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**A NEW SPECIES OF *MESANOPIN* ENDERLEIN, 1912
AND NOTES ON VARIATION IN AFROTROPICAL AND
ORIENTAL SIGNAL FLIES OF THE SUBFAMILY
(DIPTERA; PLATYSTOMATIDAE:
PLASTOTEPHRITINAE)**

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A new species of *Mesanopin* Enderlein, 1912 and notes on variation in Afrotropical and Oriental signal flies of the subfamily (Diptera; Platystomatidae: Plastotephritinae)

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ABSTRACT

Examination of freshly caught specimens of Plastotephritinae not only help to overcome one of the limitations of previous revisions, which were impeded by a shortage of specimens, but also provide new insight to the distributions of species previously thought to be restricted to small endemic enclaves - a direct result of drawing conclusions based on few specimens. In this paper, new records are listed for twenty-nine species of Plastotephritinae and knowledge of the distributions improved. Keys to species of *Atopocnema* Enderlein, 1922, *Mesanopin* Enderlein, 1912, *Oeciotypa* Hendel, 1914 and *Xyrogena* Whittington, 2003 are revised based on new insight from recent field caught specimens, often in considerably better condition than old preserved material. A new species, *Mesanopin morum* **sp. n.**, from Togo is described and illustrated.

Key Words: Platystomatidae, Plastotephritinae, *Mesanopin*, new species, new records.

INTRODUCTION

The last revisionary works of signal flies of the subfamily Plastotephritinae (Diptera; Platystomatidae), dealt with the Oriental fauna (Whittington 2000 and Chen & Whittington 2006) and the Afrotropical fauna (Whittington 2003). To date the remaining Oceanian and Australasian fauna has not yet been assessed, but in discussion with the late David K. McAlpine, we agreed that there were no Plastotephritinae known from the Australian mainland. Since no Plastotephritinae are known to occur in the Palaearctic, Nearctic or Neotropical regions, the subfamily is restricted to an Afrotropical-Oriental distribution with outliers in islands of the western Pacific.

The Oriental fauna was dealt with by Whittington (2000) and was published before the more extensive Afrotropical revision (Whittington 2003). It introduced a monotypic genus *Agadasys* Whittington, 2000 (including *A. hexablepharis* Whittington, 2000) and reviewed the monotypic genus *Rhegmatosaga* Frey, 1930 (including *R. latiuscula* (Walker, 1856)). A second species (*A. xizangensis* Chen & Whittington, 2006) was later added to *Agadasys* by Chen & Whittington (2006).

The last revision of the Afrotropical Plastotephritinae (Whittington 2003) included new descriptions for six new genera and 45 new species based solely on morphological characters. Distributions and known biology of the members of this subfamily were also discussed in detail, but sometimes were limited by too few specimens, giving an impression of rarity that may not be the case.

These previous revisions exclusively examined dry pinned specimens, much of it now nearing a hundred years old or older. There were often only a few specimens available per species and some specimens were in deteriorating condition. At that time, little freshly collected pinned material and no alcohol (70% EtOH) stored material was available. Since then, the opportunity to examine more material, freshly collected and both pinned and alcohol stored has arisen resulting in a fresh perspective regarding some aspects of the previous revision.

During examination of this freshly collected material, it was noted that some colour-based characters are washed out and diluted when specimens are stored in 70% EtOH, and this may be true also for some killing agents, which may lead to misleading outcomes from the 2003 keys. This is especially so for specimens that have yellow markings, which sometimes become white or pale cream coloured when exposed to ethanol or other killing agent chemicals. In comparison, a blue-violet metallic lustre over dark coloured tergites was more evident in some alcohol stored specimens, which was not evident in the pinned material previously examined and I have noted that living specimens are often more shining, vivid and darker in colour. The following discussion of observed variation in the more recent material is provided to enable users of the 2003 keys to navigate potential issues. In addition, because few specimens were available for many species examined in 2003, the distribution ranges were sometimes tentative and are discussed here to include the additional materials examined.

MATERIALS AND METHODS

This paper applies the evolutionary species concept in its broad sense, *i.e.*, “A species is a single lineage of ancestor-descendant populations which maintain its identity from other such lineages and which has its own evolutionary tendencies and historical fate” (Wiley 1981: 25). Nomenclatural checks were conducted in *Systema Dipterorum* (Evenhuis & Pape 2025), GBIF (2025), Zoobank (2024) and the Index to Organism Names (ION) (Clarivate Analytics 2009) to ensure the new name has not been previously used.

Descriptions and identifications were based solely on morphological criteria as observed using a Motic M-400 binocular dissecting microscope. Body measurements and photographs taken using a Euromex CMEX-10 Pro USB 3.0 camera c-mounted onto a Wild Heerbrugg M5 dissecting microscope linked to ImageFocusAlpha software (Version 1.3.7.27993 (250901)). Composite images were constructed from stacked multiple-plane images using pyramid rendering in Helicon Focus (Version 8.3.6).

The description of the new species is derived solely from the female Holotype and is based on morphological characteristics only. Body length was taken in lateral aspect from the ptilinal suture to the apex of tergite 5 and wing lengths were taken from the apex of the tegula in a straight line to the apex of the right wing.

Species accounts include a list of the previously published works, a list of additional material, which refers to specimens seen since Whittington (2003) and discussion of distribution, which is cumulative of the old and new material examined, and relevant characters. To avoid confusion dates have been standardised to the format dd.mm.yyyy with the month in lower case Roman numerals and institutional codens are given last in brackets.

Label data were standardised, so that localities are listed by country alphabetically, followed by locality, latitude and longitude (in degrees, minutes and seconds), elevation, date, collector(s), any other relevant details and lastly the institutional coden in brackets, or the institutional accession number. Coordinates for latitude and longitude were derived from the geohack pages of WikiMedia (2025) if not included on the original specimen labels. Dates conform to the format “day.month.year”, with the day and year in Arabic numerals and the month in lower case Roman numerals (*e.g.*, 08.iii.2003). Where labels share similar data, these are included in one entry, with all dates and collectors for that locality listed and separated by commas. Accession numbers, specimen numbers and institutional collection numbers have been excluded in most cases. In cases where the sex could not be determined, due to loss of an abdomen, for example, these are indicated as “[unsexed]”.

Material identified as belonging to the Plastotephritinae was loaned from the following Institutions (codens used in the text consistent with Evenhuis 2025):

- AEWC – private collection of the author.
- ANHRT – African Natural History Research Trust, Leominster, England, UK (accession numbers appearing as “ANHRTUK”).
- BMSA – National Museum, Bloemfontein, South Africa.
- CAS – California Academy of Sciences, San Francisco, California, USA.
- CSCA – California State Collection of Arthropods, Sacramento, California, USA.
- MZLU – Museum of Zoology, Lund University, Lund, Sweden.
- NHMUK – Natural History Museum, London, United Kingdom.
- PERC – Purdue University, Department of Entomology, West Lafayette, Indiana, USA.
- RBINS – Royal Belgian Institute of Natural Sciences, Brussels, Belgium.
- RMCA – Musée Royal de l'Afrique Centrale, Tervuren, Belgium.
- SDEI – Senckenberg Deutsches Entomologisches Institut, Müncheberg, Germany.
- TAU – Tel Aviv University collection, Tel Aviv, Israel.
- ZMHB – Zoologisches Museum an der Humboldt-Universität, Berlin, Germany.

Terminology and abbreviations concerning gross morphology generally follow Cumming & Wood (2017). To avoid complication, figures referred to in previous publications are referred to in lower case (fig., figs or figure), while figures in this paper are referred to as Fig., Figs or Figure. The figures previously published in the 2003 revision (Whittington 2003) have not been reproduced here, so readers need to use both the revision and this paper together.

Photographic records available from social media and scientific websites, such as iNaturalist and GBIF, are sometimes sufficiently high in resolution to enable correct identification and in such cases where identification can be confirmed without examining specimens under a microscope, records are listed for relevant species including the URL of the observation. This can be particularly helpful in understanding the distribution of the species, as evident for *Agadasys hexablepharis* Whittington, 2000 for example (see below), given that at the time of description, knowledge of many species was limited by the number of specimens available to study in museum collections. It is not always possible to sex specimens in photographs, so for the most part numbers of specimens and sex ratios are not provided, but the unique observations codes and GBIF references are.

Much of the new material is derived from the “Boyekoli Ebale Congo 2010” expedition (Kirk-Spriggs 2017), undertaken by members of BMSA and RMCA, from the extensive collecting efforts of the late Amnon Freidberg (TAU) and more recently, from collections recently loaned from CAS. Pinned “Boyekoli Ebale Congo 2010” expedition specimens were collected by A.H. Kirk-Spriggs (ANHRT) and are coded with a serial BECE number, while alcohol stored specimens (RMCA) were collected by M. Virgilio & R. Emeleme are coded with an AB serial number. The Democratic Republic of Congo was referred to as Zaïre, Côte d’Ivoire was referred to as Ivory Coast and Eswatini was referred to as Swaziland in the 2003 revision.

The “Boyekoli Ebale Congo 2010” expedition materials are stored in alcohol in individually numbered tubes. The tube numbers correspond to a collection manager q-code printed on the bottom of each tube, enabling reference to the location database. In the text that follows, the tube code number has been used in discussion of the specimen and then referenced in the locality information listed under Material examined. The specimens originate from traps set in either forest or village environments using ‘cuelure’ (CL) or protein bait (P) at different numerically numbered sites. “Cuelure” is a synthetic product that attracts males of the genera *Bactrocera* Macquart, 1835 and *Dacus* Fabricius, 1805 (Diptera, Tephritidae) and it is interesting to note that this lure also works to attract both sexes of Plastotephritinae. Platystomatidae have, however, been collected

settling on the outside of cue lure traps in the Ikelenge district of NW Zambia (specimens in the Natural History Museum, Bulawayo) suggesting they are possibly responding to physical features of the trap (David L. Hancock *pers. comm.*)

Alcohol stored specimens deposited at RMCA came from the following village and forest locations in The Democratic Republic of Congo, with latitude and longitude derived from the GPS data in the database:

Bomane, 01°16'12"N 23°43'50"E, 372m

Lieki, 00°40'50"N 24°14'05"E, 382m

Mwenge, 02°02'39"N 22°51'26"E, 371m

Yafira, 00°42'08"N 24°12'02"E, 390m

For ease of reading, these are not repeated again in the *Material examined* sections for each species.

When writing the 2003 revision of Plastotephritinae, I was unaware of the extent of expeditions undertaken in east and central Africa by Günther Teßmann and at that time, misinterpreted the type locality "Neu Kamerun", which appears on labels of two types of Enderlein names, *Conopariella togoensis* Enderlein, 1922 and *Plastotephritis compta* Enderlein, 1922 (specimens in Zoologisches Museum an der Humboldt-Universität, Berlin, Germany - ZMHB). Recent discussion with colleagues, Ashley Kirk-Spriggs and Hitoshi Takano at the African Natural History Research Trust have clarified that this is not a location in Cameroon as then thought, but "almost certainly refers to modern-day Central African Republic and probably the Sangha-Mbaere or Lobaye province" (H. Takano *pers. comm.*). The details are elaborated upon in Kirk-Spriggs & Whittington (submitted for publication elsewhere). The label data are repeated below with the country for the type locality corrected from Cameroon to Central African Republic.

TAXONOMY

Agadasys Whittington, 2000

Agadasys Whittington, 2000: 336. Type species: *Agadasys hexablepharis* Whittington, 2000, by original designation.

Agadasys hexablepharis Whittington, 2000

Agadasys hexablepharis Whittington, 2000: 338 [description, key], figs. 1-17; Chen & Whittington, 2006: 338 [redescription, key], fig. 1; Chen & Whittington, 2007: 68 [erratum].

Material examined: **Bangladesh**: Dhaka, Dhaka District, Savar, Atomic Energy Research Establishment (AERE), 24°02'48"N 90°19'25"E, 18-23.xi.2020, M. Hossain (GBIF 5138714388, 5138713480, 5138705393, 5138698444, 5138697447, 5138695809, 5138695518, 5138694662 & 5138694660); same data, but 23°57'14"N 90°16'46"E, 22.ix.2021, (GBIF 5138703401, 5138694482 & 5138697399); Dhaka, Gazipur District, Kaliakoir, Borabo village, 24°02'48"N 90°19'25"E, 14.x.2022, M. Hossain, USNMENT01865737 (GBIF 5138710396, 5138697642 & 5138694732); **China**: Hainan Province, Hainan, 24°06'31"N 88°15'13"E, 19.i.2023, "seventennature" <https://www.inaturalist.org/observations/148095632>; 1♀ Guangdong Province, Guangzhou, 23°07'54"N 113°15'59"E, 20.xi.2024, "voyage1969", <https://www.inaturalist.org/observations/252372708> (GBIF 5036863595); ♀ Guangxi State, Chongzuo, 22°26'09"N 107°01'51"E, 6.x.2024, "simbason" <https://www.inaturalist.org/observations/245895880>; **India**: West Bengal, Murshidabad District Berhampore, Khagra, Indraprastha, 139/4AC Road, 24°06'31"N 88°15'13"E, 19.xi.2024, S. Mandal, <https://www.inaturalist.org/observations/261134172>; West Bengal, Bardhaman, Durgapur, 23°29'58"N 87°18'18"E, 19.ii.2016, Subhajit Roy, Chhota-Nagpur dry deciduous forests, <http://www.inaturalist.org/observations/2709474> (GBIF 5062491314); West Bengal, Bardhaman, Bardhaman University, Tarabagh Officers Colony, 23°14'57"N 87°50"E, 28.iv.2024, J. Khatun, lower gangetic plains moist deciduous forest, <https://www.inaturalist.org/observations/210666816>; Narendrapur, Rajpur Sonarpur, 22°25'42"N 88°24'6"E, 15.ix.2012, S.

Laha, <https://www.inaturalist.org/observations/73781291> & [https://www.inaturalist.org/photos/120502001\(GBIF 3090885639\)](https://www.inaturalist.org/photos/120502001(GBIF 3090885639)) ‘feeding on a decaying insect dead body on a leaf in a shady place’; **Thailand**: 1♀ Nakhon Ratchasima, Sakaerat 3, 14°30’10”N 101°55’30”E, 449m, 18.iii.2022, B. Butcher, Subtropical/Tropical Dry Forest, THAMG1958-23 Centre for Biodiversity Genomics BIOUG98124-E10 (GBIF 4917508919); 1♀ Nakhon Si Thammarat, 4.4km N Hin Tok waterfall, 08°26’56”N 99°46’37”E, 140m, 9.iv.2017, N Thaowan, FFPA1652-22 (CSCA 19E349 & CSCA19L107 identified from photograph of the specimen) (GBIF 4912780061).

Remarks: Whittington (2000) gave one of the paratype localities as India, based on a specimen in the Natural History Museum (London), collected by Janson (label misread as Ianson) in January 1914 (NHMUK 880817). This locality is in fact in modern day Bangladesh, as noted by Chen & Whittington (2006). *Agadasys hexablepharis* has nevertheless now been observed in Bangladesh and West Bengal (India), resulting in the distribution: Bangladesh, China, India, Thailand, Vietnam. According to these records, the habitat preference appears to be dry to moist deciduous forest, ranging from lowland 140m to 975m.

***Agrochira* Enderlein, 1911**

Agrochira Enderlein, 1911: 450. 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]; Whittington 2003: 42 [revision, key, description, illustrated].

There are no records of *Agrochira* in iNaturalist. Records in GBIF (2025) are incorrectly listed as the genus *Agrochira* [sic!] with no species and also as *Agrochira* (correctly spelt) but with 13 species included, all but four of which are assigned to other genera and with *Agrochira achiodes* Enderlein, 1911 excluded. Nine species currently assigned in GBIF (2025) to *Agrochira* should be placed under *Mesanopin*.

***Agrochira corniculata* Whittington, 2003**

Agrochira corniculata Whittington, 2003: 52 [description, key], figs. 48-58 & 682.

Material examined: **Democratic Republic of Congo:** 2♀ Yafira forest transect, 29-31.v.2010, A.H. Kirk-Spriggs, secondary lowland evergreen forest (1♀ BECE-03388 & 1♀ RBINS); **Togo:** 4♂1♀ Kloto, Kouma Konda, 06°57’N 00°35’E, 620m, 20.i.2011, G. Kodjo (TAU).

Remarks: these specimens closely correlate with the holotype and little variation was observed other than that already noted by Whittington (2003). *Agrochira corniculata* was previously recorded from the type locality in Uganda and from Liberia, an apparent disjunction of over 4500km. Whittington (2003) suggested that this disjuncture was the result of under-collecting and these specimens from Togo and The Democratic Republic of Congo tend to support that point of view and indicates that *A. corniculata* is widespread across Central and West Africa. The distribution is updated to: Democratic Republic of Congo, Liberia, Togo, and Uganda.

***Atopocnema* Enderlein, 1922**

Atopocnema Enderlein, 1922: 10. Type species: *Atopocnema manicatifrons* Enderlein, 1922, by original designation. Frey 1932: 257 [key], 263 [characterisation]; Steyskal 1980: 564 [catalogue]; Whittington 2003: 57 [revision, key, description, illustrated].

One of two otherwise identical female specimens (AB40222483) has a narrow band near the apex of the fore tibia, the other (AB40160841) has not. The rest of the morphology is consistent with *Atopocnema marginepunctata* (Enderlein, 1922), which suggests that the presence or absence of this character is not a good diagnostic tool for separating this species from *Atopocnema manicatifrons* Enderlein, 1922. The 2003 key to the Afrotropical species of *Atopocnema* is accordingly revised as follows (figs. refer to Whittington 2003):

Key to Afrotropical species of *Atopocnema*

1. Wing dark brown, hyaline marks along costal margin restricted and hardly wider than twice width of costal vein and then only one pre-humeral, two costal, one minute spot on apices of each of R_1 and R_{2+3} , spot in *cua* and triangular mark in anal lobe; those in the costal cell (*c*), *cua* and anal lobe are twice the dimension of the other marginal marks (Whittington 2003; fig. 78); four pairs of scutellar setae present ***A. brunnipennis* Frey, 1932**
- Wing with scattered spots more extensively developed across brown wing membrane, marks along costal margin with dimensions more than twice width of costal vein - large and more numerous (Whittington 2003; figs. 70, 82 & 93); three pairs of scutellar setae **2**
2. Wing membrane dark brown with hyaline marks along the costal margin of small dimension, as follows: one pre-humeral, one or two costal (only as wide as costal vein), one medially positioned in *sc* (wider than costal vein), one at or a little beyond apex of R_1 (wider than costal vein), one at apex of R_{2+3} and one at apex of wing a little beyond apex of R_{4+5} ; further hyaline spots on wing membrane sometimes occur as a row of three small spots along middle of r_{4+5} , medially in *cua* touching anal vein and a few vague triangular to oblong marks along posterior margin of wing most noticeable in anal lobe (Whittington 2003; fig. 82) ***A. manicatifrons* Enderlein, 1922**
- Wing membrane dark brown with larger more noticeable hyaline marks along costal margin and spots within cells r_{4+5} and *dm* (Whittington 2003; figs. 70 & 93) **3**
3. Cell *dm* with two hyaline spots: a single small medial rectangular spot, obliquely across cell, approximately level with *r-m*, plus a distinct apical hyaline mark extending from hind margin of wing into *dm* just before *dm-m*; one sub-basal spot in r_{4+5} (Whittington 2003; fig. 93)..... ***A. marginepunctata* (Enderlein, 1922)**
- Cell *dm* with three hyaline spots: small basal and apical hyaline spots, and a larger median oval mark positioned level with *r-m*; a row of three small spots along middle of r_{4+5} (Whittington 2003; fig. 70) ***A. binotata* Whittington, 2003**

***Atopocnema manicatifrons* Enderlein, 1922**

Atopocnema manicatifrons Enderlein, 1922: 11. Frey 1932: 263, pl. VIII, fig. 41; Steyskal 1980: 564 [catalogue]; Whittington, 2003: 63 [revision, key], figs. 80-88 & 683.

The diagnosis in Whittington 2003 incorrectly stated that the hyaline marks along costal margin of the wing were large - they are in fact small. The diagnosis should be corrected to:

Fore tibiae completely pale. Wing with scattered spots; hyaline marks along costal margin small and positioned at apex of veins. Three pairs of scutellar setae.

Material examined: **Democratic Republic of Congo:** 1♂ Mwenge village, 11-17.v.2010, M. Virgilio (AB40160915-Mwe-v2-ME2); 1♂ Bomane village, 20-25.v.2010, R. Emeleme & M. Virgilio (AB40159331-Bom-V3-ME2); 4♀ Bomane village area, 20-24.v.2010, A.H. Kirk-Spriggs, bush paths & village environs (BECE-01994, BECE-01117, BMSA & RBINS); **Ghana:** 2♀ Central Region, Kakum NP, Antikwaa Camp, 05°26'35"N 01°24'58"E, 160m, 22-iv.-1.v.2014, S.D. Gaimari & M. Hauser, yeast trap (CSCA); **Togo:** Région des Plateaux: Zogbégan, village part Zogbégan-Carrière (SE of Badou), at creek Elèbè, 07°34'50"N 00°40'03"E, 20-25.iv.2008, 650 m, F. Menzel (SDEI Tg1888m, Tog43).

Remarks: a male specimen from Bomane village has the dark brown coloured part of abdominal tergite 4 with a weakly developed metallic blue-violet lustre not previously seen in specimens of this species. Some of the high resolution photographs of other Platystomatidae uploaded to iNaturalist demonstrate similar previously unnoticed lustre or brightness of coloration, a reminder that preserved specimens have sometimes become dull through preservation.

The additional specimens examined provide the most northerly location within The Democratic Republic of Congo, but alter the known West-Central-East African distribution little. *Atopocnema manicatifrons* is known from: Cameroon, Côte d'Ivoire, Democratic Republic of Congo, Gambia, Ghana, Nigeria, Togo and Uganda.

***Atopocnema marginepunctata* (Enderlein, 1922)**

Oeciotypa marginepunctata Enderlein, 1922: 10. 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]; Whittington, 2003: 66 [revision, key], figs. 89-98 & 683.

Material examined: **Democratic Republic of Congo:** 1♂ Bomane village, 20-25.v.2010, R. Emeleme & M. Virgilio, 'cuelure' (AB40159314–Bom-V3-CL2); 1♂2♀ Yafira forest, 29.v.-3.vi.2010, R. Emeleme & M. Virgilio, protein bait (1♀AB40160841–Yaf-F2-P1 and 1♂1♀ AB40222483–Yaf-F2-P2).

Remarks: two otherwise identical female specimens from Yafira forest exhibit both character states (present in one but absent in the other) for the subapical band on the fore tibia, rendering this character unsuitable for distinguishing *Atopocnema marginepunctata* from *Atopocnema manicatifrons*. An alternative set of diagnostic characters is provided in the revised key above.

The new locality data supports the previously described distribution in Central Africa: Cameroon, Central African Republic, Democratic Republic of Congo and Equatorial Guinea.

***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]; Whittington 2003: 68 [revision, key, description, illustrated].

***Cladoderris silvestrii* Bezzi, 1914**

Cladoderris silvestrii Bezzi, 1914: 305, fig. III. Steyskal 1980: 564 [catalogue]; Whittington, 2003: 77 [revision, key], figs. 130-139 & 684.

Material examined: **Côte d'Ivoire:** 2♀ Man, Mt Tonkoui, 07°27'15"N 07°38'14"W, 1200m, 07-14.iv.2019 & 09-16.vi.2019, Y. Braet & A. Gué, Malaise trap, (AEWC & RMCA).

Remarks: previously known from Ghana and Nigeria, the new record in Côte d'Ivoire extends the West African distribution of this species.

***Conopariella* Enderlein, 1922**

Conopariella Enderlein, 1922: 12. Type species: *Conopariella acutigena* Enderlein, 1922, by original designation. Frey 1932: 257 [key], 260 [discussion + key to species]; Steyskal 1980: 564 [catalogue]; Whittington 2003: 79 [revision, key, description, illustrated].

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

See Whittington (2025).

***Conopariella togoensis* Enderlein, 1922**

Conopariella togoensis Enderlein, 1922: 13. Frey 1932: 261 [key], pl. VII, fig. 30; Steyskal 1980: 564 [catalogue]; Whittington, 2003: 113 [revision, key], figs. 241-248 & 685.

Syntype of *Conopariella acutigena* Enderlein, 1922 [misidentified]: **Central African Republic:** 1♀ "Neu-Kamerun No. 15,7.193. / Teßmann 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. Whittington" [first and last lines printed, on yellow card, middle three lines hand-written] (ZMHB). In poor condition, repined by author, one remaining wing adhered to card,

genitalia dissected and stored in glycerine in micro-vial on same pin (♀ type misidentified by Enderlein (1922)). Stated by Whittington (2003) to be Cameroon, now known to be Central African Republic, although this change does not alter the known distribution of the species, which is Cameroon, Central African Republic, Côte d'Ivoire, Nigeria and Togo.

***Eudasys* Whittington, 2003**

Eudasys Whittington, 2003: 118. Type species: *Eudasys ophrys* Whittington, 2003, by original designation.

***Eudasys ophrys* Whittington, 2003**

Eudasys ophrys Whittington, 2003: 120 [description, key], figs. 257-268 & 684.

Material examined: **Democratic Republic of Congo:** 6♂ 2♀ Mwenge village, 11-14.v.2010, M. Virgilio, protein bait (3♂1♀ AB40154319–Mwe_V1_pl2) and 11-17.v.2010 (3♂ AB40160998–Mwe-v1-p3 and 1♀ AB40161020–RMCA–Mwe-v1-p1); 1♀ Bomane village, 20-25.v.2010, R. Emeleme & M. Virgilio, 'cuelure' (AB40159344–Bom-V2-CL1); [gender unknown] Yaekela, 00°48'25"N, 24°17'02"E, 30.iv.2010, M. Virgilio (GBIF 250733386); 1[unsexed], Yafira forest, 29.v.-3.vi.2010, M. Virgilio, protein bait (AB40160845–Yaf-F1-P3); 1♂ Lieki village, 27.v.-03.vi.2010, R. Emeleme & M. Virgilio, protein bait (AB40222505–Liek-V2-P1); **Nigeria:** 3♀ Ogoja County, 4.viii.1961, 20.viii.1961 & 6.i.1963, R.W. Meyer (accessions: A7246, A7300 & A10315) (PERC).

Remarks: newly examined specimens closely correlate with the holotype and little variation was observed other than that already noted by Whittington (2003). The additional localities of the material examined provide the most northerly location within The Democratic Republic of Congo. These new records alter the known West-Central-East African distribution little: Cameroon, Democratic Republic of Congo and Nigeria.

***Furcamyia* Whittington, 2003**

Furcamyia Whittington, 2003: 132. Type species: *Furcamyia difficilis* (Frey, 1932), by original designation.

***Furcamyia difficilis* (Frey, 1932)**

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

Furcamyia difficilis: Whittington 2003: 135 [revision, key], figs. 291-300 & 682.

Material examined: **Cameroon:** 1♂ Eastern Region, Dja Reserve Buffer nr. Dja River, 03°21'34"N 12°44' 42"E, 20-24.viii.2018, S. Nanga Nanga & M.E. Epstein, torula (*Cyberlindnera jadinii*, Ascomycota) yeast lure (CSCA18M464; identified from photograph of the specimen).

Remarks: Previously recorded from Ghana and Nigeria (Whittington 2003), this record from Cameroon extends the known distribution eastwards.

***Furcamyia gladiatura* Whittington, 2003**

Furcamyia gladiatura Whittington, 2003: 138 [description, key], figs. 301-310 & 682.

Material examined: **Côte d'Ivoire:** 1♀ Man, Mt Tonkoui, 07°27'15"N 07°38'14"W, 1200m, 26.v.-09.vi.2019, Y. Braet & A. Gué, Malaise trap, (AEWC); **South Africa:** 1♂ KwaZulu-Natal, 29°32'55"S 30°20'45"E, Pietermaritzburg, Ferncliffe, 1.ii.2024, A.D. Manson, <https://www.inaturalist.org/observations/198372716> (GBIF 4512251586).

Remarks: previously recorded from Democratic Republic of Congo and South Africa, the record from Côte d'Ivoire extends the known distribution into West Africa. The sparsity of specimens over such a wide range suggests that *Furcamyia gladiatura* is under collected and given that the South African specimens were collected in mist-belt mixed forest, the species may demonstrate cryptic behaviour within dense vegetation or be arboreal.

***Furcamyia pallida* Whittington, 2003**

Furcamyia pallida Whittington, 2003: 140 [description, key], figs. 311-318 & 682.

Material examined: **Cameroon:** 1♂1♀ Guijiba, Benoue National Park, 08°25'N 13°44'E, 356m, 12.viii.2013, A. Freidberg (TAU); **Côte d'Ivoire:** 1♀ Man, Mt Tonkoui, 07°27'15"N 07°38'14"W, 1200m, 1-8.ix.2019, Y. Braet & A. Gué, Malaise trap (AEWC); **Democratic Republic of Congo:** 2♀ Likouala Province, Nouabale-Ndoki National Park, Makao forest, 02°36'43"N 17°09'24"E, 349m, 23-28.ix.2022, Dérozier, V., Fouka, B., Kirk-Sriggs, A.H. & Takano, H. Malaise trap, secondary forest (ANHRTUK 00280026 & 00280027); 1♀ Sangha Province, Nouabale-Ndoki National Park, Wali forest, 02°13'57"N 16°12'14"E, 338m, 11-16.x.2022, Dérozier, V., Fouka, B., Kirk-Sriggs, A.H. & Takano, H. Malaise trap, *Gilbertiodendron* forest (ANHRTUK 00280007).

Remarks: one of the female specimens from Democratic Republic of Congo has an arrow-shaped brown mark on a yellowish background on the notum, which is a variation from the description which stated that the notum is glossy dark brown.

Previously, *Furcamyia pallida* was only recorded from the type locality in Nigeria, these records extend the distribution to include Cameroon, Côte d'Ivoire, and Democratic Republic of Congo.

***Mesanopin* Enderlein, 1912**

Mesanopin Enderlein, 1912b: 369; fig. D. Type species: *Mesanopin tephritinum* Enderlein, 1912, by original designation. Enderlein 1912a: 348 (*nom. nud.*); Hendl 1914a: 121, fig. 68-70 [synonymy with *Agrochira*]; Hendl 1914b: 265 (key), 266 [description]; Bezzi 1918: 246 [mentioned and placed in Ortalidae]; Steyskal 1980: 563 [catalogue]; Whittington 2003: 143 [revision, key, description, illustrated].

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

= *Tessmannella* Enderlein, 1924: 152. 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: 409, replacement name for *Tessmannella* Enderlein, 1924. Steyskal 1980: 565 [catalogue].

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

The separation of specimens belonging to *Agrochira* from those belonging to *Mesanopin* remains possible only by the careful examination of male and female genitalia. It is tempting to use extreme broadening of the head width, particularly in males to distinguish *Agrochira* from *Mesanopin*, but this is unreliable. While this condition is well developed in *A. achoides* Enderlein, 1911, *A. corniculata* and *A. parallaxis* Whittington, 2003, it is less well developed in *A. bicolor* Whittington, 2003 and *A. bifocalis* Whittington, 2003 to the extent that the dimensions overlap with species in *Mesanopin*. In particular, females of *M. hendeli* (Enderlein, 1922) and males of *M. laticeps* (Enderlein, 1922) have the head laterally extended and of similar dimensions to *A. bicolor* and *A. bifocalis*.

In males, all species of *Agrochira* have the lateral surstyli elongate - equal or longer than the epandrium and all species of *Mesanopin* have lateral surstyli that are shorter than the length of the epandrium and usually do not project as far as the apex of the cerci - the exception being *M. laticeps* in which the cerci are remarkably short and those species in which males are currently unknown (*M. bismarckbergensis* (Enderlein, 1924), *M. hendeli*, *M. londti* Whittington, 2003 and *M. tephritinum* Enderlein, 1912).

Females of *Agrochira* are only known for *A. bicolor* and *A. corniculata* both of which have a strongly sclerotised lanceolate aculeus, lacking terminal sensory setae, possibly an adaptation for oviposition into narrow, tight crevices such as leaf axils of plants, in a similar fashion to Oriental Gastrozonini (Tephritidae: Dacinae) and Neotropical Lipsanini (Ulidiidae), which oviposit deep into tight axils of bamboos (V. Korneyev, *pers.comm.* 2020). In contrast, the aculeus in female members of *Mesanopin* are oval in cross-section, with a discrete, ovoid, moderately long setulose cercus,

suggesting a variety of oviposition substrates are preferred where eggs are deposited on vegetation rather than inserted into it.

Other characters are too variable within and between the two genera to be reliable. For instance the absence of hyaline spots in cell r_{2+3} (other than at the wing margin) is consistent for all known *Agrochira*, while within *Mesanopin* eight species have hyaline spots in r_{2+3} and six species do not. Differences in the position or number of hyaline marks on the wing are sometimes undefined and it has become useful to formulate the wedge-shaped marks along the anterior margin of the wing as a simple series of numbers corresponding to the number of hyaline wedges in the following positions bc = basicostal; c = costal; sc = subcostal; r_1 = first radial cell; r_{2+3} = second radial cell and ap = apex of wing. For example the hypothetical wing formula 1+2+1+2+1+2 indicates hyaline marks as: a single basicostal wedge, then a pair of costal wedges, a single subcostal wedge, a pair of first radial wedges, a single second radial wedge and a pair of apical wedges. The position of the wedges in different species is not consistent, but at least some species can be differentiated by comparing the sequence of numbers (Table 1).

Table 1. Wing pattern formulae for species of *Mesanopin* Enderlein, 1912. Species marked with the same letter in the final column share the same formula. Abbreviations: bc = basicostal; c = costal; sc = subcostal (i.e. midway in the pterostigma); r_1 = first radial cell; r_{2+3} = second radial cell and ap = apex of wing.

	position of hyaline wedge						
	bc	c	sc	r_1	r_{2+3}	apical	
<i>M. adamanta</i> Whittington, 2003	0	2	1	2	1	1	a
<i>M. ametromastax</i> Whittington, 2003	0	2	1	2	1	1	a
<i>M. biplexum</i> Whittington, 2003	1	2	1	2	0	1	c
<i>M. bismarckburgensis</i> (Enderlein, 1924)	0	2	1	2	1	1	a
<i>M. bvumba</i> Whittington, 2003	0	2	1	2	1	1	a
<i>M. clavigrum</i> Whittington, 2003	0	2	1	2	1	1	a
<i>M. hendeli</i> (Enderlein, 1922)	1	2	1	2	1	1	b
<i>M. laticeps</i> (Enderlein, 1922)	0	0	0	2	1	1	d
<i>M. londti</i> Whittington, 2003	1	2	1	2	0	1	c
<i>M. minax</i> (Enderlein, 1922)	1	2	1	2	2	1	e
<i>M. morum</i> sp.n.	1	2	0	2	0	1	f
<i>M. palaga</i> Whittington, 2003	0	2	1	2	1	2	g
<i>M. pallidum</i> Whittington, 2003	1	2	1	2	1	1	b
<i>M. tephritinum</i> (Enderlein, 1912)	1	2	1	2	1	1	b
<i>M. tridens</i> Whittington, 2003	0	2	1	2	1	0	h

Likewise, while most species of *Mesanopin* have a postpronotal seta present, three (*M. adamanta* Whittington, 2003, *M. hendeli* and *M. londti*) do not, and in *Agrochira*, all but one species (*A. bicolor*) lacks this seta. A small group of species have a distinctive brown diamond-shaped spot on the parafacial area adjacent to the antennal insertion (Fig. 2A) in *M. ametromastax* Whittington,

2003, *M. biplexum* Whittington 2003, *M. laticeps*, *M. londti*, *M. morum* **sp.n.** and *M. palaga* Whittington 2003 (Table 2).

Table 2. Selected diagnostic characters of species of *Mesanopin* Enderlein, 1912. Species marked with the same letter in the final column share the same formula.

	<i>discrete parafacial spot</i>	<i>facial band</i>	<i>parafacial band</i>	<i>dark mark on frons</i>	<i>colour of fore-femoral spines</i>
<i>M. adamanta</i> Whittington, 2003	no	no	no	small, dark	pale
<i>M. ametromastax</i> Whittington, 2003	yes	broad	no	eye-to-eye, dark	pale
<i>M. biplexum</i> Whittington, 2003	no	no	no	eye-to-eye, pale	pale
<i>M. bismarckburgensis</i> (Enderlein, 1924)	no	broad	broad	small, dark	pale
<i>M. bvumba</i> Whittington, 2003	no	no	no	eye-to-eye, pale	pale
<i>M. clavigrum</i> Whittington, 2003	no	no	no	eye-to-eye, dark	pale
<i>M. hendeli</i> (Enderlein, 1922)	no	no	partial	small, pale	pale
<i>M. laticeps</i> (Enderlein, 1922)	yes	broad	narrow	small, pale	pale
<i>M. londti</i> Whittington, 2003	yes	broad	no	eye-to-eye, dark	pale
<i>M. minax</i> (Enderlein, 1922)	no	no	no	small, dark	black
<i>M. morum</i> sp.n.	yes	yes	no	eye-to-eye, dark	pale
<i>M. palaga</i> Whittington, 2003	yes	broad	no	eye-to-eye, dark	black
<i>M. pallidum</i> Whittington, 2003	no	no	no	small, pale	pale
<i>M. tephritinum</i> (Enderlein, 1912)	no	no	no	small, pale	pale
<i>M. tridens</i> Whittington, 2003	no	no	no	eye-to-eye, dark	black

A character which is difficult to assess in preserved specimens is the banding across the compound eye. This is seldom evident in preserved specimens, but recent photographs (*e.g.* <https://www.inaturalist.org/observations/33598606>) show how distinctive this feature can be. Whether or not it has diagnostic value has yet to be determined.

There are no records of *Mesanopin* in GBIF (2025), other than a BOLD entry for an undetermined species located in central Madagascar. Other than this BOLD record there are no records for *Mesanopin* from Madagascar and as far as is known, the genus does not occur there, so the identity of this record needs to be questioned. Incorrectly GBIF lists nine species assigned to *Mesanopin* under the generic name *Agrochira* (see above).

The dichotomous key to Afrotropical species of *Mesanopin* is revised below to accommodate the new species described below.

Key to Afrotropical species of *Mesanopin*

1. Postpronotal seta absent (Whittington 2003; fig. 322) **2**
 - Postpronotal seta present (Whittington 2003; fig. 328)..... **4**
2. Distance between inner margin of eyes greater than width of thorax (Whittington 2003; fig. 368)..... ***M. hendeli* (Enderlein, 1922)**
 - Distance between inner margin of eyes less than width of thorax **3**
3. Parafacial area pale yellow between ptilinal fissure and eye margin and face white directly beneath antennal insertion (Whittington 2003; fig. 319); vertex level with upper margins of eyes marked with a dark-brown glossy diamond-shaped marking across the ocellar triangle (Whittington 2003; fig. 319); brown wing pattern extended to posterior margin of wing (Whittington 2003; fig. 323); glans of male genitalia having well developed acrophallus and paired lateral filaments (Whittington 2003; fig. 325)..... ***M. adamanta* Whittington, 2003**
 - Parafacial area with a black or dark brown diamond-shaped spot between ptilinal fissure and eye margin and face black directly beneath antennal insertion (Whittington 2003; fig. 383); vertex sunken such that ocellar triangle is below upper margins of eyes, broadly marked with irregular dark brown pattern (Whittington 2003; fig. 383); brown wing pattern ceasing before posterior margin of wing, terminating in cells *dm*, and *m*₁ (Whittington 2003; fig. 390); male unknown ***M. londti* Whittington, 2003**
4. Notum entirely dark brown or black with postpronotal lobe either pale yellow or consistent with notum **5**
 - Notum yellow to pale creamy white, marked with brown or dark brown vittae or mottled pattern of variable extent, or brown and weakly marked with buff areas, postpronotal lobe yellow to pale creamy white **6**
5. Frons bicoloured: dull dirty-yellow anterior to anterior-most ocellus, dorsal to which it is a clearly delineated, black-brown, glossy band (Fig.2A); pleurites entirely yellow; notum and postpronotal lobe glossy black, at most yellow along the anterior most edge of both; scutellum pale yellow, laterally with extreme base black (Figs 1A & 2B); legs entirely yellow, except small brown spot at apex of hind femur (Fig. 1A); wing pattern (Fig. 1A) lacking a hyaline wedge in centre of cell *sc* and 1+2+0+2+0+1 hyaline wedges along costal margin from wing base to apex ***M. morum* sp. n.**
 - Frons russet to orange-brown and finely pubescent (velvety) and vertex weakly and irregularly delineated, glossy, pale brown; pleurites partially yellow, but mostly dark brown; notum dark brown, postpronotal lobe yellow in contrast; scutellum dark brown; all legs with pre-apical brown band on tibia, fore femur with a small dorsally positioned brown spot at apex, apex of mid and hind femora brown banded, base of mid and hind tibia brown banded; wing pattern with a hyaline wedge in centre of cell *sc* (Whittington 2003; fig. 339) and 1+2+1+2+0+1 hyaline wedges along costal margin from wing base to apex ***M. biplexum* Whittington, 2003**
6. Eye margin 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 (Whittington 2003; fig. 395); gena:eye-height ratio approximately 1:4.5 (Whittington 2003; 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-m*, and *r-m* situated basal to middle of *dm* (Whittington 2003; fig. 397)..... ***M. minax* (Enderlein, 1922)**

- Eye margin 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 (Whittington 2003; 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-m*, and *r-m* situated beyond of middle of *dm* 7
- 7. Distance between inner margin of eyes greater than width of thorax (if in doubt also check the key for *Agrochira* Enderlein, 1911)..... 8
- Distance between inner margin of eyes less than width of thorax 9
- 8. Anterior and posterior orbital setae inserted one behind another (Whittington 2003; fig. 358); *w*-shaped dark brown glossy band across frons (Whittington 2003; fig. 358); face and parafacial broadly brown (Whittington 2003; fig. 358); notum broadly brown or black on paler background (Whittington 2003; fig. 362); all femora brown to black at apices (Whittington 2003; fig. 363); epandrium dorsoventrally compressed (Whittington 2003; fig. 366) ***M. clavigrum* Whittington, 2003**
- Anterior and posterior orbital setae inserted in line across head (Whittington 2003; fig. 373); discrete dark brown band across face and parafacial area (Whittington 2003; fig. 373); notum vittate (Whittington 2003; fig. 376); all femora pale except a faint smudge at apex of hind femur; epandrium distinctly compact and sub-globose (Whittington 2003; figs. 379 & 380)
..... ***M. laticeps* (Enderlein, 1922)**
- 9. Frons, face (Whittington 2003; fig. 413) and pleurites (except anepimeron and katatergite) pale creamy-white; forelegs pale (Whittington 2003; fig. 417), entirely lacking tibial bands, a few indistinct spots on the inner surface of fore femora and tibiae
..... ***M. pallidum* Whittington, 2003**
- Pleurites more widely brown; all legs distinctly banded on femora and/or tibiae..... 10
- 10. Face with distinct brown horizontal band (Whittington 2003; fig. 326); flagellomere 1 dark in colour and co-incident with facial band (Whittington 2003; fig. 326); scutellum either pale, or with lateral margin dark brown (Whittington 2003; fig. 405)11
- Face pale, at most with faint smoky band (Whittington 2003; fig. 335); flagellomere 1 pale, or if slightly darkened, then no facial band; scutellum predominantly brown, with paler medial band sometimes present (Whittington 2003; fig. 337)13
- 11. Band of dark brown on parafacial area continuous with facial band (Whittington 2003; fig. 344); gena and postgena not enlarged (Whittington 2003; figs. 344 & 346); anterior portion of anepisternum black.....***M. bismarckburgensis* (Enderlein, 1924)**
- Parafacial area not banded, but having an oval dark brown spot in line with dorsal margin of facial band (Whittington 2003; figs. 326 & 402); gena and postgena swollen (Whittington 2003; figs. 326, 327, 402 & 404); anepisternum mostly pale, with short brown band in dorsal fifth (e.g. Whittington 2003; fig. 329)12
- 12. Ventral spines on fore femur concolorous with femur (pale creamy-white) (Whittington 2003; fig. 330); flagellomere 1 dark smoky grey (Whittington 2003; fig. 326); *dm-m* predominantly hyaline (Whittington 2003; fig. 331)***M. ametromastax* Whittington, 2003**
- Ventral spines on fore femur brown, contrasting with femur (pale buff-yellow) (Whittington 2003; fig. 406); flagellomere 1 dark brown; *dm-m* marked with brown pattern (Whittington 2003; fig. 407).....***M. palaga* Whittington, 2003**
- 13. Pleurites of thorax partly brown on paler buff-yellow background; frons uniformly pale yellowish brown or russet to orange-brown and finely pubescent (velvety)

- *M. tephritinum* Enderlein, 1912
- Pleurites of thorax broadly brown; most of frons uniformly brown and glossy or dark brown and pubescent 14
 - 14. Frons uniformly brown and glossy, but pale brown immediately adjacent to ptilinal fissure, (Whittington 2003; 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* Whittington, 2003
 - Frons dark brown and pubescent without pale brown band adjacent to ptilinal fissure, with inconspicuous alveoli and pale setulae (Whittington 2003; fig. 425); hyaline areas on wing membrane predominating more than brown membrane and veins conspicuously dark (Whittington 2003; fig. 429) *M. tridens* Whittington, 2003

***Mesanopin ametromastax* Whittington, 2003**

Mesanopin ametromastax Whittington, 2003: 149 [description, key], figs. 326-334 & 687.

Material examined: **Democratic Republic of Congo:** 1♀ Mwenge village, 11-14.v.2010, M. Virgilio, protein bait (AB40154313–Mwe_V2_pl1); 1♂ 2♀ Lieki village, 27.v.-03.vi.2010, R. Emeleme & M. Virgilio, protein bait (1♂ AB40159327–Liek-V1-P2; 2♀ AB40159324–Liek-V2-P2 and AB40160857–Liek-V3-P1).

Remarks: newly examined specimens demonstrate variation in the intensity of facial/frons pattern, colouration of fore legs and degree to which cell *dm* is patterned.

Two females from Mwenge village and a male from Lieki village have the pattern on face and frons less distinct being more generally brown with darker areas corresponding to the pattern described for the holotype. A further female, also from Lieki village (AB40160857), has the facial/frons pattern much more similar to the holotype.

In all four specimens the fore legs are entirely pale, unlike the holotype that bears a dark grey-brown band at the apex of the tibia and a slightly stronger and more extensive pattern of brown markings in cell *dm*, covering the anterior half of the cell.

The male also lacks the postpronotal setae, but these may have broken off on both sides during handling (the left alveola is indistinctly visible, but that on the right is not). In all four specimens abdominal tergites *T*₃ & *T*₄ have a metallic blue-violet lustre evident on the dark brown to black ground colour, which was not obvious in dried specimens examined previously by Whittington (2003). Furthermore, in the male specimen, the apex of *T*₄ has four pairs of long black marginal setae, also not previously noted.

These specimens from Democratic Republic of Congo represent an extension to the known range of this species, as Whittington (2003) lists only Kenya and Uganda (one location near Kanaba Gap on the border with Rwanda (01°15'S 29°47'E)).

***Mesanopin biplexum* Whittington, 2003**

Mesanopin biplexum Whittington, 2003: 152 [description, key], figs. 335-343 & 687.

Material examined: **Kenya:** 1♂ Nairobi, Karura Forest, 01°15'S 36°50'E, 16.x.2007, L. Friedman (TAU).

Remarks: *Mesanopin biplexum* is known only from Kenya.

***Mesanopin clavigrum* Whittington, 2003**

Mesanopin clavigrum Whittington, 2003: 158 [description, key], figs. 358-367 & 687.

Material examined: **Democratic Republic of Congo:** 1♂ Bomane, 20-25.v.2010, R. Emeleme & M. Virgilio, protein bait (AB40159343–Bom-V3-P2); **Malawi:** Chikwawa, Lengwe National Park, 16°12'52"S 34°46'58"E, 2.vii.2022, M. Henrion, <https://www.inaturalist.org/observations/124599843>.

Remarks: this single male specimen from Bomane shows some variance from the description. Character states consistent with the holotype include *pprn s* present; r_{2+3} marginal hyaline spot present, but small and restricted in dimension, internal hyaline spots absent; face and frons pattern indistinct, but the w-shaped mark is only vaguely present and the fore femur entirely lacks a brown band, although it must be noted that the original description commented on its vague presence. There also appears to be only one orbital seta, but on careful examination, the posterior seta on the left is present albeit very small while that on the right is missing and the small alveola can be discerned. On the whole the fore femoral spines are more strongly developed than in the holotype and longer than width of fore femur. The notum is pale yellow-brown with limited dark brown pattern, whereas the holotype has a nearly entirely brown notum. The scutellum is dark brown with a narrower median line of pale yellowish brown between apical scutellar setae than the holotype and the subscutellum is pale yellow-brown with median dark brown stripe and mediotergite entirely dark brown.

Although only previously known by the holotype and one other male specimen, this species was thought to have an East African distribution, being known only from Kenya and Malawi, so the recent specimen from Democratic Republic of Congo adds a considerable extension of range to the distribution. A wide altitudinal preference is indicated by a low altitude of 47m at Chiromo, Malawi and a high altitude of 2146m at Ol Doinyo Sabuk in Kenya. The more recently collected specimen from Bomane at 372m falls between the two. It is likely that more extensive and focused collecting will provide more specimens improving our understanding of the distribution, but nonetheless, the species is apparently rarely encountered.

***Mesanopin hendeli* (Enderlein, 1922)**

Agrochira hendeli Enderlein, 1922: 4. Frey 1932: 258 [key], pl.VII, fig. 23; Steyskal 1980: 564 [catalogue].

Mesanopin hendeli: Whittington 2003: 160 [revision, key], figs. 368-372 & 687.

Material examined: **Democratic Republic of Congo:** 1♀ Yafira Forest, 29.v.-3.vi.2010, M. Virgilio, protein bait (AB40160880–Yaf-F2-P2).

Remarks: this single female from Yafira Forest has dark brown marks on vertex at the bases of the anterior orbital setae and around ocellar triangle more extensive than illustrated in fig. 368 of Whittington 2003. The anterior thorax is marked with two brown spots and notum is a little marbled and the dark brown coloured abdominal tergites T_7 with metallic blue-violet lustre.

Previously this species was thought to be endemic to northern Cameroon, so the recent specimens from Democratic Republic of Congo add a considerable extension of range to the distribution. It is likely that more extensive and focused collecting will provide more specimens further improving knowledge of the distribution.

***Mesanopin londti* Whittington, 2003**

Mesanopin londti Whittington, 2003: 165 [description, key], figs. 383-391 & 687.

Material examined: **Eswatini:** Tanbuti, 26°43'48"S 31°46'01"E, 01.i.2010, M. Mansell (RMCA) (GBIF 2250733301).

Remarks: *Mesanopin londti* is incorrectly listed under the generic name *Agrochira* in GBIF (2025). There are no grounds for this change in combination as *M. londti* is clearly a member of *Mesanopin* based on the structural morphology of the female ovipositor. *Mesanopin londti* is known only from Eswatini.

***Mesanopin minax* Whittington, 2003**

Prionoscelia minax Enderlein, 1922: 11. Frey 1932: 257 [key], 259 [discussion]; Steyskal 1980: 565 [catalogue].

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

Mesanopin minax: Whittington, 2003: 167 [revision, key], figs. 392-401 & 687.

Material examined: **Togo:** 2♂ Kloto, Kouma Konda, 06°57'N 00°35'E, 620m, 20.i.2011, G. Kodjo (TAU); **Democratic Republic of Congo:** 1♂ Mwenge forest, 11-14.v.2010, M. Virgilio, protein bait (AB40222487-Mwe_F3_pl3); 1♀ Bomane village, 20-24.v.2010, A.H. Kirk-Spriggs, hanging trap baited with fermenting fruit (BMSA).

Remarks: the single male from Mwenge forest has black facial stripes and a black spot on the gena close to the facial ridge, completely black femora, hind tibia with distal modification and the wing pattern is more hyaline distally, while *dm* is spotted.

The new localities demonstrate that *M. minax* is more widely distributed in The Democratic Republic of Congo than previously understood. The distribution is now understood to be Cameroon, Democratic Republic of Congo, Nigeria, and Togo.

***Mesanopin morum* sp. n.**

LSID urn:lsid:zoobank.org:act:EC11CF39-11FF-446D-AE4D-4FBB00435F87

(Figs 1 - 3)

Etymology: *morum* L. n. - black mulberry in reference to the glossy black notum of this species.

Description: based on single female holotype.

Measurements: body length 3.51 mm; wing length 3.57 mm.

Diagnosis: distance between inner margin of eyes less than width of thorax. Face (Fig. 2A) pale, at most with faint smoky band ventral to antennal insertions; apical base of fronto-orbital plate with brown spot slightly dorsal to facial band. Postpedicel entirely pale. Frons bicoloured: dull dirty yellow anterior to anterior-most ocellus, dorsal to which it is a clearly delineated, black-brown, glossy band. Postpronotal seta present. Pleurites of thorax entirely pale yellow. Notum and postpronotal lobe glossy black (Figs 1, 2B & 3), at most yellow along the anterior most edge of both; scutellum pale yellow, laterally with extreme base dull black. Fore femur with 5 ventral spines; legs entirely yellow, except small brown spot at apex of hind-femur (Fig. 1). Wing pattern (Fig. 1) lacking a hyaline wedge in centre of cell *sc*; having 1+2+0+2+0+1 hyaline wedges along costal margin from wing base to apex.

Colour/Vestiture: generally distinctly bicoloured, pale yellow laterally and ventrally, black-brown dorsally (detailed in sections below) (Fig. 1). Fine silver-white setulae sparsely distributed on lower frons, yellowish on gena; dense, silver-white on notum, pleurites and legs; less dense and black on abdomen. Boundary between pale lower frons and black-brown upper frons pitted with fine striations; upper frons glossy, occiput dull. Notum and abdominal tergites 3-5 glossy black, the latter with an indistinct metallic blue-violet lustre. Pleurites pale yellow, with weakly developed pale yellowish vestiture most noticeable on ventral margin of katapisternum.

Head: wider than high in frontal view (Fig. 2A); distance between inner margin of eyes less than width of thorax, but outer dimension across eyes exceeding thorax width (in dorsal view). Face pale, at most with faint smoky band ventral to antennal insertions, base of fronto-orbital plate with brown spot slightly dorsal to facial band (Fig. 2A). Postpedicel entirely pale, arista pubescent. Frons dull dirty yellow dorsal to ptilinal suture and anterior to anterior-most ocellus, dorsal to which it is a clearly delineated, black, glossy band (Fig. 2A); vertex with a narrow pale yellow band between black-brown band of frons and black-brown occipital region joined to pale yellow area on lower occiput, forming an hourglass-like shape (Fig. 2B). Gena depth (in frontal view) approximately half eye height, margin between lower margin of eye and sub-cranial cavity a shallow curve (Fig. 2A). Postgena weakly swollen at level of cervix. Setulae mostly pale yellow, whitish on lower frons and black on occiput and upper postgena; postocular row poorly differentiated. Pedicel of antenna with a single black setula more prominent than the surrounding pale setulae. Supra-cervical setulae white. Paired setae as follows: 1 ocellar, 2 orbital, 1 inner + 1 outer vertical, genal seta pale and inconspicuous; no postocellar setae.



Figure 1. Lateral habitus view of *Mesanopin morum* **sp.n.** (HT female, Togo, TAU) and associated labels.

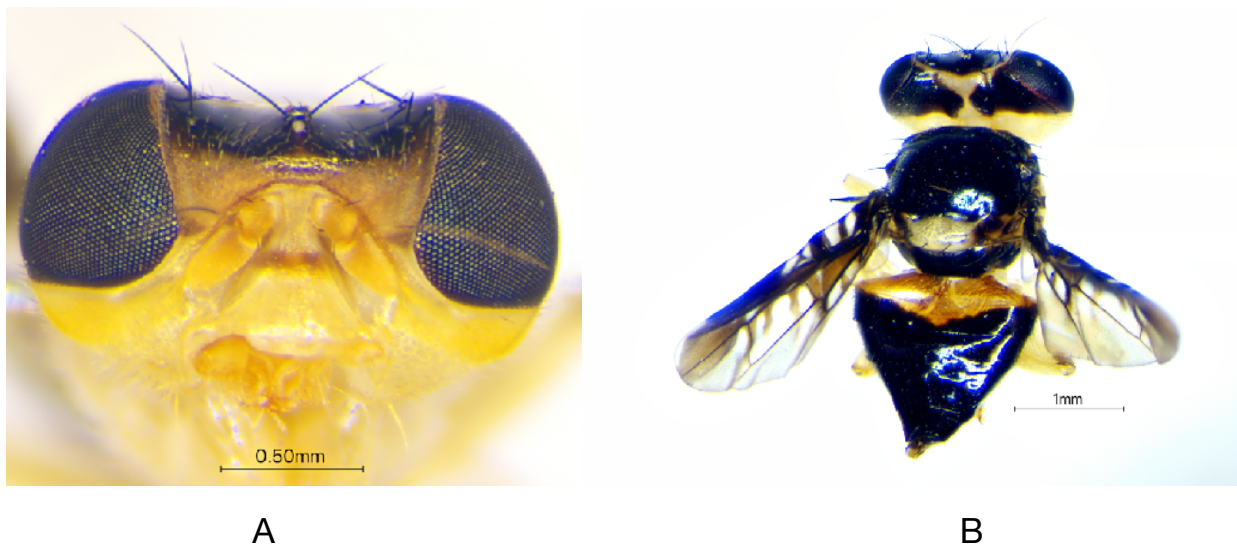


Figure 2. *Mesanopin morum* **sp.n.** (HT female, Togo, TAU). **A.** Head frontal view and **B.** oblique posterior view.

Thorax: anterior margin of notum and postpronotal lobes pale yellow, remainder of notum black-brown, slightly paler over notopleural callosity; scutellum pale yellow except dull black laterally and glossy black long scutoscutellar suture (Fig. 3); notum glossy and finely punctured by alveoli of setulae. Paired setae as follows: 1 postpronotal, 2 notopleural (posterior one of which is mounted on a callosity), 1 anepisternal, 1 supra-alar, 2 post-alar (posterior one of which is mounted on a small tubercle), 1 dorsocentral and 1 acrostichal (both adjacent to scutoscutellar suture), 1 basal scutellar,

1 lateral scutellar, 1 apical scutellar and 2 short setae at wing base (*b al s* in Fig. 2). *Legs*: Fore femur with 3 short pale yellow, brown tipped spines (distinctly shorter than the tibial width) in apical third of femur, a long spine centrally (longer than width of tibia) and a slightly shorter long spine sub-basally (equal to width of tibia) (Fig. 4A); mid-tibia with single apical spur slightly shorter than width of tibia at apex; mid-coxa with apical tuft of pale yellow setulae and legs throughout with short pale yellow setulae; each tarsomere of all legs with series of four ventral black setulae at apex (Fig. 4B). *Wing* (Fig. 1): costal vein continuing to M_1 ; cells *bc*, *c* and *sc* broader than length of *r-m*; *r-m* located beyond midway along *dm*; *dm* sub-rectangular, angled outwards to junction with *r-m*, longer than twice greatest width; vein R_{4+5} meeting costa before wing apex; M_1 curved anteriorly at base, meeting costa beyond wing apex; membrane patterned as in Fig. 1A, lacking a hyaline wedge in centre of cell *sc* (but having one at apex of *sc* where R_1 terminates); with 1+2+0+2+0+1 hyaline wedges along costal margin from wing base to apex; apical macula straddling apex of R_{4+5} and r_{4+5} having one large oval basal macula and one smaller round macula positioned nearly centrally, *br* with a sub-apical round macula intermediate in size between the two r_{4+5} maculae; *cua* with two hyaline marks and *dm* with three hyaline marks coming from posterior margin of wing; flexion line apparent as a hyaline streak through apex of *Sc*, across r_1 and then angled sharply through *br* and *bm* into m_4 where it forms a weak fold. Veins R_1 and R_{4+5} with evenly spaced black setulae along entire length dorsally. Haltere yellowish.

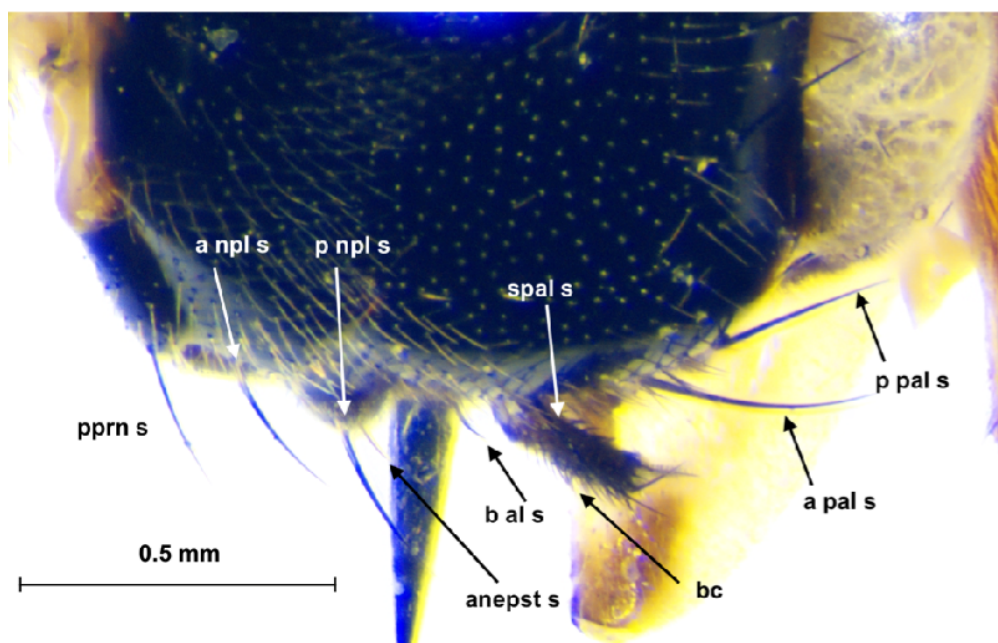


Figure 3. *Mesanopin morum* sp.n. (HT female, Togo, TAU). Major setae of the thorax, dorsal view with wing removed reveal postalar setae. Abbreviations: *anepst s* – anepisternal seta; *a npl s* – anterior notopleural seta; *a pal s* – anterior postalar seta; *b al s* – basal alar seta; *bc* – basicosta; *p npl s* – posterior notopleural seta; *p pal s* – posterior postalar seta; *pprn s* – postpronotal seta; *spal s* – supra-alar seta.

Abdomen: T_{1+2} and median anterior margin of T_3 glossy tan brown, remainder of abdomen glossy black with nearly imperceptible blue-violet metallic lustre (Fig. 2B), finely punctured by alveoli of black setulae (only apparent on posterior lateral margin of T_{1+2}). Sternites 1 -4 glossy tan brown, with pale yellowish setae; S_5 black. Ovipositor with apex of aculeus missing.

Material examined: **Togo**: 1♀ “97293. TOGO: / Kloto, Kouma / Konda, 620m / 06°57’N: 00°35’E / 20.i.2011 / G. KODJO”; “HOLOTYPE ♀ / *Mesanopin morum* / Whittington 2026” white card with red border (TAU). In good condition. Unfortunately, the specimen fell during preparation and the

forelegs are lost. The left wing and right midleg adhered to a card on the same pin and tip of aculeus missing.

Remarks: male unknown.

Distribution: *Mesanopin morum* sp.n. is known only from type locality in Togo.

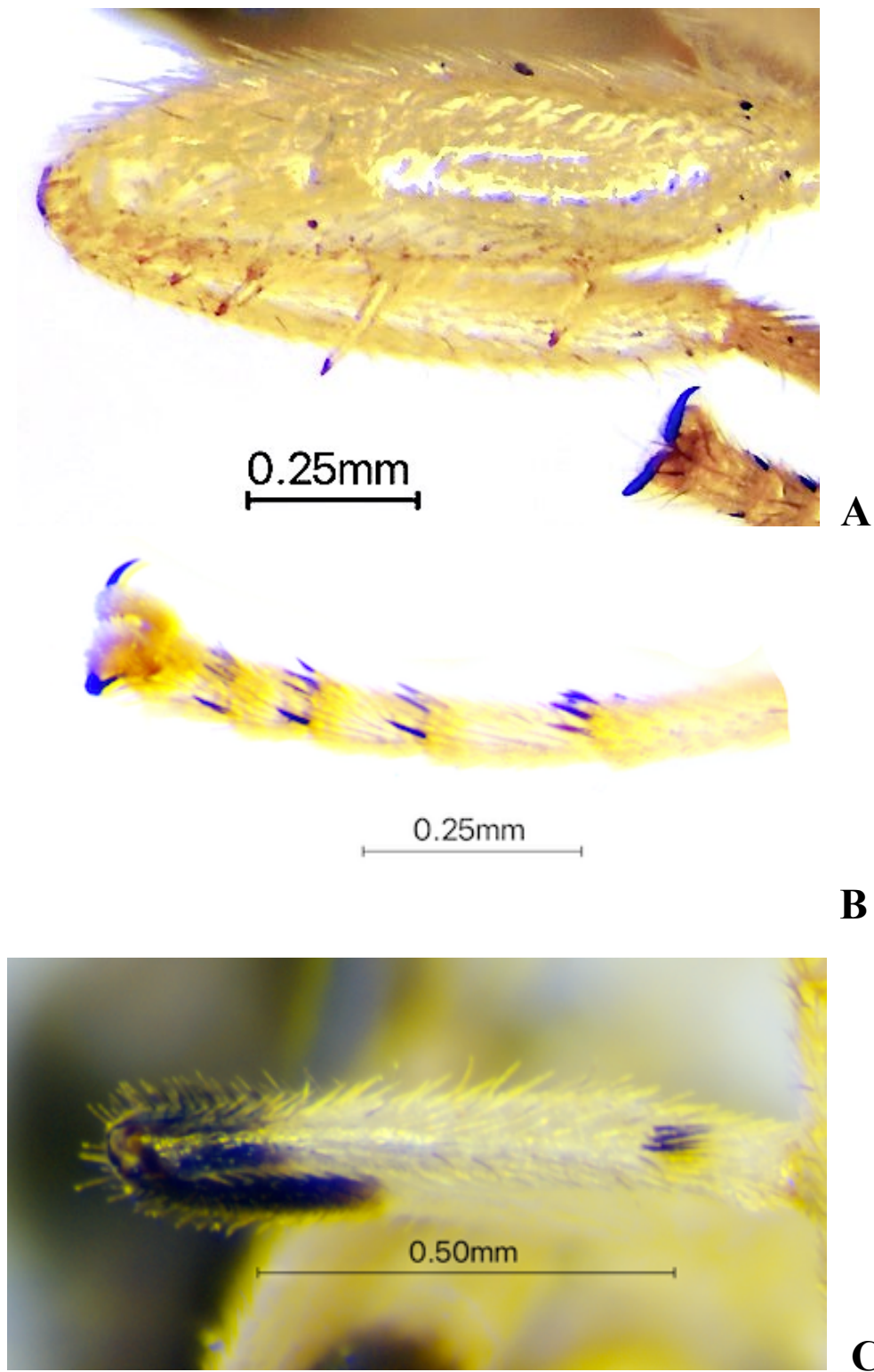


Figure 4. Detail of legs, **A** and **B** *Mesanopin morum* sp.n. (HT female, Togo, TAU); **C** *Venacalva virga* Whittington, 2003 (male, Togo, TAU). **A.** detail of left fore femur and ventral spines; **B.** ventral surface of mid- tarsus and terminal series of setae; **C.** male modification of hind tibia, arrow indicates dorsal comb of setae.

***Mesanopin palaga* Whittington, 2003**

Mesanopin palaga Whittington, 2003: 170 [description, key], figs. 402-412 & 687.

Material examined: **South Africa:** 1♂ KwaZulu-Natal, Westbrook, Poynton, 29°35'43"S 31°10'53"E, 29.ix.2019, P. Herbs, <https://www.inaturalist.org/observations/33598606>; 2♀ KwaZulu-Natal, Port Edward, Palm Beach, 30°59'10"S 30°16'26"E, 18.iv.2025, E. Geraghty, <https://www.inaturalist.org/observations/271266787> (GBIF 5134173038).

Remarks: there is no change to the known distribution of *M. palaga*, which appears to be endemic to the coastal forests of KwaZulu-Natal, South Africa. The photographs of this record are interesting because one of the two flies appears to be visiting a small faecal deposit on a leaf.

***Mesanopin tridens* Whittington, 2003**

Mesanopin tridens Whittington, 2003: 178 [description, key], figs. 425-434 & 687.

Material examined: **Malawi:** 3♀ Nyika National Park, Zovo-Chipolo Forest, 10°34'S 33°42'E, 2189m, 28-31.xii.2009, A. Freidberg & L. Friedman (TAU).

Remarks: there new locality in Malawi extends the known distribution of *M. tridens*, previously only known from Tanzania.

***Oeciotypa* Hendel, 1914**

Oeciotypa Hendel, 1914a: 131 [1914b: 11]. Type species: *Oeciotypa parallelomma* Hendel, 1914, by original designation. Frey 1932: 256 [discussion & key], 258 [discussion]; Steyskal 1980:564 [catalogue]; Whittington 2003: 184 [revision, key, description, illustrated].

A long series of *Oeciotypa hendeli* Lindner, 1957 recently examined from Kenya (CAS) have no black mark on the frons, but instead are either entirely pale or have a brown mark immediately above the ptilinal suture. They are, however, consistent in wing pattern and all other aspects of morphology with *O. hendeli*. Whittington (2003) noted variation in the colour of the frons, with one specimen entirely black (similar variation was also apparent in some specimens of *O. parallelomma* Hendel, 1914). It seems then that this character is prone to variation and less useful as a diagnostic character than previously thought. The key to species leaned heavily on the colour and markings of the frons, so it is consequently restructured below without this variable character and instead focuses on the wing patterns, which are distinctive.

Key to Afrotropical species of *Oeciotypa* Hendel, 1914

1. Wing pattern with subapical band (SAB - see Whittington 2003; fig 13) present as a complete band from anterior wing margin to (or near to) posterior wing margin (Whittington 2003; figs 451 & 463)..... **2**
- Wing pattern with subapical band (SAB) absent, at most fragmented as small marks at the position of this band at apex of r_1 and adjacent to veins R_{2+3} , R_{4+5} and sometimes M_1 (Whittington 2003; figs 455, 471 & 477)..... **3**
2. Wing pattern with subapical band (SAB) linked to discal (DB) and radial-medial (RMB) bands and continuing apically along costal margin to apex of r_{4+5} (Whittington 2003; fig. 463) resulting in a zig-zag pattern; costal cell brown beyond humeral crossvein; legs predominantly black (only apical tarsomeres buff) ***O. parallelomma* Hendel, 1914**
- Wing pattern with subapical band (SAB) not linked to any other band and not continuing around costa to form anterior apical band (Whittington 2003; fig. 451); hyaline band present in costal cell beyond humeral crossvein resulting in humeral (HB) and sub-humeral (SHB) brown bands; discal band (DB) with irregular outline along the basal and apical most edges, linked in cells *br*, *bm* and *cua* with brown basal marks; legs with bi-coloured tibiae of brown and buff markings, mid tibia mostly buff with basal and apical dark brown bands.....

- ***O. disjuncta* Whittington, 2003**
3. Crossvein *dm-m* with a distinct brown mark over the posterior half; discal band (DB) linked to radial-medial band (RMB) at the apex of R_1 ; discal band (DB) with irregular outline along the basal edge linked in cells *br*, *bm* and *cua* with brown basal marks; *bm* with a diagonal brown band across the distal third (Whittington 2003; fig. 455) ***O. hendeli* Lindner, 1957**
 - Crossvein *dm-m* either without a brown mark or discal band (DB) separate from radial-medial band (RMB), the latter small and restricted to apex of R_1 ; basal cells *br*, *bm* and *cua* with brown margins and entirely hyaline centres (Whittington 2003; figs 471 & 477) **4**
 4. Radial-medial band (RMB) restricted to apex of R_1 (Whittington 2003; fig. 471), sometimes extending faintly into r_1 ; subapical band (SAB) present at apex of R_{2+3} and as single small spot in r_{4+5} ; apex of wing clear, at most with faint shadow around apex of R_{4+5} ***O. rotundiventris* Frey, 1932**
 - Radial-medial band (RMB) at apex of R_1 extending across r_1 (Whittington 2003; 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} ; anterior apical band present as a distinct brown spot at apex of R_{4+5} **5**
 5. Black band on face narrow, tapering towards lower facial margin (Whittington 2003; fig. 474); legs predominantly pale buff with brown marks and bands; faint brown marks on wing membrane over crossveins *r-m* and *dm-m* (both seldom present).. ***O. skaia* Whittington, 2003**
 - Black band on face broad, widening towards lower facial margin (Whittington 2003; fig. 479); femora and hind tibia dark brown; distinct brown marks on wing membrane over crossveins *r-m* and *dm-m* ***O. splendens* Whittington, 2003**

***Oeciotypa hendeli* Lindner, 1957**

Oeciotypa hendeli Lindner, 1957: 32. Steyskal 1965: 172 [list]; Steyskal 1980: 564 [catalogue]; Whittington 2003: 189 [revision, key], figs. 445, 452-459 & 688.

Material examined: **Kenya:** 14♂ 10♀ Rift Valley Province, Marich Pass Field Studies Centre, 01°32.2'N 35°27.4'E, 6-7.vii.1999, W.J. Pulawski and J.S. Schweikert (CAS; 1♂ 1♀ AEWC); 1♂ 2♀ same data but 14.vi.1999 (CAS); 1♀ same data but 25-29.vii.1999 (CAS); 1♂ Ngurumani, 1°45'42"S 36°01'32"E, 29-30.iii.2013, A. Freidberg & R. Copland, malaise trap (TAU); **Malawi:** 1♂ 1♀ Liwonde, Shire River Bridge, 15°04'S 35°13'E, 502m, 10.i.2010, A. Freidberg (TAU: 68215 & 68216); **Angola:** 1♂ Luanda, Dundo, 07°22'48"S 20°50'06"E, 21.ix.1949, B. Malkin (CAS).

Remarks: a male and a female from Shire River in Malawi extend the known distribution of this species. The previously known distribution (Whittington 2003) included specimens from Democratic Republic of Congo, Kenya, Namibia, South Africa, Tanzania, Uganda and Zimbabwe. The newly seen material is consistent with this distribution, the new record for Angola being on the northern border with Democratic Republic of Congo.

***Oeciotypa parallelomma* Hendel, 1914**

Oeciotypa parallelomma Hendel, 1914b: 281. Speiser 1915: 99 [discussion]; Frey 1932: 258 [discussion]; Steyskal 1963: 133 (list); Steyskal 1980: 564 [catalogue]; Whittington 2003: 193 [revision, key], figs. 460-465 & 688.

Material examined: **Togo:** 1♀ Kloto, Mt. Agou, 06°51'N 00°45'E, 900m, 19.i.2011, A. Freidberg (TAU).

Remarks: the recent specimen does not alter the previously recorded West African distribution: Cameroon, Côte d'Ivoire, Ghana, Liberia, Nigeria & Togo.

***Plastotephritis* Enderlein, 1922**

Plastotephritis Enderlein, 1922: 6. 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]; Whittington 2003: 202 [revision, key, description, illustrated].

Blastotephritis Frey, 1932: 257 incorrect subsequent spelling of *Plastotephritis*.

***Plastotephritis compta* Enderlein, 1922**

Plastotephritis Enderlein, 1922: 6. 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]; Whittington 2003: 206 [revision, key], figs. 486-492 & 689.

Paralectotypes from the Syntype series: **Central African Republic:** 1♂ "Neu-Kamerun / No.261-271. [precise locality unknown] / Tessmann S.G" [printed on pale-blue card; numbers handwritten] (ZMHB). Stated by Whittington (2003) to be Cameroon, now known to be Central African Republic.

Paralectotypes from the Syntype series: **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; 1X Uelleburg, [01°49'0"N 10°41'0"E], vi-viii. [19]08, Teßmann S.G.

Remarks: the distribution of *Plastotephritis compta* Enderlein, 1922 changes from Cameroon and Equatorial Guinea to Central African Republic and Equatorial Guinea.

***Plastotephritis limbata* Enderlein, 1922**

Plastotephritis limbata Enderlein, 1922: 8. Frey 1932: 261 [key], pl. VIII, fig. 32 [wing]; Steyskal 1980: 565 [catalogue]; Whittington 2003: 209 [revision, key], figs. 483, 493-501 & 689.

Material examined: **Côte d'Ivoire:** 1♂ Man, Mt Tonkoui, 07°27'15"N 07°38'14"W, 1200m, 20-27.i.2019, Y. Braet & A. Gué, Malaise trap (AEWC).

Remarks: the recent specimen does not alter the previously recorded West African distribution: Côte d'Ivoire, Ghana & Togo.

***Plastotephritis patagiata* Enderlein, 1922**

Plastotephritis patagiata Enderlein, 1922: 7. Frey 1932: 262 [key], pl. VIII, fig. 33 [wing]; Steyskal 1980: 565 [catalogue]; Whittington 2003: 212 [revision, key], figs. 511-518 & 689.

Material examined: **Democratic Republic of Congo:** 1♀ Bomane forest, 20-25.v.2010, R. Emeleme & M. Virgilio, protein bait (AB40160899–Bom-F2-P2).

Remarks: this single female from Bomane forest closely correlates with the holotype and little variation was observed other than that already noted by Whittington (2003). This is the first record of *P. patagiata* for The Democratic Republic of Congo, expanding the known distribution, which was Cameroon, Côte d'Ivoire and Central African Republic.

***Plastotephritis sica* Whittington, 2003**

Plastotephritis sica Whittington, 2003: 215 [description, key], figs. 485, 519-526 & 689.

Material examined: **Democratic Republic of Congo:** 1♂ Bomane forest, 20-25.v.2010, R. Emeleme & M. Virgilio, 'cuelure' (AB40160888–Bom-F3-CL3); 2♀ Bomane village area, 20-24.v.2010, A.H. Kirk-Spriggs, lowland evergreen secondary forest, malaise trap (BECE-00096 & RBINS).

Remarks: these specimens from Bomane forest closely correlate with the holotype and little variation was observed other than that already noted by Whittington (2003). Bomane is consistent with the previously known Central African distribution: Cameroon, Democratic Republic of Congo and Gabon.

***Venacalva* Whittington, 2003**

Venacalva Whittington, 2003: 233. Type species: *Plastotephritis seriata* Enderlein, 1924, by original designation [illustrated].

***Venacalva virga* Whittington, 2003**

Venacalva virga Whittington, 2003: 242 [description, key], figs. 588-592 & 691.

Material examined: **Togo:** 2♂ Kloto, Kouma Konda, 06°57'N 00°35'E, 620m, 20.i.2011, G. Kodjo (TAU).

Remarks: these males (previously unknown) concur with the female holotype and bear a distinct comb of 5 setae subapically on the dorsal surface of the hind tibia (Fig. 4C). *Venacalva virga* is recorded only from Togo.

***Xyrogena* Whittington, 2003**

Xyrogena Whittington, 2003: 233. Type species: *Plastotephritis gratiosa* Enderlein, 1924, by original designation [illustrated].

The wing pattern of some species of *Xyrogena* are a mix of hyaline and brown, while other species are hyaline, brown and orange. In ethanol stored material the orange becomes diluted, making couplet 7 of the Whittington (2003) key extremely hard to interpret, especially in female specimens, because the only other character in that couplet refer to male hind tibia modification. This means that *X. hispida* Whittington, 2003 and *X. hypena* Whittington 2003 may be hard to distinguish from *X. flocca* Whittington, 2003, *X. grossa* Whittington, 2003 and *X. pannosa* (Enderlein, 1922). The following modified key is therefore proposed for all Afrotropical *Xyrogena*.

Key to Afrotropical species of *Xyrogena* Whittington, 2003

1. All tarsomeres on fore leg dark brown and setulae on front of fore tibia predominantly black; wing pattern indistinct toward apex of wing, creating a pale wing tip (Whittington 2003; fig. 620); scoop at apex of male hind tibia slightly kidney-shaped (Whittington 2003; figs. 618 & 619) ***X. gratiosa* (Enderlein, 1922)**
- At least first tarsomere of fore leg 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 male hind tibia different..... **2**
2. Katepisternum mostly dark brown; male hind tibia straight or wider at point three-quarters along length than at apex, without scoop-shaped modification (Whittington 2003; 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 (Whittington 2003; figs. 607, 634, 650 & 665) or otherwise modified (Whittington 2003; figs. 643 & 670)..... **4**
3. Scutellum pale yellow with distinct dark brown basal and baso-lateral margin (Whittington 2003; fig. 596); apex of hind tibia (in males and females) distinctly banded with dark brown (Whittington 2003; fig. 597); male hind tibia wider sub-apically than apically, with a longitudinal band of black setulae on outer side (Whittington 2003; 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* Whittington, 2003**
4. Wing membrane striped (Whittington 2003; figs. 604, 660 & 666) **5**
- Wing membrane maculate (Whittington 2003; figs. 608, 631, 635, 644, 651 & 671) **7**
5. Diagonal hyaline stripe across wing membrane curved in r_{4+5} toward posterior margin at apex of M_1 (Whittington 2003; fig. 604); dorsal posterior angle of katepisternum dark brown; palp broad (length less than three times width - Whittington 2003; fig. 602) (male unknown)

- ***X. camura* Whittington, 2003**
- Diagonal hyaline stripe 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} (Whittington 2003; figs. 660 & 666); katapisternum completely pale coloured; palp elongate (length = four times width) **6**
6. Diagonal hyaline stripe on wing membrane with uneven margin; one hyaline mark at the apex of each of R_1 and R_{4+5} (Whittington 2003; fig. 666); posterior margin of wing suffused with pale brown and indistinct pale brown to hyaline marks; small dark brown spot situated over anepimeral setulae; hind trochanter ventrally bulbous and densely setulose ventrally, with apical tuft of stiff setulae and apex of male hind tibia broadened and modified into shallow scoop (Whittington 2003; fig. 665) ***X. loxa* Whittington, 2003**
- Diagonal hyaline stripe on wing membrane with straight margin (Whittington 2003; fig. 660); one hyaline mark in r_{4+5} only and posterior margin of wing hyaline; anepimeral setulae completely pale yellowish; hind trochanter ventrally bulbous and densely setulose ventrally and apex of male hind tibiae not broadened and unmodified (Whittington 2003; fig. 659)
- ***X. linea* Whittington, 2003**
7. Subcostal cell (sc) entirely dark brown, lacking any hyaline mark basal of apex of R_1 (Whittington 2003; fig. 635), wing membrane tricoloured in pinned specimens; male hind tibia gradually expanding toward apex, scoop-shaped modification at apex approximately as wide as tibia (Whittington 2003; fig. 634) ***X. hispida* Whittington, 2003**
- Subcostal cell (sc) having a hyaline mark basal to apex of R_1 (Whittington 2003; figs. 608, 631, 644, 651 & 671); male hind tibia variously modified **8**
8. Wing pattern with a distinct hyaline spot either side of $r-m$ (Whittington 2003; figs. 608, 651 & 671) **9**
- Wing pattern lacking a distinct hyaline spot basal to $r-m$, while having a distinct hyaline spot distal to $r-m$ (Whittington 2003; figs. 631 & 644) **11**
9. Wing pattern with a single distinct hyaline spot adjacent to R_{4+5} (disregarding apical hyaline marks) (Whittington 2003; fig. 608); hind tibia of male swollen apically into distinct lobe that is moderately developed and not scooped (Whittington 2003; fig. 607).....
- ***X. flocca* Whittington, 2003**
- Wing pattern with at least two distinct hyaline spots (Whittington 2003; figs. 651 & 671) adjacent to R_{4+5} (disregarding apical hyaline marks), sometimes three present; apical modification of male hind tibia a broad scoop (Whittington 2003; fig. 650) or hind tibia distinctly and strongly bent with medial and apical swellings (Whittington 2003; fig. 670) . **10**
10. Hyaline spots of wing pattern generally large and dominant, wing membrane bi-coloured, with hyaline spot distal to $r-m$ large, round to trapezoid and larger of two apical spots in r_{4+5} touching apex of vein R_{4+5} (Whittington 2003; fig. 671); hind tibia of male distinctly and strongly bent, roughly zigzag-shaped as a result of medial and apical swellings (Whittington 2003; fig. 670) ***X. pannosa* (Enderlein, 1922)**
- Hyaline spots of wing pattern generally narrow and restricted in size resulting in background colour being more dominant than hyaline spots, wing membrane tricoloured (sometimes not apparent in alcohol stored specimens), with hyaline spot distal to $r-m$ small and triangular and larger of two apical spots in r_{4+5} not touching apex of vein R_{4+5} (Whittington 2003; fig. 671); apical modification of male hind tibia a broad scoop, approximately one and a half times as wide as tibia (Whittington 2003; fig. 650) ***X. ligula* Whittington, 2003**
11. Palp elongate, narrow (six times longer than wide) and having long black apical setulae (Whittington 2003; 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 (Whittington 2003; fig. 640) (sometimes not apparent in alcohol stored specimens); hind tibia of male medially slightly bent, a patch of dark brown setulae on outer surface from midway to apex (Whittington 2003; fig. 643) ***X. hypena* Whittington, 2003**

- Palp elongate, but broad (less than six times longer than wide) and having pale setulae at apex; gena unmarked; hind tibia of male apically expanded but not scooped or otherwise modified ***X. grossa* Whittington, 2003**

***Xyrogena campiglossoides* (Frey, 1932)**

Plastotephritis campiglossoides Frey, 1932: 262, pl. VIII, fig. 37, [description & key]. Steyskal 1980: 565 [catalogue].

Xyrogena campiglossoides: Whittington 2003: 248 [revision, key], figs. 593-600 & 692.

Material examined: Democratic Republic of Congo: 3♂ 2♀ Mwenge forest, 11-14.v.2010, M. Virgilio, protein bait (1♂ AB40159456–Mwe_F3_TM3, 1♀ AB40222475–Mwe_F2_pl1 and 1♀ AB40222493–Mwe_F3_pl3) and 11-17.v.2010, M. Virgilio, 'cuelure' (1♂ AB40160992–Mwe_F3_CL1, 1♂ AB40161023–Mwe_F3_ME3); 1♂ Mwenge village, 1-5.v.2010, M. Virgilio, 'cuelure' (AB40154205–M3_CL_1).

Remarks: this short series from The Democratic Republic of Congo closely correlates with the holotype and little variation was observed other than that already noted by Whittington (2003). The new localities fall within the known distribution for this species, being West and Central Africa: Cameroon, Democratic Republic of Congo, Ghana and Nigeria.

***Xyrogena gratiosa* (Enderlein, 1922)**

Plastotephritis gratiosa Enderlein, 1922: 9. Steyskal 1965: 172 [list], fig. 4 [wing]; Steyskal 1980:565 [catalogue].

Xyrogena gratiosa: Whittington 2003: 255 [revision, key], figs. 613-627 & 692.

Material examined: Democratic Republic of Congo: 1♀ Mwenge forest, 11-17.v.2010, M. Virgilio, 'cuelure' (AB40161010–Mwe_F3_CL1); 1♀ Bomane forest, 20-25.v.2010, R. Emeleme & M. Virgilio, 'cuelure' (1♀ AB40159341–Bom-F1-CL3); 1♂ 1♀ Yafira Forest, 29.v.-3.vi.2010, M. Virgilio, 'cuelure' (1♂ AB40160848–Yaf-F1-TM1, 1♀ AB40160874–Yaf-F1-CL2); 1♀ Yafira Forest, 29-31.v.2010, A.H. Kirk-Spriggs, secondary lowland evergreen forest, malaise trap (BECE-03254 & BMSA).

Remarks: one of the female specimens (AB40159341) from Bomane forest shows the following variation: hyaline spots are pale ochre and indistinctly differentiated, a pale orange mark exists over the base of the radial sector and *r-m*. The new localities fall within the known distribution for this species, being West and Central Africa: Cameroon, Central African Republic, Democratic Republic of Congo, Ghana, Liberia and Sierra Leone.

***Xyrogena ligula* Whittington, 2003**

Xyrogena ligula Whittington, 2003: 264 [description, key], figs. 648-655 & 692.

Material examined: Democratic Republic of Congo: 1♀ Bomane forest, 20-25.v.2010, R. Emeleme & M. Virgilio, protein bait (AB40159338–Bom-F2-P3) .

Remarks: this single female from Bomane forest closely correlates with the holotype and little variation was observed other than that already noted by Whittington (2003). The additional locality provides the most northerly location within The Democratic Republic of Congo, but alters the known distribution little, as *X. ligula* is known only from The Democratic Republic of Congo.

***Xyrogena pannosa* (Enderlein, 1922)**

Plastotephritis pannosa Enderlein, 1922: 9. Steyskal 1965: 172 [list], fig. 4 [wing]; Steyskal 1980: 565 [catalogue].

Xyrogena pannosa: Whittington 2003: 207 [revision, key], figs. 670-673 & 692.

Material examined: Democratic Republic of Congo: 1♂ 4♀ Bomane forest, 20-25.v.2010, R. Emeleme & M. Virgilio, 'cuelure' (1♀ AB40160905–Bom-F3-CL1, 1♀ AB40160887–Bom-F3-

CL20 & protein bait (1♂ AB40160925–Bom-F2-P2, 2♀ AB40160926–Bom-F3-TM1); 1♀ Mwenge village, 5-6.v.2010, M. Virgilio, protein bait (AB40159529–M3_TM_3).

Remarks: this short series agrees with the description in Whittington (2003) and the additional localities provide a considerable extension of the distribution of *X. pannosa* to include Democratic Republic of Congo, Equatorial Guinea and Nigeria.

DISCUSSION

Collected specimens of Plastotephritinae remain infrequent, despite several recent field trips to key biotypes, using trapping and focused collecting. Since the last revision (Whittington 2003) little new data have been recorded and we still know nothing of the immature stages. The preferred habitat tends toward dense vegetation in forest environments and riverine boundaries, where collecting is difficult and where individual specimens can be easily overlooked. The use of baits and pheromone traps has resulted in an increase in captures, but specimens arising from field collecting remain in low numbers relative to other families of flies, suggesting that the apparent rareness of these species is a natural phenomenon rather than a collecting artefact. The material examined does however improve our understanding of distribution, adding to previously quite restricted ranges in some species. Previous materials examined demonstrated that a male-female pair of *Atopocnema manicatifrons* collected in the Republic of the Gambia from outside Abuko Nature Reserve at waterworks at Lamin Stream (13°23'N 16°39'W), between 25-26 February 1977 by Cederholm, Danielsson, Larsson, Mireström, Norling & Samuelsson (Loc. No. 6 UTM 28PCK215812; MZLU) is the northern-most known location where Afrotropical Plastotephritinae have been collected, while a male specimen of *Mesanopin palaga* from Port St John (31°37'S 29°33'E), collected by R.E. Turner between 10-31 July 1923 (NHMUK) is the southern-most specimen known. Despite this wide range across Sub-saharan Africa, the subfamily has a mainly West-Central African distribution, with a small number of species occurring in East and Southern Africa, and nearly all from forested locations.

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