded; diagonal hyaline band on wing membrane with straight margin, continuing straight across base of r_{4+5} into r_{2+3}, and to wing margin at apex of R_{2+3}. One incision in r_{4+5} only and posterior margin of wing hyaline; membrane orange between hyaline band and dark brown costal band. Hind trochanter ventrally bulbous and densely setulose ventrally. Apex of ♂ hind tibiae not broadened and unmodified.

Etymology. *linea* L. f. = line; referring to the longitudinal banded pattern of the wings.

Description
Dimensions: ♂ Holotype. Body length 4.0 mm; wing length 4.9 mm. **Colour/Vestiture**: Ground-colour pale creamy yellow. Ocellar triangle and vertex coloured by pale brown band across base of orbital setae; brown triangle on occiput from upper margin of eye to area adjacent to occipital suture. Notum with pair of brown stripes on presutural area and mostly brown on the postsutural area (excepting lateral margins); mediotergite, subscutellum and margin of scutellum brown (Fig. 658). Tarsi tinged orange. T_3-T_5 and genitalia dark brown. Diagonal hyaline band on wing membrane with straight margin, continuing straight across base of r_{4+5} into r_{2+3}, and to wing margin at apex of R_{2+3}; one incision in r_{4+5} only; membrane orange between hyaline band and dark brown costal band; posterior margin of wing hyaline (Fig. 60). Pterostigmal area dark brown, compared to orange-brown and lighter, more diffuse brown over remainder of membrane; incisions in costal cell and most of r_{2+3} and r_{4+5} pale orange-brown. Veins brown, but orange over hyaline incisions along costa. Microtrichia sparse, golden coloured on frons.
Head: Subsquare; gena not extended and without small cluster of black setulae on apex of gena (Figs 656 & 657). Dorsal setulae of aristal plume longer than, and ventral setulae a little shorter than, width of



Figs 656–662: *Xyrogena linea* sp. nov. ♂ Holotype. – **656**: Head, frontal view; – **657**: Head, profile; – **658**: Thorax, dorsal half view; – **659**: Left hind trochanter, inner lateral view; – **660**: Right wing, dorsal view; – **661**: Genitalia, right lateral view; – **662**: Genitalia, oblique dorsal view.

flagellomere 1 (Figs 656 & 657). Ventral fringe of setulae on pedicel black. Palp elongate (length four times width), with brown apical setulae. Setulae on rest of head fine and pale, black from postocular row onto gena and around to full length of subvibrissal setulae. Subvibrissal setulae black. Postocular row black and merging ventrally with postgenal setulae.

Thorax: Setulae generally pale, but interspersed with brown setulae on post-sutural notum, on brown parts of legs and on $T_3 - T_5$. Hind trochanter ventrally bulbous and densely setulose ventrally (Fig. 659). Hind tibiae of ♂ plain with apex not broadened and unmodified. **Wing**: R-Sc spur; Sc evanescent at angle, but continuing as faint fold in membrane to costal node (Fig. 660). Flexion line weakly developed, not distinct in hyaline band.

Abdomen: As for generic description. Genitalia (♂) – Epandrium, subsquare, sparsely setulose (Fig. 661). Proctiger subsquare, fused with hypoproct, finely covered with microtrichia dorsally (Fig. 661). Hypoproct fused along midline and fused to proctiger, rounded at apex, setulose apically (Fig. 661). Lateral surstylus narrow and elongate, projecting beyond apex of proctiger, with gently rounded, club-like apex (Fig. 661). Apex of medial surstylus with strongly sclerotised knob and large forward curved hook, which articulates with inner surface of lateral surstylus (Figs 661 & 662). Stem of medial surstylus narrow and elongate sparsely setulose along ventral margin (Fig. 662). Distiphallus weak and narrow, reaching beyond apex of lateral surstylus by about half their length (Fig. 661). Glans rounded, basally bulbous (Fig. 661). Vanes of phallapodeme, hypandrium and lateral sclerite thin, apex of former two structures weakly developed (Fig. 661). Gonostyle small (Fig. 661).

Variation: ♂ Body length 4.0 – 4.5 mm; wing length 4.8 – 4.9 mm. ♀ unknown. Other male specimen less teneral, thus all parts coloured brown are darker than Holotype. The weak development of the apices of the phallapodeme and hypandrium in the Holotype make also be a result of the specimen's teneral nature.

Material examined: **Holotype**: CAMEROUN: ♂ (MNHN) "Cameroun / Region Yaoundé / Ototomo [03°39'N; 11°19'E], 23.vii.1967 / L. MATILE rec." [hand-written on pale blue card]; "MUSEUM PARIS" [printed on pale blue card]; "Plastotephritis spp / det. J.C. DEEMING 1978" [hand-written in pencil on off-white card]; "HOLOTYPE / *Xyrogena* / *linea* / sp. nov. ♂ / Det WHITTINGTON" [rectangular red label, first and last lines printed, middle three hand-written]. In good condition, double mounted, a little teneral. Genitalia dissected and stored in glycerine in microvial on same pin as specimen.

Other material: **Paratype** – CAMEROUN: 1♂ Yaoundé [03°51'N; 11°31'E, ca.500 – 1000 m], [19]36, VANZWALUWENBURG & MCGOUGH, 700 m (2300ft) (USNM).

Distribution. *X. linea* is only known from Cameroun (Fig. 692).

Xyrogena loxa sp. nov.

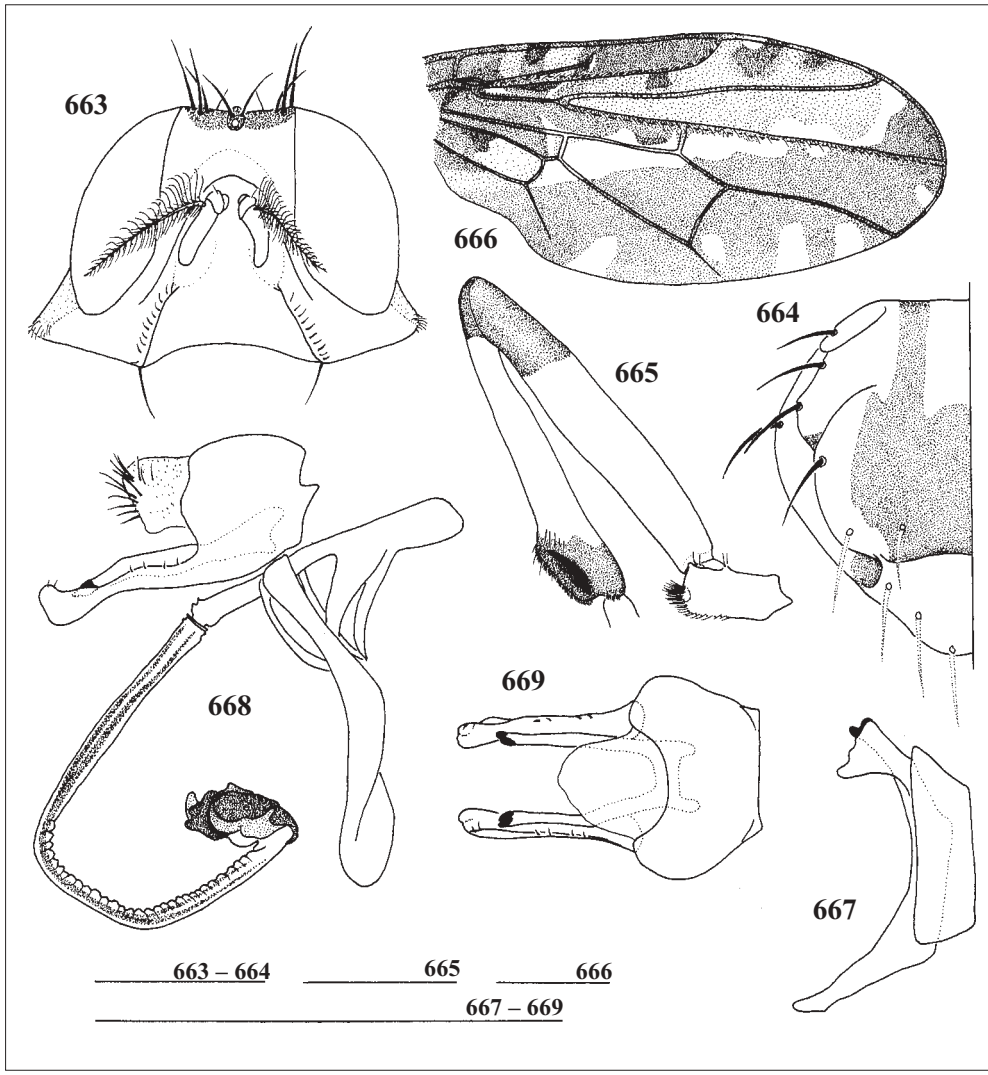
(Figs 663 – 669, 692)

Diagnosis. Palp elongate (length = four times width). Katepisternum completely pale yellowish; small dark brown spot situated over anepimeral setulae. Wing membrane banded; diagonal hyaline band on wing membrane with uneven margin, continuing straight across base of r_{4+5} into r_{2+3}, then bent abruptly forward in r_{2+3} to wing margin at apex of R_{2+3}. One incision at each of R_1 and R_{4+5} and posterior margin of wing suffused with pale brown and indistinct pale brown to hyaline incisions; membrane orange between hyaline band and dark brown costal band. Hind trochanter ventrally bulbous and densely setulose ventrally, with apical tuft of stiff setulae. Apex of ♂ hind tibiae broadened and modified into shallow scoop.

Etymology. λοξοσ – *loxos* Gr. f. = slanting, crosswise; referring to the diagonal hyaline band across the wing membrane.

Description

Dimensions: ♂ Holotype. Body length 4.3 mm; wing length 5.1 mm. **Colour/Vestiture**: Ground-colour pale creamy yellow. Ocellar triangle and vertex coloured by slightly v-shaped brown band across base of orbital setae; brown triangle on occiput reduced to small dorsal area adjacent to occipital suture. Notum with pair of dark brown stripes on pre-sutural area and mostly dark brown on post-sutural area (excepting lateral margins) (Fig. 664); brown in centre of anepimeron; mediotergite and subscutellum



Figs 663–669: *Xyrogena loxa* sp.nov. ♂ Holotype. – **663**: Head, frontal view; – **664**: Thorax, dorsal half view; missing setae stippled; – **665**: Left hind trochanter, femur and tibia, inner lateral view; – **666**: Right wing, dorsal view; – **667**: Sternites five and seven; – **668**: Genitalia, lateral view; – **669**: Genitalia, dorsal view.

dark brown. Tibiae and (to greater degree) pale parts of notum and entire tarsi tinged orange. $T_3 – T_5$ and genitalia dark brown. Diagonal hyaline band on wing membrane with uneven margin, continuing straight across base of r_{4+5} into r_{2+3}, then bent abruptly forward in r_{2+3} to wing margin at apex of R_{2+3}. One incision at each of R_1 and R_{4+5} and posterior margin of wing suffused with pale brown and indistinct pale brown to hyaline incisions (Fig. 666); membrane orange between hyaline band and dark brown costal band. Pterostigmal area dark brown, compared to orange-brown and lighter, more diffuse brown over remainder of membrane; incisions along posterior margin indistinct; incisions in costal cell and most of r_{2+3} and r_{4+5} pale orange-brown. Veins brown, but orange over hyaline incisions along costa. Microtrichia sparse, bronze coloured on frons.

Head: Subtriangular; gena extended and pointed with small cluster of black setulae on apex of gena (Fig. 663). Dorsal and ventral setulae of aristal plume longer than width of flagellomere 1 (Fig. 663). Ventral fringe of setulae on pedicel pale. Palp elongate (length four times width). Setulae fine and pale,

black from postocular row onto gena. Postocular row black and merging ventrally with postgenal setulae. Subvibrissal setulae pale.
Thorax: Setulae generally pale, but interspersed with dark brown setulae on postsutural notum, at apex of mid and hind femora and on T_3–T_5. **Wing**: Sc-R spur well developed resulting in T-shaped terminus to Sc; Sc almost reaching costa (Fig. 666). Flexion line well developed, although not distinct in hyaline band.
Abdomen: As for generic description; sternites as in Fig. 667. Genitalia (♂) – Epandrium, subsquare (Fig. 668). Proctiger subsquare, fused with hypoproct, finely covered with microtrichia dorsally (Fig. 668). Hypoproct fused along midline and fused to proctiger, rounded to slightly pointed at apex and with an acute ventral angle, setulose apically (Fig. 668). Lateral surstylus narrow and elongate, projecting beyond apex of proctiger, slightly angular midway along length, with gently rounded and upturned apex, sparsely setulose along dorsal margin (Fig. 668). Apex of medial surstylus with strongly sclerotised knob (Fig. 668). Stem of medial surstylus narrow and elongate (Fig. 669). Distiphallus elongate, narrow and annulated on dorsal surface, reaching beyond apex of lateral surstylus by more than surstylus length (Fig. 668). Glans with a projecting apical visica (Fig. 668). Vanes of phallapodeme and hypandrium stout, lateral sclerite thin though strongly sclerotised (Fig. 668).
Variation: ♀ unknown; this species is known only from the Holotype.

Material examined: **Holotype**: UGANDA: ♂ (BMNH) "VAN SOMEREN / Bwamba valley [00°50'N; 30°06'E; ca. 800 m], / JULY 1945" [printed on grey card]; "HOLOTYPE / *Xyrogena* / *loxa* / sp. nov. ♂ / Det WHITTINGTON" [rectangular red label, first and last lines printed, middle three hand-written]. In good condition, double mounted. Genitalia dissected and stored in glycerine in microvial on same pin as specimen.

Distribution. *X. loxa* is known only from Uganda (Fig. 692).

Xyrogena pannosa (ENDERLEIN, 1922) comb nov.

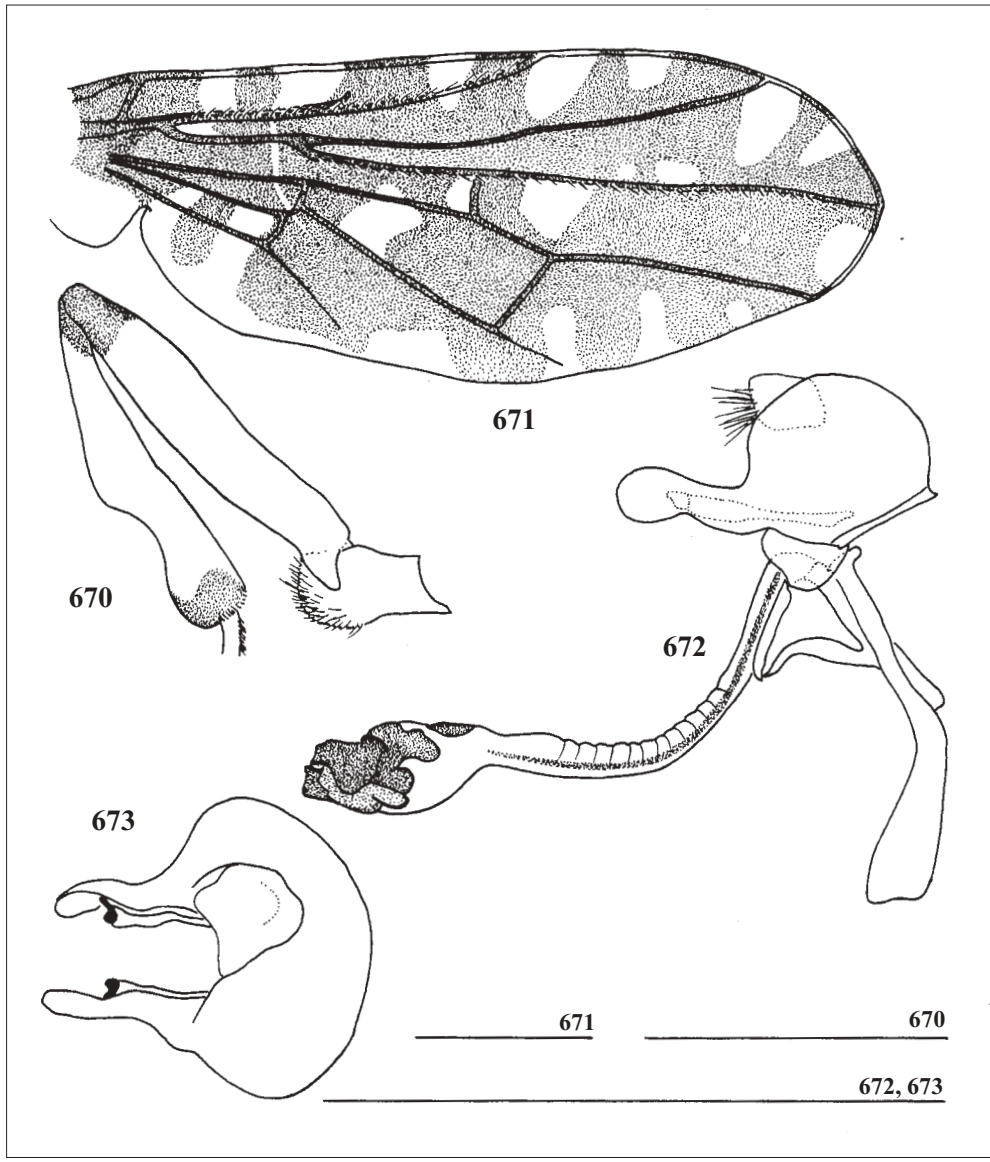
(Figs 670–673, 692)

***Plastotephritis pannosa* ENDERLEIN, 1922 –** ENDERLEIN (1922: 9) [description] STEYSKAL (1965: 172) [list], STEYSKAL (1965: fig. 4) [wing]; STEYSKAL (1980: 565) [catalogue]. **Comb. nov**.

Diagnosis. Gena unmarked. Palp elongate, but broad (less than six times longer than wide) and having pale setulae at apex. Anepisternum and katepisternum completely pale. Hind trochanter bulbous ventrally, with dense tuft of setulae on ventral apex. Hind tibia of ♂ distinctly and strongly bent, roughly zigzag-shaped as result of medial and apical swellings. Wing membrane brown, spotted with hyaline marks. Hyaline marks on wing membrane restricted: incision near apex of sc continuing in RS as flexion line only; incisions at apex of R_1 and R_{2+3} short, such that they do not reach R_{2+3} and R_{4+5} and one or two hyaline spots along R_{4+5}; hyaline spot in r_{4+5} with a corresponding spot at its apex, in r_{2+3}; hyaline spot over base of dm large and rectangular.

Etymology. *pannosus* L. a. = ragged, tattered; perhaps referring to the strange hind tibia shape in the male.

Description
Dimensions: ♂ Holotype. Body length 4.4 mm; wing length 4.6 mm. **Colour/Vestiture**: Ground-colour creamy yellow. Ocellar triangle brown, vertex tinged brown immediately around ocellar triangle almost to base of anterior orbital seta; brown triangle on occiput from vertical seta and margin of eye to occipital foramen only extending into medial occipital sclerite in lower portion adjacent to foramen. Notum with two anterior brown triangles and large brown irregular rectangular mark on the postsutural area. Small spot of brown in cleft at base of notopleural callus and transverse suture and brown mediotergite and subscutellum; scutellum with brown apical spot surrounding apical setae. T_3–T_5 and genitalia dark brown. Wing membrane brown (fading toward posterior margin) with hyaline incisions and occasional spots (Fig. 671). Veins brown, but hyaline over hyaline markings. Microtrichia obscured by grease covering body.
Head: Subsquare, gena not extended. Dorsal setulae of aristal plume as long as width of flagellomere 1. Ventral fringe of setulae on pedicel pale. Palp elongate, apical setulae black and short. Setulae fine and pale, mostly short, but longer on postgena and black from postocular row onto gena and round to subvibrissal setulae. Postocular row black and merging ventrally with postgenal setulae.



Figs 670–673: *Xyrogena pannosa* (Enderlein, 1922). ♂ Holotype. – **670**: Left hind trochanter, femur and tibia, inner lateral view; – **671**: Right wing, dorsal view; – **672**: Genitalia, lateral view; – **673**: Genitalia, dorsal view.

Thorax: Setulae mostly obscured, those visible are pale. Apex of hind trochanter bulbous and densely covered with fine, pale setulae (Fig. 670). Hind tibia of ♂ distinctly and strongly bent, roughly zigzag-shaped – result of medial and apical swellings (Fig. 670). **Wing**: Costa with prehumeral break only. Sc-R spur undeveloped; apical portion of Sc evanescent (Fig. 671). Flexion line well developed (Fig. 671). **Abdomen**: As for generic description. Genitalia (♂) – Epandrium subglobose (Fig. 672). Proctiger reduced, triangular (Fig. 672), fused with hypoproct, finely covered with microtrichia dorsally. Hypoproct fused along midline and fused to proctiger, pointed at apex, setulose ventrally (Fig. 672). Lateral surstylus elongate, dorsally notched to articulate with medial surstylus, apically broadly club-shaped (Fig. 672). Apex of medial surstylus with strongly sclerotised knob and forward curved spur which

appears to articulate with lateral surstylus (Fig. 673). Distiphallus elongate, dorsally annulated (Fig. 672). Glans square at apex (Fig. 672). Ejaculatory apodeme, strongly sclerotised basally, with large bulbous basal lobe attached to short, unsclerotized ejaculatory duct. Vanes of phallapodeme, lateral sclerite and hypandrium weak, narrow and poorly sclerotised at apex (Fig. 672).
Variation: ♀ known from a single female.

Material examined: **Holotype**: EQUATORIAL GUINEA: ♂ (ZMBH) "Span. Guinea / Alcu Benitogbt. [=Benitogebiet, i.e. Benito District; 01°30'N; 09°45'E?] / 16 – 31.viii.[19]06 / G. TEßMANN S.G." [printed on blue card]; "176" [hand-written on off-white card]; "Type" [printed on orange card]; "*Plastotephritis* / *pannosa* / Type ENDERL. ♂ / Dr.ENDERLEIN det.1920" [hand-written on off-white card, but with last line except "20" printed]; ""Zool.Mus. / Berlin" [printed on yellow card]; "HOLOTYPE / *Xyrogena* / *pannosa* ♂ / (ENDERLEIN, 1922) / Det WHITTINGTON" [rectangular red label, first and last lines printed, middle three hand-written]. In poor condition, greasy to the point of obscuring features, head staved in, abdomen collapsed and many setae broken; some fungal hyphae present. Genitalia dissected and stored in glycerine in microvial on same pin as specimen.
Other material: – NIGERIA: 1♀ Illaro Forest [06°53'N; 03°01'E], 13.x.[19]74, M. A. CORNES, 5617 (USNM).

Discussion. Although known only from the male holotype and one female (which is dubiously placed here), and despite that the holotype is so greasy as to obscure many diagnostic features, this species is clearly distinguished from other species by the strong modification of the hind tibia in the male. The only known female specimen of *X. pannosa* has been dubiously distinguished by the presence of a small spot in r_{2+3} which is the only similarity with the wing pattern of the Holotype (Fig. 671), and which is not present in all specimens of *X. flocca* that have been examined. This may not be fully reliable and I am cautious of relying too heavily on such differences in wing pattern, but more specimens of both species are needed to fully evaluate the situation.

Distribution. *X. pannosa* is known from Equatorial Guinea and Nigeria (Fig. 692).

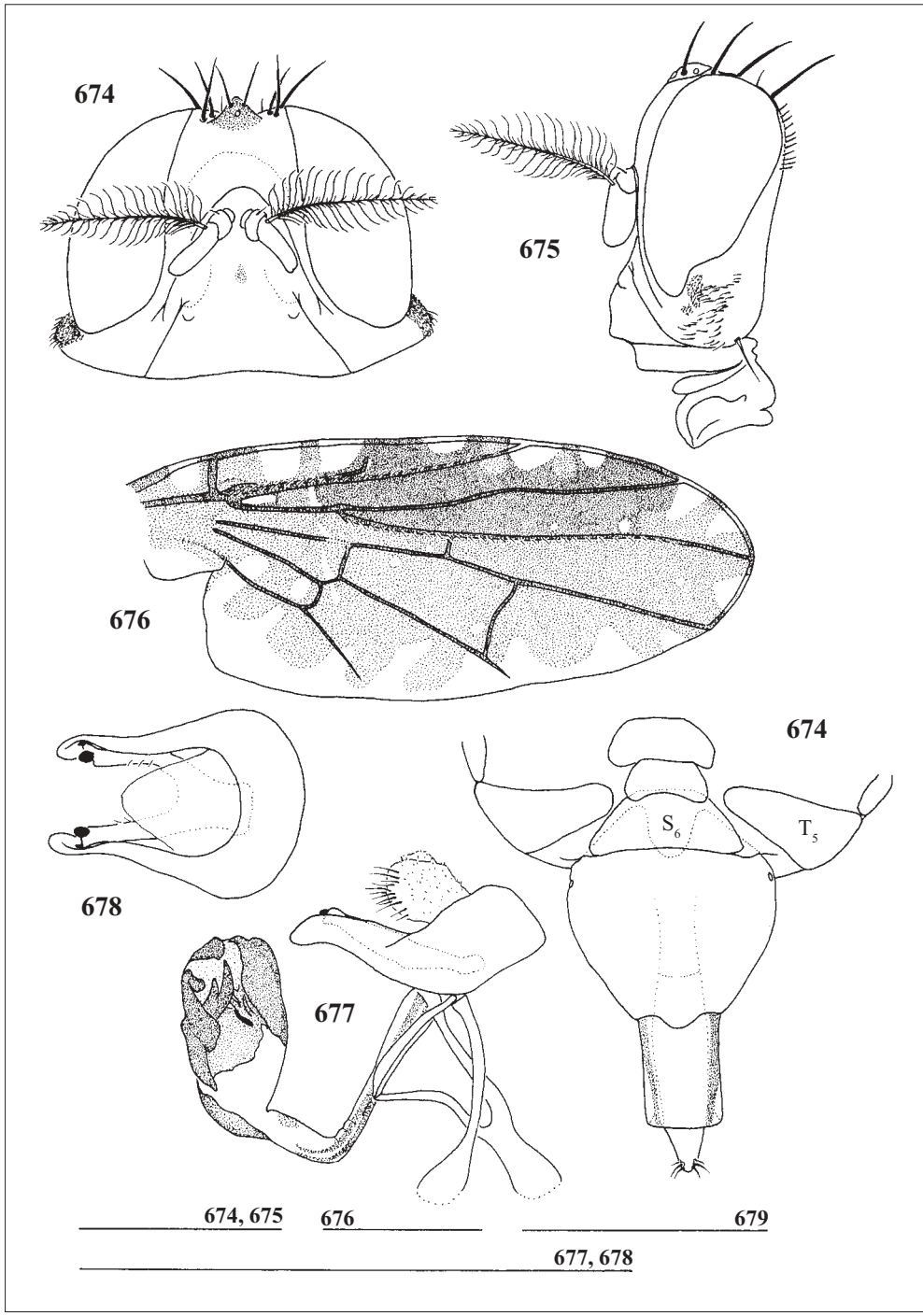
Xyrogena recta sp. nov.

(Figs 674 – 679, 692)

Diagnosis. Katepisternum dark brown. Scutellum entirely pale yellow. Apex of hind tibia (in males and females) narrowly banded with diffuse pale brown. Male hind tibia straight, with pale setulae only Wing tip marked with distinct brown and hyaline pattern.

Etymology. *rectus* L. a. = straight; referring to the straight, unmodified male hind tibia.

Description
Dimensions: ♂ Holotype. Body length 3.5 mm; wing length 3.8 mm. **Colour/Vestiture**: Ground-colour dark brown. Head, prothorax, anterior half and dorsal band in posterior half of anepisternum and legs (the latter with dark bands as described below) all creamy yellow. Ocellar triangle brown; gena brown (as result of dense mat of short stout setulae (Fig. 674)), broad brown triangle on occiput from vertical seta and margin of eye to occipital foramen only extending into medial occipital sclerite in lower portion adjacent to foramen. Central notum with four orange-brown squares; dorsal notopleuron, cleft of transverse suture and supra-alar area, postpronotal lobe, proepimeron, dorsal third of anepisternum and dorsal third of meron pale cream. Scutellum pale yellow. Fore and hind coxae, basal two tarsomeres fore leg and all tarsomeres of mid and hind legs pale. Apices of mid and hind femora and bases of mid and hind tibiae banded with brown, apex of hind tibia tinged orange-brown and terminal three tarsomeres of fore leg brown. T_{1+2} pale. Wing membrane brown with hyaline incisions and occasional small hyaline spots; darker brown in pterostigma, r_{2+3} and r_{4+5} (Fig. 676). Veins brown, but hyaline over hyaline markings along costa. Silver microtrichia dense on most of body, particularly dense beside margins of eyes and on notum and pleurites; absent from medial band across mediotergite. Bronze coloured transverse band of microtrichia across post sutural notum immediately posterior to transverse suture.
Head: Subtriangular, gena extended and pointed, lower facial margin below level of genal extension (Fig. 674). Face slightly concave, with small tubercles ventral to antennal grooves (Fig. 675). Vertex narrow (not as wide as length of flagellomere 1) and sunken in middle; ocellar triangle raised up above level of dorsal eye margin (Fig. 674). Dorsal and ventral plume of arista longer than width of flagellomere 1 (Figs 674 & 675). Ventral fringe of setulae on pedicel pale. Palp narrow and short, apical setulae short, brown. Setulae fine and pale, mostly short, but black on gena. Small cluster of black setulae on



Figs 674–679: *Xyrogena recta* sp. nov. ♂ Holotype and ♀ Paratype. – **674**: Male head frontal view; – **675**: Male head, profile; – **676**: Right wing, dorsal view; – **677**: Male genitalia, lateral view; – **678**: Male genitalia, dorsal view; – **679**: Female abdominal sternites and ovipositor, ventral view; T_5 and S_6 = tergite five and sternite six.

apex of gena (Figs 674 & 675). Subvibrissal setulae and postocular row pale. Genal seta pale and weakly developed.

Thorax: Setulae and setae on katepisternum and mid coxa mostly pale with one black ventral katepisternal seta; some black setulae present on brown parts of legs. Apex of hind trochanter plain, not elaborately developed. Hind tibia slightly curved, but without modification; apex lacking scoop. **Wing** (Fig. 676): Sc-R spur weakly developed represented by thin line at apex of Sc; apical portion of Sc represented by distinct fold in membrane. Flexion line well developed.

Abdomen: As for generic description. Genitalia (♂) – Epandrium rectangular (Fig. 677). Proctiger subsquare, disproportionately large compared to epandrium; fused with hypoproct, finely covered with microtrichia dorsally (Fig. 677). Hypoproct fused along midline and fused to proctiger, pointed at apex, setulose ventrally (Fig. 677). Lateral surstylus elongate rectangular, gently rounded and down-turned at apex (Fig. 677); apex slightly cup-shaped (Fig. 678). Apex of medial surstylus with strongly sclerotised knob and small, outward curved spur, apparently articulating with inner margin of lateral surstylus (Fig. 678). Stem of medial surstylus finely setulose on inner surface (Fig. 678). Distiphallus short and weak, barely extending beyond apex of epandrium (Fig. 677), dorsally annulated and finely setulose. Glans disproportionately large compared to epandrium, lateral sclerite distally hooked (Fig. 677). Vanes of phallapodeme hypandrium and lateral sclerite slender, though strongly sclerotised, but weaker at apex (Fig. 677).

Variation: ♂ Body length 3.4–3.6 mm; wing length 3.8–4.0 mm. ♀ Body length 2.9–4.1 mm; wing length 3.0–3.9 mm. Second male specimen has brown of vertex restricted to immediately around ocellar triangle and pattern on notum broken up into series of spots and bands. Wing pattern varies little. Female specimen from Zaïre dubiously placed here, but is better placed here than in another species: pattern on notum more distinctive, pale parts being orange-brown, hyaline spots in br and basal spot in dm absent. Ovipositor (Fig. 679) as for generic description.

Material examined: **Holotype**: NIGERIA: ♂ (TAUI) "NIGERIA / Zugurma [09°27'N; 04°52'E, ca. 100–200 m], Rt.F210 / 100km North of Ilorin / 12.XII.1987, A.FREIDBERG" [printed on white card]; "HOLOTYPE / *Xyrogena* / *recta* / sp. nov. ♂ / Det WHITTINGTON" [rectangular red label, first and last lines printed, middle three hand-written]. In good condition, double mounted. Genitalia dissected and stored in glycerine in microvial on same pin as specimen.

Other material: Paratypes – NIGERIA: 3♀♀ same data as Holotype (TAUI; 1♀ NMSE); 1♂ Mokwa [09°19'N; 05°00'E, ca. 100–200 m], Zugurma, 23.vii.1971, S.S. CHADHA (USNM); 2♀♀ near Mokwa [09°19'N; 05°00'E, ca. 100–200 m], Zugurma, 26.xii.1971, J. C. DEEMING, kurmi (USNM). ZAÏRE: 1♀ P.N.G. PFNK.7/9 [ca. 04°27'N; 29°48'E, ca. 1000 m], 28.viii.1952, DE SAMEGER, riverine rainforest, 3841 (MRAC).

Discussion. *X. recta* is morphologically most similar to *X. campiglossoides* (FREY, 1932). *X. recta* is easily distinguished by the dark katepisternum, entirely pale yellow scutellum and the pale apex to the hind tibia, with no modification in male specimens. The spots on the wing membrane are consistently small in all specimens examined.

Distribution. *X. recta* is a West and Central African species, known from Nigeria and Zaïre (Fig. 692).

Appendix 1

Catalogue of Afrotropical and Oriental Plastotephritinae (Diptera; Platystomatidae)

This catalogue replaces previous catalogues for the Plastotephritinae of the Afrotropical (STEYSKAL 1980) and Oriental (STEYSKAL 1977) regions. Sixteen genera are listed for the Afrotropical Region, while only two monotypic genera are known from the Oriental region (viz. *Agadasys* WHITTINGTON, 2000 and *Rhegmatosaga* FREY, 1930). Australasian and Oceanian taxa are yet to be revised and have consequently been excluded from this catalogue. There are no Plastotephritinae known from the Antarctic/Subantarctic, Palaearctic, Nearctic and Neotropical Regions.

The protocol largely follows that of the previous catalogues and alphabetically lists the genera and species within each genus. The format is, however, slightly altered from that used in those catalogues. This is so as to include further detailed information, such as bibliographic data, type gender and depository. This data is important for future taxonomic research and its inclusion will save many an hour spent looking for such information. Thus, the format used to present species data follows the sequence:

taxon name author, date – author (date: first page number of original description) (*Original higher taxon*). Major bibliographic details. Symbol of gender of type, kind of type (four letter coden for depository). Country of Type location; other countries of distribution in alphabetic order.

The data at the generic level follows the same format, but replaces type data with the information relevant to the type species and excludes distribution data. Valid names and altered status (e.g. new combinations) are in bold, while junior synonyms of genera and species are in normal text. The new names and combinations (i.e. those marked sp.nov., syn.nov. and comb.nov.) are proposed in accordance with the Fourth Edition of the International Code of Zoological Nomenclature (International Commission on Zoological Nomenclature 1999). The names and nomenclatural acts expressed in this list are disclaimed for nomenclatural purposes, in accordance with Article 8.3 (INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE 1999) and until such time as they are formerly published.

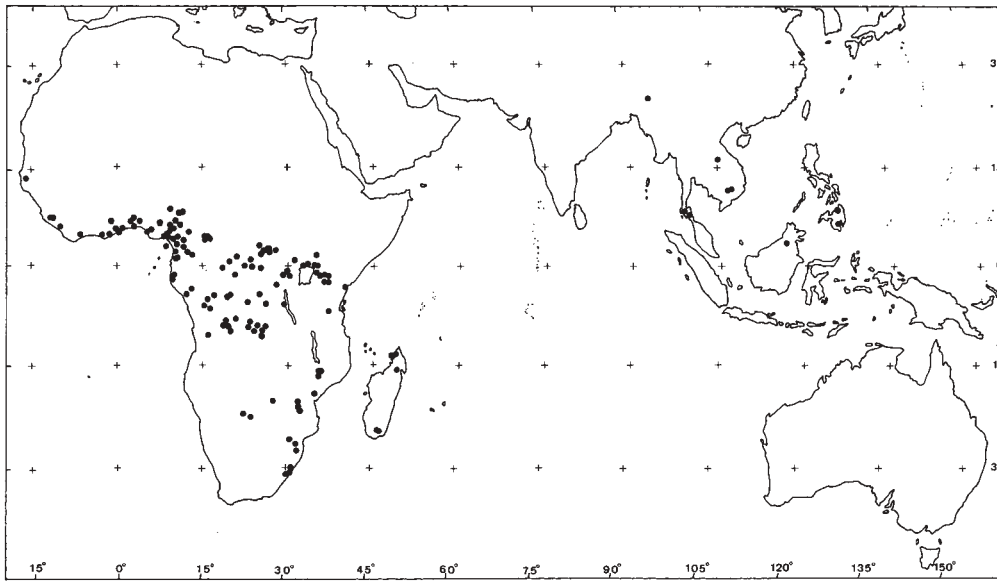


Fig. 680: Distribution of Afrotropical and Oriental Plastotephritinae (Diptera; Platystomatidae).

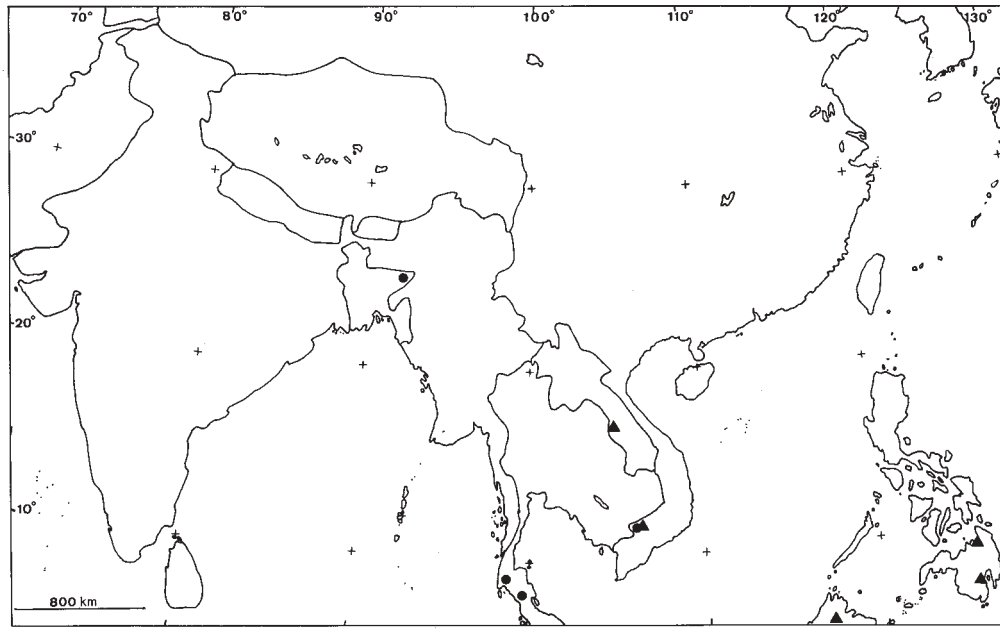


Fig. 681: Distribution of *Agadasys* WHITTINGTON, 2000 and *Rhegmatogasa* FREY, 1930 in East Asia: ● - *A. hexablepharis* sp. nov.; ▲ - *R. latuiscula* (WALKER, 1856).

Agadasys WHITTINGTON, 2000

(Fig. 681)

Agadasys WHITTINGTON, 2000 – WHITTINGTON (2000: 336) [description].
Type species: *Agadasys hexablepharis* WHITTINGTON, 2000, by original designation.

● ***hexablepharis*** WHITTINGTON, 2000 – WHITTINGTON (2000: 338).
♀ Holotype (BPBM). Thailand, India, Viet-nam.

Agrochira ENDERLEIN, 1911

(Fig. 682)

Agrochira ENDERLEIN, 1911 – ENDERLEIN (1911: 450) [description].
Type species: *Agrochira achiodes* ENDERLEIN, 1911, by original designation. ENDERLEIN (1912b: 369) [attributed to Loxoneurinae]; BEZZI (1918: 246) [mentioned and placed in Ortalidae], FREY (1932: 257) [key], STEYSKAL (1980: 563) [catalogue], MCALPINE (1982: 666) [morphology].

● ***achiodes*** ENDERLEIN, 1911 – ENDERLEIN (1911: 451), Fig. v. ENDERLEIN (1912b: 369), STEYSKAL (1980: 564) [catalogue].
♂ Holotype (PANZ). Cameroun.

■ ***bicolour*** sp. nov.
♂ Holotype (TAUI). Kenya, Cameroun, Nigeria, Zaïre.

▲ ***bifocalis*** WHITTINGTON, 2000
♂ Holotype (BMNH). Uganda.

● ***corniculata*** **sp. nov.**
♂ Holotype (BMNH). Uganda, Liberia.

▼ ***parallaxis*** **sp. nov.**
♂ Holotype (BMNH). Uganda.

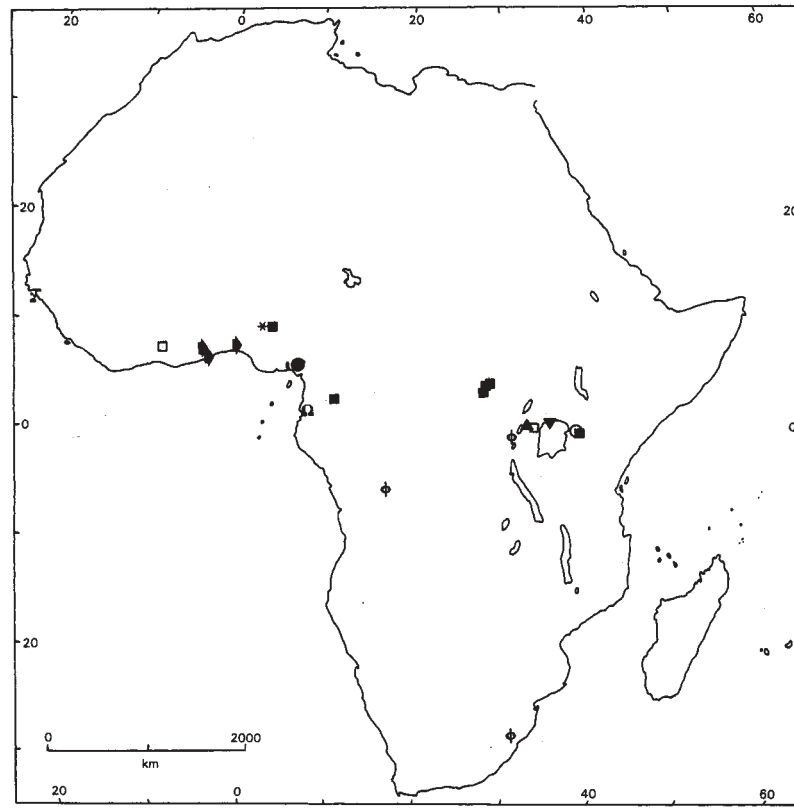


Fig. 682: Distribution of *Agrochira* ENDERLEIN, 1911, *Furcamyia* gen. nov. and *Prosopoconus* ENDERLEIN, 1922 in Africa: ● - *A. achiodes* ENDERLEIN, 1911; ■ - *A. bicolor* sp. nov.; ▲ - *A. bifocalis* sp. nov.; □ - *A. corniculatua* sp. nov.; ▼ - *A. parallaxis* sp. nov.; ○ - *F. contra* sp. nov.; ◗ - *F. difficilis* (FREY, 1932); Φ - *F. gladiatura* sp. nov.; ✶ - *F. pallida* sp. nov.; Ω - *P. fuscigenu* ENDERLEIN, 1922.

Atopocnema ENDERLEIN, 1922

(Fig. 683)

Atopocnema ENDERLEIN, 1922 – ENDERLEIN (1922: 10) [description].

Type species: *Atopocnema manicatifrons* ENDERLEIN, 1922, by original designation. FREY (1932: 257) [key], FREY (1932: 263) [characterisation], STEYSKAL (1980: 564) [catalogue].

▼ ***binotata* sp. nov.**

♂ Holotype (BMNH). Angola, Zaïre.

? ***brunnipennis*** FREY, 1932 – FREY (1932: 263) [description & key], FREY (1932: pl VIII, fig. 42) [wing]. STEYSKAL (1980: 564) [catalogue].

♀ Holotype (BMNH). Ghana.

■ ***manicatifrons*** ENDERLEIN, 1922 – ENDERLEIN (1922: 11). FREY (1932: 263, pl. VIII, fig. 41), STEYSKAL (1980: 564) [catalogue].

♂ Holotype (ZMHB). Togo, Cameroun Ghana, Ivory Coast, Nigeria, Uganda, Zaïre.

● ***marginepunctata*** (ENDERLEIN, 1922) (*Oeciotypa*) – ENDERLEIN (1922: 10), FREY (1932: 258) [discussion], FREY (1932: 263) [new comb. & key], FREY (1932: pl. VIII, fig. 40), STEYSKAL (1965: 171) [list], STEYSKAL (1965: fig.5) [wing], STEYSKAL (1980: 564) [catalogue, stated as Comb. nov. in error, preceded by FREY (1932: 263)].

♀ Holotype (ZMBH). Equatorial Guinea, Cameroun, Central African Republic, Zaïre.

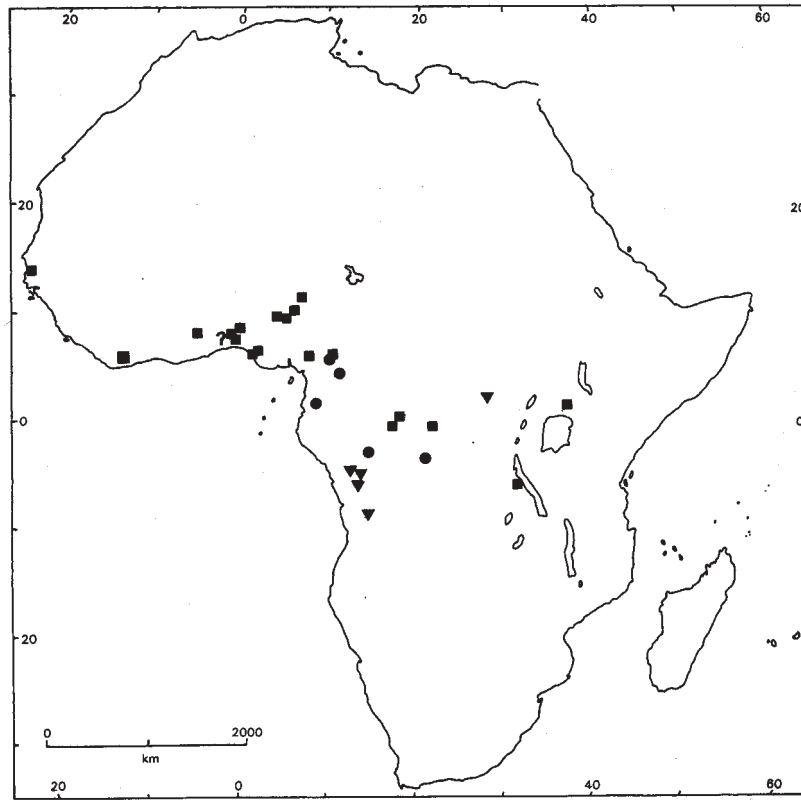


Fig. 683: Distribution of *Atopocnema* ENDERLEIN, 1922 in Africa: ▼ - *A. binotata* sp. nov.; **?** - *A. brunnipennis* FREY, 1932; ■ - *A. manicatifrons* ENDERLEIN, 1922; ● - *A. marginepuncata* (ENDERLEIN, 1922).

Cladoderris BEZZI, 1914

(Fig. 684)

Cladoderris BEZZI, 1914 – BEZZI (1914: 304, Fig. III) [description].

Type species: *Cladoderris silvestrii* BEZZI, 1914, by original designation [name first mentioned in list of species in BEZZI (1914: 280)]. BEZZI (1918: 218) [key] BEZZI (1918: 246) [discussion placing the genus in Ortalidae], STEYSKAL (1980: 564) [catalogue].

□ ***cnephosa*** sp. nov.
♂ Holotype (NMSA). Moçambique.

▲ ***convexa*** sp. nov.
♂ Holotype (TAUI). Kenya, Congo, Uganda.

■ ***ornata*** sp. nov.
♂ Holotype (TAUI). Cameroun, Congo.

● ***silvestrii*** BEZZI, 1914 – BEZZI (1914: 305, Fig. III) [description], STEYSKAL (1980: 564) [catalogue].
♂♀ Syntypes (unknown depository). Ghana, Nigeria.

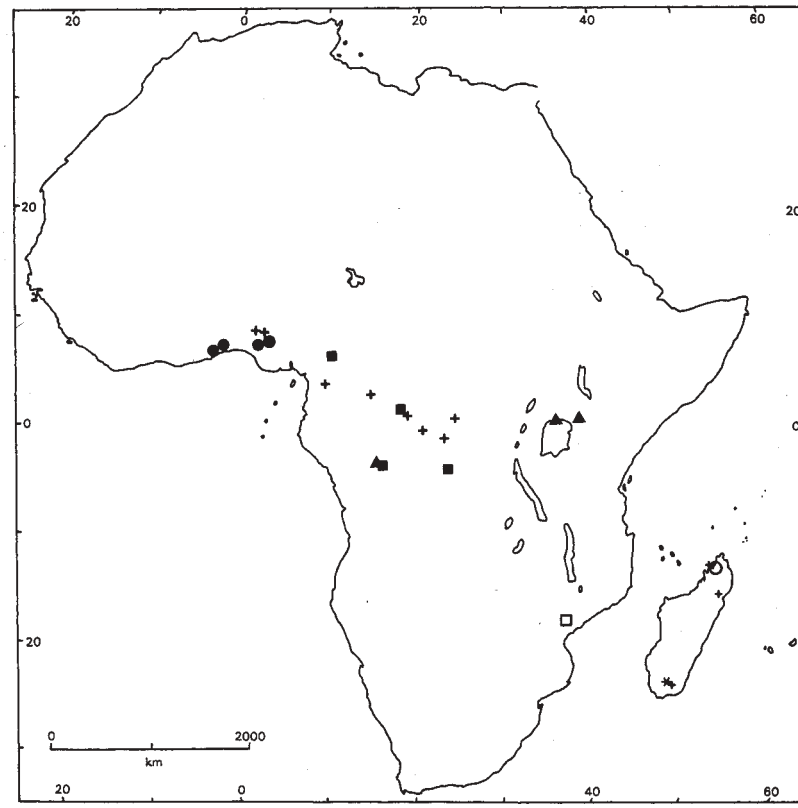


Fig. 684: Distribution of *Cladoderris* Bezzi, 1914, *Eudasys* gen. nov., *Micronesomyia* gen. nov. and *Stellapteryx* gen. nov. in Africa: □ - *C. cnephosa* sp. nov.; ▲ - *C. convexa* sp. nov.; ■ - *C. ornata* sp. nov.; ● - *C. silvestrii* Bezzi, 1914; + - *E. ophrys* sp. nov.; ✶ - *M. hemihyalina* sp. nov; ○ - *S. minuta* sp. nov.; + - *stellata* sp. nov.

Conopariella Enderlein, 1922

(Fig. 685)

Conopariella Enderlein, 1922 – Enderlein (1922: 12) [description].

Type species: *Conopariella acutigena* Enderlein, 1922, by original designation. Frey (1932: 257) [key], Frey (1932: 260) [Discussion + key to species], Steyskal (1980: 564) [catalogue].

= *Anaphalantias* Enderlein, 1922 – Enderlein (1922: 14).

Type species: *Anaphalantias picipennis* Enderlein, 1922, by original designation. Frey (1932: 260) [synonymy], Steyskal (1980: 564) [catalogue].

□ ***acutigena*** Enderlein, 1922 – Enderlein (1922: 12), Frey (1932: 261) [key], Frey (1932: pl. VII, fig. 28), Steyskal (1963: 133) [list], Steyskal (1980: 564) [catalogue].

♂ Lectotype (zmbh). Equatorial Guinea, Cameroun, Central African Republic, Nigeria, Sudan, Uganda, Zaïre.

✶ ***albitarsis*** (Enderlein, 1922) (*Anaphalantias*) – Enderlein (1922: 15), Frey (1932: 261) [key, n. comb.], Frey (1932: pl. VIII, fig. 31), Steyskal (1980: 564) [catalogue].

♀ Holotype (zmhb). Cameroun, Nigeria.

\+ ***cidara*** **sp. nov.**

♂ Holotype (mnhn). Cameroun, Ghana, Sierra Leone, Zaïre.

★ ***conspicua*** Frey, 1932 – Frey (1932: 261, pl. VII, fig. 27, 260) [key]. Steyskal (1980: 564) [catalogue].

♂ Holotype (bmnh). Malawi, Zaïre, Zimbabwe.

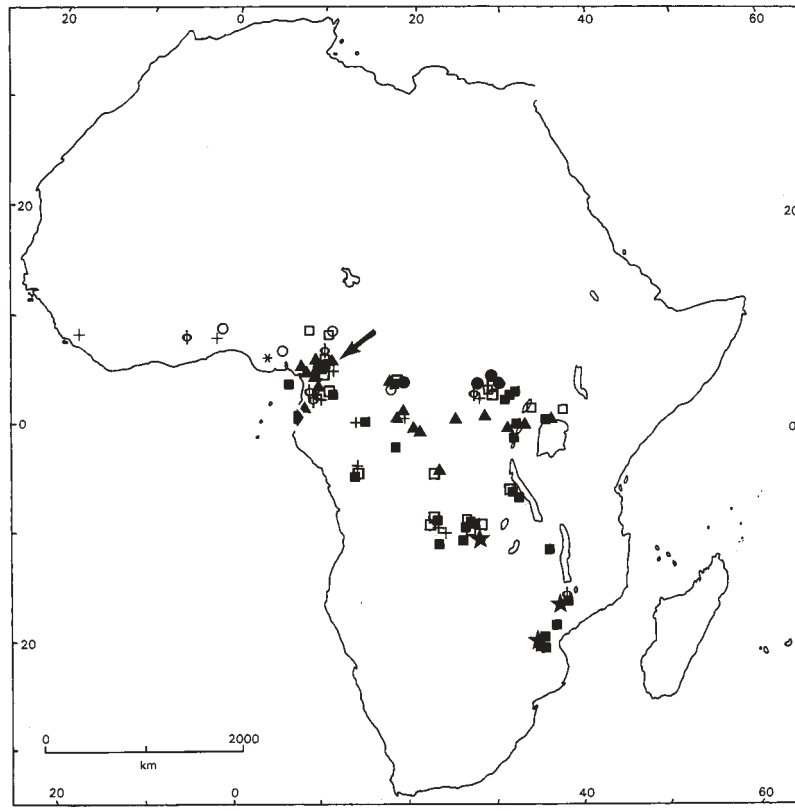


Fig. 685: Distribution of *Conopariella* ENDERLEIN, 1922 in Africa: □ - *C. acutigena* ENDERLEIN, 1922; ✶ - *C. albitarsis* ENDERLEIN, 1922; + - *C. cidara* sp. nov.; ★ - *C. conspicua* FREY, 1932; ◗ - *C. crenata* ENDERLEIN, 1922; ● - *C. exigua* sp. nov.; Φ - *C. paucifenestrata* (STEYSKAL, 1963); ▲ - *C. picipennis* (ENDERLEIN, 1922); included in → - *C. steyskali* sp. nov.; ■ - *C. tibialis* (HENDEL, 1914); ○ - *C. togoensis* ENDERLEIN, 1922; included in → - *C. ustulata* sp. nov. Arrow indicates more than one species at one or more locations (see materials examined).

◗ ***crenata*** ENDERLEIN, 1922 – ENDERLEIN (1922: 13), FREY (1932: 261) [key], FREY (1932: pl. VII, fig. 29), STEYSKAL (1980: 564) [catalogue].
♂ Lectotype (ZMHB). Equatorial Guinea.

● ***exigua*** **sp. nov.**
♀ Holotype (MRAC). Zaïre.

Φ ***paucifenestrata*** (STEYSKAL, 1963) (*Federleyella*) – STEYSKAL (1963: 133), STEYSKAL (1980: 564) [catalogue].
♂ Holotype (CMNH). Cameroun, Ivory Coast, Malawi, Zaïre. **Comb. nov.**

▲ ***picipennis*** (ENDERLEIN, 1922) (*Anaphalantias*) – FREY (1932: 261) [key, n.comb.], STEYSKAL (1963: 133) [list], STEYSKAL (1980: 564) [catalogue].
♂ Lectotype (ZMBH). Cameroun, Central African Republic, Equatorial Guinea, Uganda, Zaïre.

→ ***steyskali*** **sp. nov.**
♀ Holotype (TAUI). Cameroun.

■ ***tibialis*** (HENDEL, 1914) (*Pterogenomyia*). – HENDEL (1914b: 408), FREY (1932: 260) [n.comb], FREY (1932: 261) [key], STEYSKAL (1980: 564) [catalogue].
♀ Lectotype (NHMW). Uganda, Cameroun, Central African Republic, Equatorial Guinea, Malawi, Moçambique, Zaïre, Zambia, Zimbabwe.

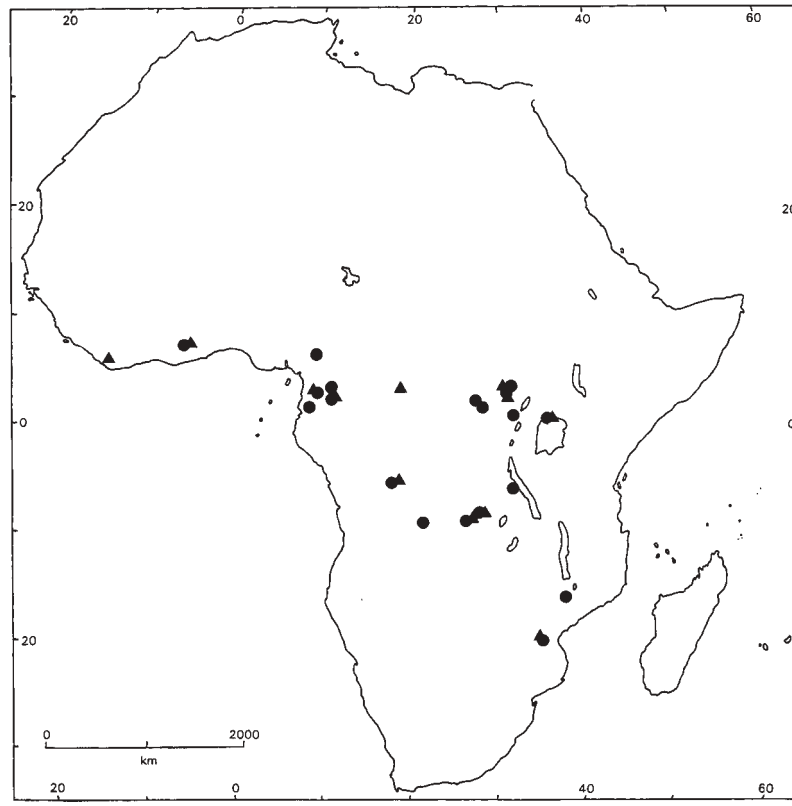


Fig. 686: Distribution of *Federleyella* Frey, 1932 in Africa: ● - *F. pallidipes* (Enderlein, 1922); ▲ - *F. septemfenestrata* (Enderlein, 1922).

○ ***togoensis*** Enderlein, 1922 – Enderlein (1922: 13), Frey (1932: 261) [key], Frey (1932: pl. VII, fig. 30), Steyskal (1980: 564) [catalogue].
♂ Holotype (zmhb). Togo, Cameroun, Ivory Coast, Nigeria.

→ ***ustulata*** **sp. nov.**
♀ Holotype (taui). Cameroun.

Eudasys gen. nov.

(Fig. 684)

Eudasys **gen. nov.**
Type species: *Eudasys ophrys* sp. nov. by original designation.

+ *ophrys* sp. nov.
♂ Holotype (nmwc). Nigeria, Cameroun, Zaïre.

Federleyella Frey, 1932

(Fig. 686)

Federleyella Frey, 1932 – Frey (1932: 263, pl. VIII, fig 43) [description].
Type species: *Anaphalantias septemfenestrata* Enderlein, 1922, by original designation (as *fenestrata* in error). Frey (1932: 257) [key], Steyskal (1963: 133) [key to species], Steyskal (1980: 564) [catalogue].

● ***pallidipes*** (ENDERLEIN, 1922) (*Anaphalantias*) – ENDERLEIN (1922: 15) [description], FREY (1932: 261) [key, n.comb.], STEYSKAL (1963: 133) [list], STEYSKAL (1980: 564) [catalogue].
♂ Holotype (ZMHB). Equatorial Guinea, Cameroun, Ivory Coast, Malawi, Uganda, Zaïre, Zimbabwe. **Comb. nov.**

▲ ***septemfenestrata*** (ENDERLEIN, 1922) (*Anaphalantias*) – ENDERLEIN (1922: 15) [description], FREY (1932: 263, pl. VIII, fig. 43) [n. comb.], STEYSKAL (1963: 134) [list], STEYSKAL (1980: 564) [catalogue].
♀ Holotype (ZMHB). Cameroun, Central African Republic, Liberia, Uganda, Zaïre, Zimbabwe.
= *fenestrata* FREY, 1932 – FREY (1932: 263) [incorrect subsequent spelling].

Furcamyia gen. nov.

(Fig. 682)

Furcamyia gen. nov.
Type species: *Agrochira difficilis* FREY, 1932.

○ ***contra*** **sp. nov.**
♂ Holotype (TAUI). Kenya.

◗ ***difficilis*** (FREY, 1932) (*Agrochira*) – FREY (1932: 259, pl. VII, fig. 24) [description], FREY (1932: 258) [key], FREY (1932: pl.VII, fig. 24), STEYSKAL (1980: 564) [catalogue].
♀ Lectotype (BMNH). Ghana, Nigeria. **Comb. nov.**

Φ ***gladiatura*** **sp. nov.**
♂ Holotype (NMSA). South Africa, Zaïre.

✶ ***pallida*** **sp. nov.**
♀ Holotype (BMNH). Nigeria.

Mesanopin ENDERLEIN, 1912

(Fig. 687)

Mesanopin ENDERLEIN, 1912 – ENDERLEIN (1912b: 369) [description].
Type species: *Mesanopin tephritinum* ENDERLEIN, 1912, by original designation. ENDERLEIN (1912a: 348) [nom. nud.], BEZZI (1918: 246) [mentioned and placed in Ortalidae], STEYSKAL (1980: 563) [catalogue].
= *Prionoscelia* ENDERLEIN, 1922 – ENDERLEIN (1922: 11) [description]
Type species: *Prionoscelia minax* ENDERLEIN, 1922, by original designation. FREY (1932: 257) [key], FREY (1932: 259) [discussion], STEYSKAL (1980: 565) [catalogue]. **Syn. nov**.
= *Tessmannella* ENDERLEIN, 1924: 152 – ENDERLEIN (1924: 152) [description].
Type species: *Tessmannella undulata* ENDERLEIN, 1924, by original designation. [Junior homonym, preoccupied by *Tessmannella*, HEDICKE, 1912.]. FREY (1932: 259) [synonymy], STEYSKAL (1980: 565) [catalogue].
= *Tessmanniola* ENDERLEIN, 1925 – ENDERLEIN (1925: 409) [replacement name for *Tessmannella* ENDERLEIN, 1924], STEYSKAL (1980: 565) [catalogue].
= *Acanthoneuropsis* FREY, 1932 – FREY (1932: 258, pl. VII, fig. 21) [description].
Type species: *Agrochira laticeps* ENDERLEIN, 1922, by original designation. FREY (1932: 257) [key], STEYSKAL (1980: 563) [catalogue]. **Syn. nov**.

○ ***adamanta*** **sp. nov.**
♂ Holotype (BMNH). Ghana.

▲ ***ametromastax*** **sp. nov.**
♂ Holotype (TAUI). Kenya, Uganda.

Φ ***biplexum*** **sp. nov.**
♂ Holotype (BMNH). Kenya.

✶ ***bismarckburgensis*** ENDERLEIN, 1924 (*Agrochira*). – ENDERLEIN (1924: 151) [description], FREY (1932: 258) [key], FREY (1932: pl.VII, fig. 22), STEYSKAL (1980: 564) [catalogue].
♀ Holotype (ZMHB). Togo. **Comb. nov.**

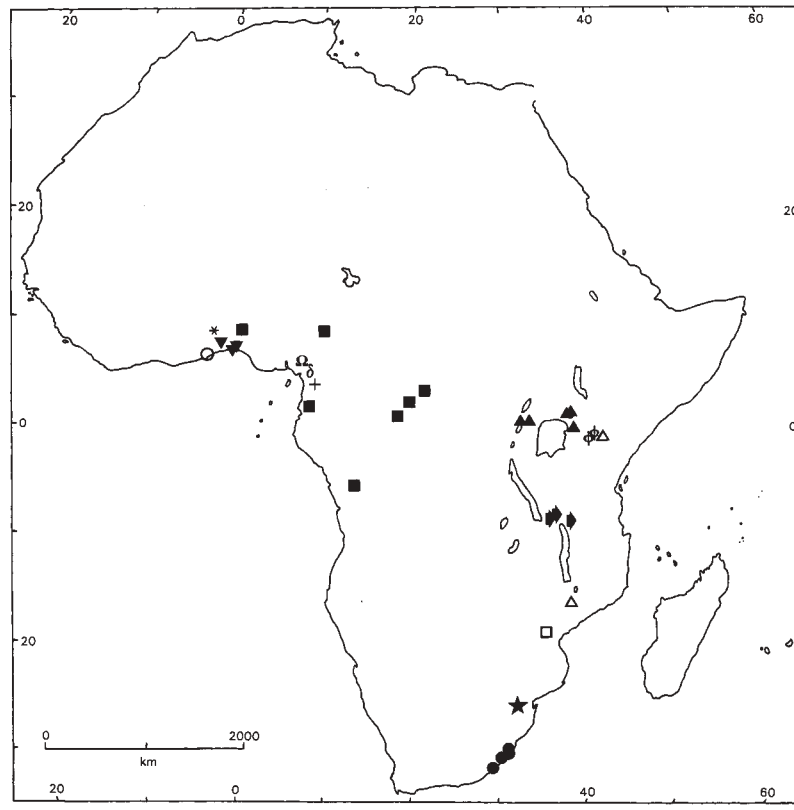


Fig. 687: Distribution of *Mesanopin* ENDERLEIN, 1912 in Africa: ○ - *M. adamanta* sp. nov.; ▲ - *M. ametromastax* sp. nov.; Φ - *M. biplexum* sp. nov.; ✶ - *M. bismarckburgensis* ENDERLEIN, 1924; □ - *M. bvumba* sp. nov.; ∇ - *M. clavigrum* sp. nov.; Ω - *M. hendeli* (ENDERLEIN, 1922); + - *M. laticeps* (ENDERLEIN, 1922); ★ - *M. londti* sp. nov.; ■ - *M. minax* (ENDERLEIN, 1922); ● - *M. palaga* sp. nov.; ▼ - *M. pallidum* sp. nov.; δ - *M. tephritinum* ENDERLEIN, 1912; ◗ - *M. tridens* sp. nov.

□ ***bvumba* sp. nov.**

♂ Holotype (NMSA). Zimbabwe.

∇ ***clavigrum* sp. nov.**

♂ Holotype (BMNH). Kenya, Malawi.

Ω ***hendeli*** (ENDERLEIN, 1922) (*Agrochira*) – ENDERLEIN (1922: 4) [description], FREY (1932: 258) [key], FREY (1932: pl.VII, fig. 23), STEYSKAL (1980: 564) [catalogue].

♀ Holotype (ZMHB). Cameroun. **Comb. nov.**

\+ ***laticeps*** (ENDERLEIN, 1922) (*Agrochira*) – ENDERLEIN (1922: 5) [description], FREY (1932: 258, pl. VII, fig. 21), STEYSKAL (1980: 563) [catalogue].

♂ Holotype (zmhb). Cameroun. **Comb. nov.**

★ ***londti* sp. nov.**

♀ Holotype (nmsa). Swaziland.

■ ***minax*** (ENDERLEIN, 1922d: 11) (*Prionoscelia*) – ENDERLEIN (1922d: 11), [description], FREY (1932: 257) [key], FREY (1932: 259) [discussion], STEYSKAL (1980: 565) [catalogue].

♀ Holotype (ZMHB). Equatorial Guinea, Cameroun, Nigeria, Zaïre. **Comb. nov.**

= *undulata* ENDERLEIN, 1924 – ENDERLEIN (1924: 152) (*Tessmannella undulata* ENDERLEIN, 1924, by original designation. FREY (1932: 259) [synonymy], Steyskal (1980: 565) [catalogue].

♂ Holotype (ZMHB). Cameroun. **Syn. nov.**

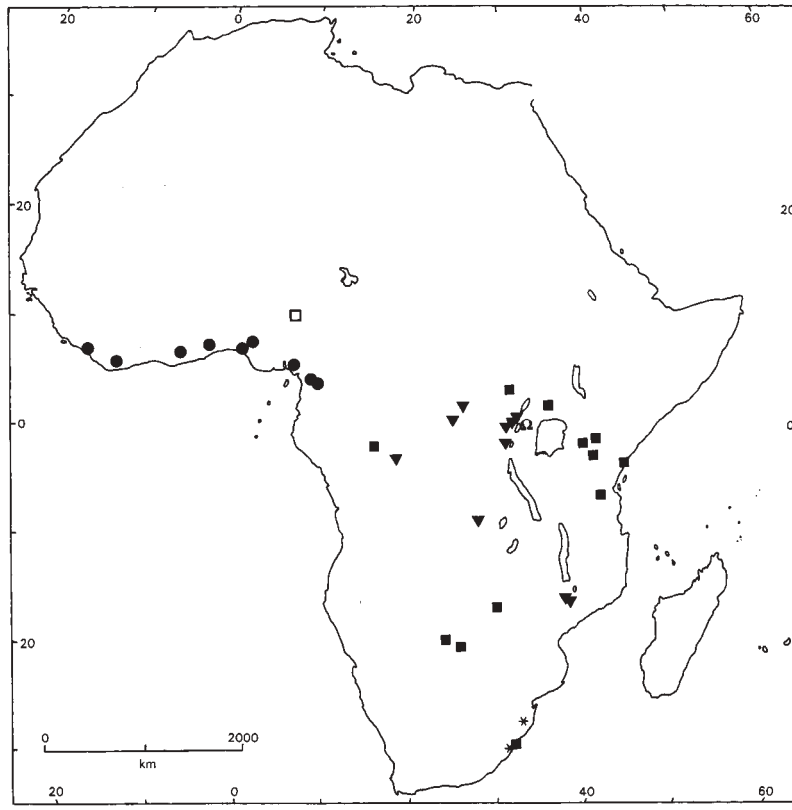


Fig. 688: Distribution of *Oeciotypa* HENDEL, 1914 in Africa: ✶ - *Oe. disjuncta* sp. nov.; ■ - *Oe. hendeli* LINDNER, 1957; ● - *Oe. parallelomma* HENDEL, 1914; ▼ - *Oe. rotundiventris* FREY, 1932; □ - *Oe. skaia* sp. nov.; Ω - *Oe. splendens* sp. nov.

● ***palaga*** **sp. nov.**
♂ Holotype (NMSA). South Africa.

▼ ***pallidum*** **sp. nov.**
♂ Holotype (NMWC). Nigeria, Togo.

δ ***tephritinum*** ENDERLEIN, 1912 – ENDERLEIN (1912b: 369, Fig. D) [description], HENDEL (1914: 265) [key & description in error - specimens actually = *A. palaga* sp. nov.], FREY (1932: 258) [key], STEYSKAL (1980: 564) [catalogue].
♀ Holotype (PANZ). Cameroun.

◗ ***tridens*** **sp. nov.**
♂ Holotype (TAUI). Tanzania.

Micronesomyia gen. nov.

(Fig. 684)

Micronesomyia **gen. nov.**
Type species: *Micronesomyia hemihyalina* sp. nov.

✶ ***hemihyalina*** **sp. nov.**
♂ Holotype (MNHN). Madagascar.

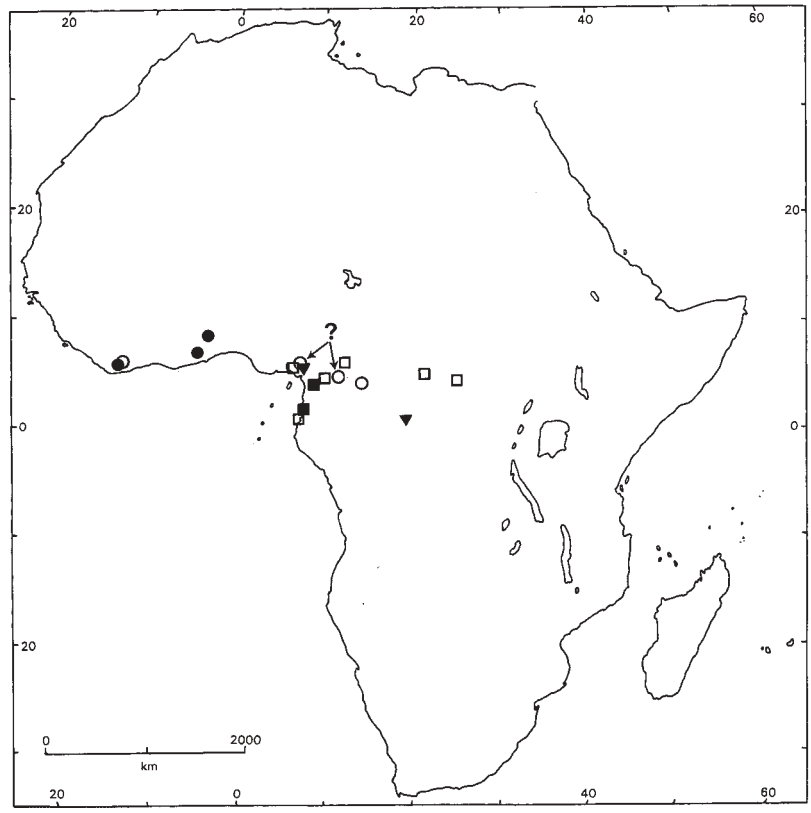


Fig. 689: Distribution of *Plastotephritis* Enderlein, 1922 in Africa: ■ - *P. compta* Enderlein, 1922; ● - *P. limbata* Enderlein, 1922; ▼ - *P. nosphidia* sp. nov.; ○ - *P. patagiata* Enderlein, 1922, **?** indicates two locations of uncertain co-ordinates; □ - *P. sica* sp. nov.

Oeciotypa Hendel, 1914

(Fig. 688)

Oeciotypa Hendel, 1914 – Hendel, 1914a: 131 [1914b: 11] [description].
Type species: *Oeciotypa parallelomma* Hendel, 1914, by original designation. Frey (1932: 256) [discussion & key], Frey (1932: 258) [discussion], Steyskal (1980: 564) [catalogue].

✶ ***disjuncta* sp. nov.**
♀ Holotype (nmsa). South Africa.

■ ***hendeli*** Lindner, 1957 – Lindner (1957: 32) [description], Steyskal (1965: 172) [list], Steyskal (1980: 564) [catalogue].
♂ Holotype (smns). Tanzania, Kenya, South Africa, Uganda, Zaïre, Zimbabwe.

● ***parallelomma*** Hendel, 1914 – Hendel (1914b: 281) [description], Speiser (1915: 99) [discussion], Frey (1932: 258) [discussion], Steyskal (1963: 133) [list], Steyskal (1980: 564) [catalogue].
♀ Holotype (bmnh). Ghana, Cameroun, Ivory Coast, Liberia, Nigeria.

▼ ***rotundiventris*** Frey, 1932 – Frey (1932: 257, pl.VII, fig. 20) [description], Steyskal (1980: 564) [catalogue].
♂ Lectotype (bmnh). Malawi, Zaïre.

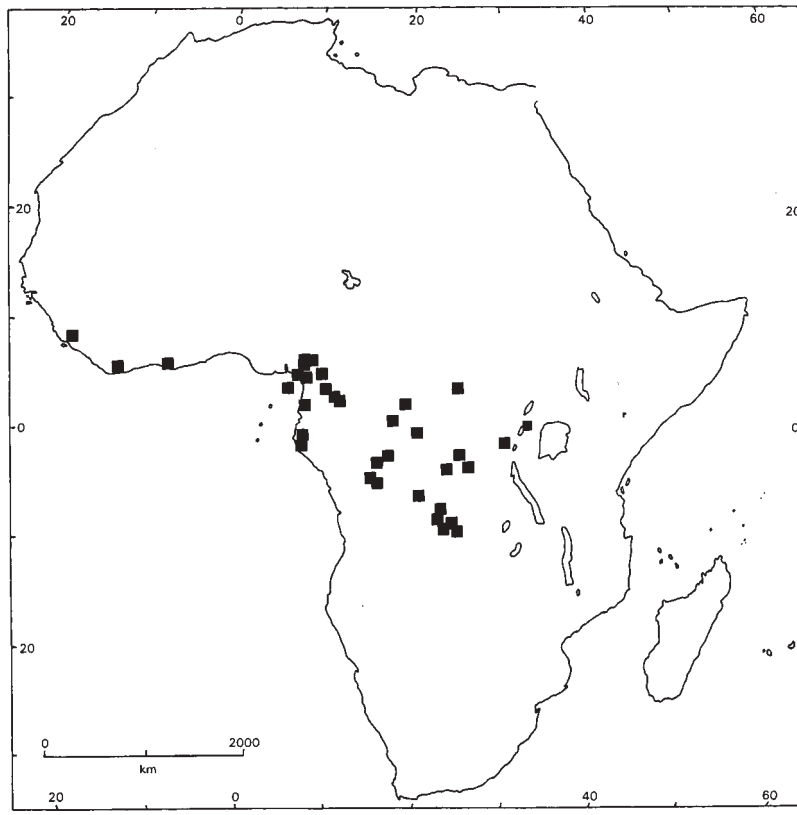


Fig. 690: Distribution of *Pterogenomyia* HENDEL, 1914 in Africa: ■ - *P. picta* BIGOT, 1891.

□ ***skaia* sp. nov.**
♂ Holotype (BMNH). Nigeria.

Ω ***splendens* sp. nov.**
♂ Holotype (TAUI). Uganda.

Plastotephritis ENDERLEIN, 1922

(Fig. 689)

Plastotephritis ENDERLEIN, 1922 – ENDERLEIN (1922: 6) [description].
Type species: *Plastotephritis compta* ENDERLEIN, 1922, by original designation. FREY (1932: 257) [key], FREY (1932: pl. VIII, fig. 34), STEYSKAL (1980: 565) [catalogue].
= *Blastotephritis* FREY, 1932 – FREY (1932: 257) [incorrect subsequent spelling of *Plastotephritis*].

■ ***compta*** ENDERLEIN, 1922 – ENDERLEIN (1922: 7) [description], FREY (1932: 262) [key], FREY (1932: pl. VIII, fig. 34) [wing], STEYSKAL (1980: 565) [catalogue].
♀ Lectotype (ZMHB). Cameroun, Equatorial Guinea.

● ***limbata*** ENDERLEIN, 1922: 8. [description], Frey 1932: 261 [key], pl. VIII, fig. 32 [wing], STEYSKAL 1980: 565 [catalogue].
♂ Holotype (ZMHB). Togo, Ghana, Ivory Coast.

▼ ***nosphidia* sp. nov.**
♂ Holotype (ZMHB). Cameroun, Zaïre.

○ ***patagiata*** Enderlein, 1922: 7. [description], Frey 1932: 262 [key], pl. VIII, fig. 33, Steyskal 1980: 565 [catalogue].
♂ Holotype (zmhb). Cameroun, Central African Republic, Ivory Coast.

□ ***sica*** **sp. nov.**
♀ Holotype (taui). Cameroun, Gabon, Zaïre.

Prosopoconus Enderlein, 1922
(Fig. 682)

Prosopoconus Enderlein, 1922 – Enderlein (1922: 13) [description].
Type species: *Prosopoconus fuscigenu* Enderlein, 1922, by original designation. Frey (1932: 257) [key] Frey (1932: 263) [discussion], Frey (1932: pl. VIII, fig. 44), Steyskal (1980: 565) [catalogue].
= *Prosopocomus* Frey, 1932 – Frey (1932: 263) [incorrect spelling].

Ω ***fuscigenu*** Enderlein, 1922 – Enderlein, 1922: 14 [description], Steyskal (1980: 565) [catalogue].
♂ Holotype (zmhb). Equatorial Guinea.

Pterogenomyia Hendel, 1914
(Fig. 690)

Pterogenomyia Hendel, 1914 – Hendel (1914a: 34) [1914b: 5] [description].
Type species: *Pterogenomyia paradoxa* Hendel, 1914 by original designation (= *picta* (Bigot, 1891), Comb. nov.). Frey (1932: 257) [key], Steyskal (1980: 565) [catalogue].
= *Onceroparia* Enderlein, 1924 – Enderlein, 1924: 100 [description].
Type species: *Onceroparia strigata* Enderlein, 1924, by original designation. Frey (1932: 257) [key], Steyskal (1980: 565) [catalogue, synonymy].

■ ***picta*** Bigot, 1891 – Bigot (1891: 383) [description].
♀ Holotype (oxum). Ivory Coast, Cameroun, Equatorial Guinea, Fernando Póo, Gabon, Sierra Leone, Uganda, Zaïre. **Comb. nov.**
= *mirifica* Frey, 1932 – Frey (1932: 259, pl. VII, fig. 26) [description], Steyskal (1980: 565) [catalogue].
♂ Holotype (bmnh). Sierra Leone. **Syn. nov.**
= *paradoxa* Hendel, 1914 – Hendel (1914b: 23, pl. 3, fig. 47-49) [description], Frey (1932: 259) [key]. Steyskal (1980: 565) [catalogue].
♂ Holotype (nhmw). Fernando Póo. **Syn. nov.**
= *parvisetula* (Enderlein, 1924) (*Onceroparia*) – Enderlein (1924: 101) [description], Frey (1932: 260) [key], Steyskal (1980: 565) [catalogue & comb. nov.].
♂ Holotype (zmhb). Equatorial Guinea. **Syn. nov.**
= *strigata* (Enderlein, 1924) (*Onceroparia*) – Enderlein (1924: 100) [description], Frey (1932: 260) [key], Rohlfien & Ewald (1972) [type list], Steyskal (1980: 565) [catalogue & comb. nov.].
8♂♂ 6♀♀ Syntypes (deic, uzmh & zmhb) Cameroun & Equatorial Guinea. **Syn. nov.**

Rhegmatosaga Frey, 1930
(Fig. 681)

Rhegmatosaga Frey, 1930 – Frey (1930: 63) [description].
Type species: *Rhegmatosaga insignis* Frey, 1930, by original designation [= *latiuscula* (Walker, 1856)]. Bezzi (1918: 246) [mention of specimens attributed to Ortalidae], Frey (1932: 256) [discussion], Hardy (1959: 191, 231) [new combination, new synonymy], Steyskal (1977: 136) [catalogue], Whittington (2000: 341) [revision].

▲ ***latiuscula*** (Walker, 1856) (*Noeeta* [generic misidentification]) – Walker (1856b: 133) [description], Hardy (1959: 191 & 231) [new combination], Steyskal (1977: 136) [catalogue], Whittington (2000: 342) [revision].
♂ Holotype (bmnh). Borneo, Laos, Philippines, Vietnam.

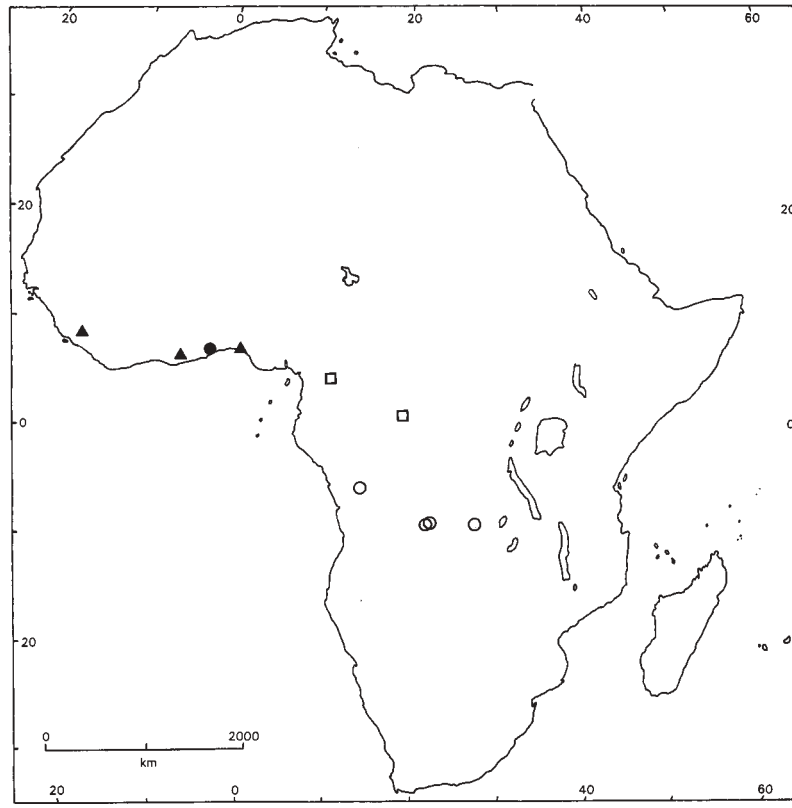


Fig. 691: Distribution of *Venacalva* gen. nov. in Africa: ○ - *V. dichas* sp. nov.; ▲ - *V. margarita* sp. nov.; □ - *V. seriata* (ENDERLEIN, 1924; ● - *V. virga* sp. nov.

= *insignis* FREY, 1930 – FREY (1930: 63, fig. 8) [description], FREY (1930) [wing], HARDY (1959: 191 & 231) [new synonymy], STEYSKAL (1977: 136) [catalogue], WHITTINGTON (2000: 342) [revision].
♂♂ Syntypes (BMNH & MZHF). Philippines.

Stellapteryx gen. nov

(Fig. 684)

***Stellapteryx* gen. nov.**
Type species: *Stellapteryx stellata* sp. nov.

○ ***minuta* sp. nov.**
♀ Holotype (NMWC). Madagascar.

\+ ***stellata* sp. nov.**
♂ Holotype (MNHN). Madagascar.

Venacalva gen. nov.

(Fig. 691)

***Venacalva* gen. nov.**

Type species: *Plastotephritis seriata* Enderlein, 1924.

○ ***dichas* sp. nov.**
♂ Holotype (mrac). Zaïre.

▲ ***margarita* sp. nov.**
♂ Holotype (usnm). Nigeria, Ghana, Sierra Leone.

□ ***seriata*** (Enderlein, 1924) (*Plastotephritis*) – Enderlein (1924: 153) [description], Steyskal (1965: 172) [list], Steyskal (1965: fig. 4) [wing], Steyskal (1980: 565) [catalogue].
♀ Holotype (zmbh). Cameroun, Sierra Leone, Zaïre. **Comb. nov**.

● ***virga* sp. nov.**
♀ Holotype (taui). Togo.

Xyrogena gen. nov.

(Fig. 692)

***Xyrogena* gen. nov.**

Type species: *Plastotephritis gratiosa* Enderlein, 1922.

○ ***campiglossoides*** (Frey, 1932) (*Plastotephritis*) – Frey (1932: 262, pl. VIII, fig. 37) [description], Steyskal (1980: 565) [catalogue].
♀ Lectotype (uzmh). Ghana, Cameroun, Nigeria, Zaïre. **Comb. nov**.

✶ ***camura* sp. nov**.
♀ Holotype (usnm). Cameroun.

Φ ***floccus* sp. nov.**
♂ Holotype (kbin). Zaïre.

▲ ***gratiosa*** (Enderlein, 1922) (*Plastotephritis*) – Enderlein (1922: 9) [description], Frey (1932: 262) [key], Frey (1932: fig. 38) [wing], Steyskal (1980: 565) [catalogue].
♀ Holotype (zmbh). Equatorial Guinea, Cameroun, Central African Republic, Ghana, Liberia, Sierra Leone, Zaïre. **Comb. nov**.

\+ ***grossa* sp. nov.**
♀ Holotype (nmwc). Nigeria, Ghana.

∇ ***hispida* sp. nov.**
♂ Holotype (taui). Cameroun, Ivory Coast, Uganda, Zaïre.

? ***hypena* sp. nov.**
♂ Holotype (mnhn). Zaïre.

▼ ***ligula* sp. nov.**
♂ Holotype (mrac). Zaïre, Uganda.

δ ***linea* sp. nov.**
♂ Holotype (mnhn). Cameroun.

Ω ***loxa* sp. nov.**
♂ Holotype (bmnh). Uganda.

□ ***pannosa*** (Enderlein, 1922) (*Plastotephritis*) – Enderlein (1922: 9) [description], Frey (1932: 262) [key], Frey (1932: fig. 36) [wing], Steyskal (1980: 565) [catalogue].
♂ Holotype (zmbh). Equatorial Guinea, Nigeria. **Comb. nov**.

■ ***recta* sp. nov.**
♂ Holotype (taui). Nigeria, Zaïre.

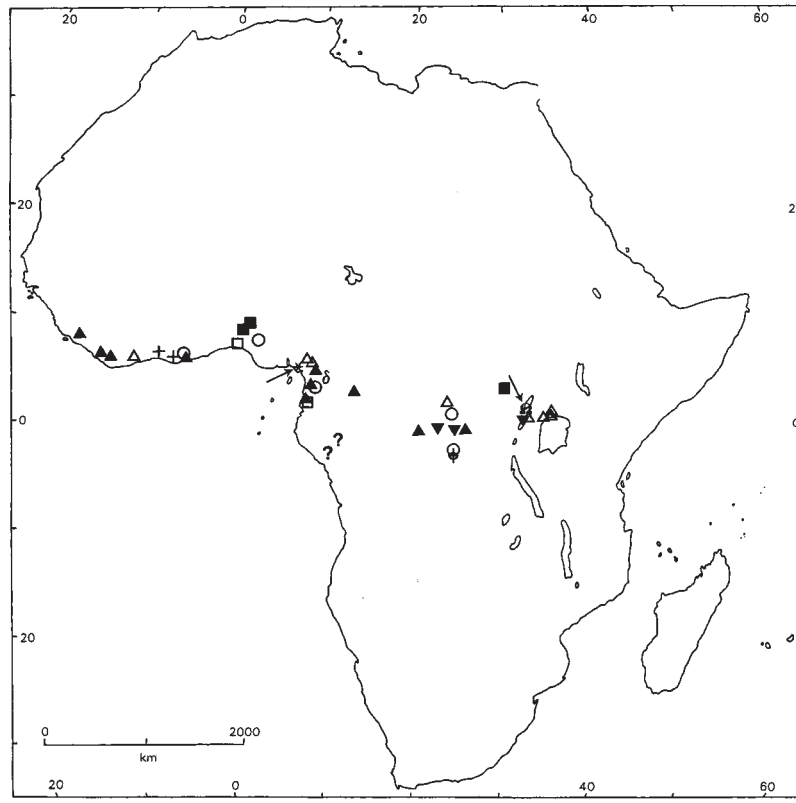


Fig. 692: Distribution of *Xyrogena* gen. nov. in Africa: ○ - *X. campiglossoides* (FREY, 1932); ✶ - *X. camura* sp. nov. (position indicated by arrow on West coast); Φ - *X. flocca* sp. nov.; ▲ - *X. gratiosa* (ENDERLEIN, 1922);+ - *X. grossa* sp. nov.; ∇ - *X. hispida* sp. nov.; **?** - *X. hypena* sp. nov.; ▼ - *X. ligula* sp. nov.; δ - *X. linea* sp. nov.; Ω - *X. loxa* sp. nov. (position indicated by arrow in East Africa); □ - *X. pannosa* (ENDERLEIN, 1922); ■ - *X. recta* sp. nov.

Conclusions

Afrotropical Plastotephritinae is a subfamily of Platystomatidae relatively rarely encountered by insect collectors. There may be many reasons for this. Firstly they are small flies with a predilection for dark, forested habitats, thus, they are easily overlooked in the field. Recently, field workers collecting and searching for Tephritidae have come across them by careful, focused collecting. Secondly, they are distributed in many of the less accessible parts of Africa and Asia, where collecting is both difficult and infrequent. Thirdly, I believe they have previously been overlooked as small flies and either discarded from nets, or misplaced among material of other families in collections. For instance, they are often found among Otitidae specimens in unsorted Museum accessions.

The major achievement of this revision is the introduction of new taxa and new hypotheses, based on the new material accumulated since the last revision of the subfamily. As with the prior species concepts of FREY, HENDEL and ENDERLEIN, the species concepts used here will undoubtedly be revised in the future, as new material and biological information becomes available. The taxonomic hypotheses presented here are based on features of gross morphol-

ogy. It was unnecessary to resort to other means of species diagnosis (morphometric or DNA analyses), except in reference to gross body and wing size for the distinction of *Conopariella* from *Federleyella* and *Pterogenomyia* from all other genera.

There is a distinct need in this subfamily for further and more detailed collecting in the Afrotropical region. As stated in the introductory chapters, details of the biology of Plastotephritinae are poorly known. Only sparse or superficial data are available. Collecting techniques and habitat data are seldom commented upon on data labels, but there are instances, which have been listed in Table 6. Sweeping and colour trapping have been the most useful techniques in collecting Plastotephritinae (Table 6). The colour of the traps used was not specified, but personal field experience suggests that yellow traps are likely to be most suitable. The data also suggest that these flies are best searched for in dense foliage and that there may be an association with fruit. This notion is confirmed by the high incidence of specimens taken from forest locations and the plant associations drawn from label habitat data (Tables 5 & 6).

It is critical to the understanding of this subfamily, that more is known about larval host plants and breeding biology, since knowledge of these two vital sections of Plastotephritine biology may well result in re-interpretation of the taxonomic arrangement suggested in this revision. Little more than speculation can be gained from the associations noted in Table 6, however. The species concepts in this revision are made in the vacuum of ignorance about larval and breeding biology. Even within the adult biology, extremely little is known. Numerous avenues of research can be identified, such as understanding the function of the hook-like and hood-like visica present at the apex of the aedeagus in some taxa (e.g. *Conopariella conspicua* and *Oeciotypa skaia*). These could be structures for placing or removal of spermatophors. Similarly, there is the question of the apparent semaphore activity of the wing movements observed in these flies and in other Platystomatidae (*pers. obs.*).

Given that the preceding revision of Afrotropical Plastotephritinae was by Frey (1932), the new taxa introduced and described in this work and the keys providing a means of identifying Afrotropical Plastotephritinae are a valuable contribution to Afrotropical Dipterology. These new taxa lack any evolutionary basis, since cladistic analyses are premature at this point. Not only is the alpha taxonomy based on few specimens and the collecting of new material likely to result in further new taxa (thus likely to alter the resultant cladogram), but the subfamily also has a high proportion of homoplasy, resulting in unreliability. If a cladistic analysis was to be attempted, the other subfamilies of Platystomatidae would make a sufficiently diverse outgroup for the derivation of polarity in characters. There are over 1000 species in Platystomatidae and such an analysis is a project in its own right. Furthermore, that the status of the taxa represented here and in the Oriental fauna (Whittington 2000) are monophyletic, is not fully established, since the fauna from the Pacific fringe is yet to be described and the Australian fauna awaits thorough taxonomic assessment (McApline 2001).

Distribution and biogeography have scarcely been given any attention. For some species, too few specimens are known to draw any sound conclusions. What little can be said with any confidence, is included in the section “Distribution” of the descriptions.

Finally it is clear that the task is far from complete. It is likely that new taxa are still to be discovered and described in this subfamily and there are many avenues of research to follow concerning their breeding biology, feeding, evolution and biogeography. Part of the grassroots research (the alpha-taxonomy) is at least in place, more will lead to clarity, allowing further detailed research to follow later. Thus, I encourage other students and researchers to contemplate this subfamily as a source of research material for future projects.

Appendix 2
List of abbreviations

The following abbreviations are used in the text (excluding standard SI unit abbreviations). Taxonomic abbreviations generally follow J. F. MCALPINE (1981).

a – adjective (when used in Etymology statements only)
a – anal cell (when used in descriptions and figures)
A_1 – first anal vein
A_1+Cu_2 – second branch of cubital vein plus first anal vein
AAB – anterior apical band.
ac – anterior anal cell
acr s – acrostichal seta
ad – anterior dorsal
af. and affl. – affluent (French) tributary (on National Parc labels from MRAC and KBIN)
am – anterior medial cell
anatg – anatergite
anepm – anepimeron
anepst – anepisternum
anepst s – anepisternal seta
asc – anterior subcostal cell
a sctl s – apical scutellar seta
av – anterior ventral
bc – basal costal cell
bcu – basal cubital cell
bf – basal fold
bm – basal medial cell
BM-Cu – basal medial-cubital crossvein
br – basal radial cell
b sctl s – basal scutellar seta
C – costa (costal vein)
c – costal cell
Cu – cubitus vein
Cu_1 – first branch of cubital vein
cu_1 – anterior cubital cell
Cu_2 – second branch of cubital vein
CuA_1 – first anterior cubital branch
cup – posterior cubital cell
DB – discal band
dc s – dorsocentral seta
dm – discal medial cell
DM-Cu – discal medial-cubital crossvein
dr. – driot (French) right hand side (on National Parc labels from MRAC and KBIN)
f. – feminine (used in Etymology statements only referring to gender of a word, usually a noun)
Fig(s). – Figures referred to in this revision
fig(s). – figures referred to papers by other authors
fl – flexion line
Gr. – Greek (used in Etymology statements only)
H – humeral crossvein (basal crossvein)
HB – humeral band
ial s – intra-alar seta
kemp – katepimeron

kepst – katepisternum
ktg – katatergite
L. – Latin (used in Etymology statements only)
l sctl s – lateral scutellar seta
M – medial vein
M_1 – first medial branch (Fig. 1)
M_2 – second medial branch (Fig. 1)
m. – masculine (used in Etymology statements only referring to gender of a word, usually a noun)
m – medial cell (when used in descriptions and figures)
m.a.s.l.. – metres above sea level
ML. – Medieval Latin (used in Etymology statements only)
mr – meron
mtepm – metepimeron
mtepst – metepisternum
n. – neuter (used in Etymology statements only)
npl – notopleuron
npl s – notopleuron seta
pal cal – postalar callus
pal s – postalar seta
P.N.A. – Parc National de la Albert, Zaïre now known as Parc National des Virunga [00°55'N – 01°40'S; 29°00' – 30°05'E]
P.N.G. – Parc National de la Garamba, Zaïre [04°45' – 03°40'N; 28°57' – 29°58'E]
p npl s – posterior notopleuron seta
P.N.U. – Parc National de la Upemba, Zaïre [08° – 10°S; 27° – 28°E]
ppp – perfect participle passive
pprn lb – postpronotal lobe
pprn s – postpronotal seta
prepm – proepimeron
prepst – proepisternum
p spr – posterior spiracle
psut spal s – postsutural supra-alar seta
pt – pterostigma
pv – posterior ventral
R-M – radial-medial cross vein
RMB – radial-medial band
R_1 – first branch of Radial vein
r_1 – first radial cell
R_{2+3} – first branch of radial sector vein
r_{2+3} – third radial cell
R_{4+5} – fourth and fifth radial vein
r_{4+5} – fourth and fifth radial cell
Rs – sectoral branch of radial vein
S_{1-8} – first to eighth abdominal sternites
s – seta (macrotrichia or bristle)
SAB – subapical band
sb – scutellar base
sbsctl – subscutellum
Sc – subcostal vein
sc – subcostal cell
sctl – scutellar
sf – subcostal fold
SHB – subhumeral band
Sp. – Spanish
sp_{1-7} – spiracles one to seven
spal – supra-alar
spmth – spermathecae
Suf. – suffix.
T_{1-7} – first to seventh abdominal tergites
v. – verb (when used in Etymology statements only)
v – variation in pattern indicated by dotted lines (when used in descriptions and figures)
♀ – female
♂ – male

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1 [N.B. compare carefully with diagnosis and key for *Federleyella* FREY, 1932. It is advisable to dissect male specimens when in doubt].

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