



# Biting midges of Egypt (Diptera: Ceratopogonidae)

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## Abstract

## Background

This study is one in a series of planned studies on different Egyptian dipteran taxa aiming to catalogue the whole order in Egypt.

## New information

All known Egyptian taxa of the family Ceratopogonidae (biting midges) are systematically catalogued. A total number of 64 species belonging to 11 genera, four tribes and four subfamilies has been treated. Data for this study have been compiled from both available literature and specimens collected from different Egyptian localities by the authors. An updated classification, synonymies, type localities, world distributions by biogeographic realm(s) and country, Egyptian localities and dates of collection are provided comprising some new locality records. The study treats all previous inaccuracies in the classification of the family in Egypt.

## Keywords

Checklist, geographical distribution, Egyptian localities, dates of collection.

## Introduction

Ceratopogonidae is an extremely diverse family of small nematoceros flies (usually less than 3 mm) commonly known as biting midges, with some 130 recognised genera and almost 6,300 extant species distributed worldwide (Pape et al. 2011, Borkent 2016). The family includes also numerous fossils from the Lower Cretaceous to the Miocene, with over 280 species representing 49 genera (26 extant and 23 extinct) (Szadziewski 2018).

The females of most ceratopogonid species are blood-suckers of vertebrates, particularly along sea shores, rivers, lakes and mangrove swamps. Members of the genera *Culicoides* Latreille and *Leptoconops* Skuse are the best known to suck the blood of vertebrate animals, including humans, to get protein for egg-laying. *Culicoides* is the most important ever, as many species of which are implicated in the spread of pathogens and parasites to man and other animals. However, although members of the genus *Leptoconops* are not known to be involved in the spread of disease, they are important biting pests as their bites are painful and reactions to them last for several days in sensitive people (Linley and Davies 1971, Downes 1978). Identification of the vector and information on the major vector species are important steps in the epidemiology of vector-borne diseases. This will give a clearer indication of the geographic distribution of the disease or its potential distribution (Rawlings 1996). Some species of the genus *Forcipomyia* Meigen are nectar-feeders and are of great economic importance as pollinators of tropical crop plants (Downes 1978, Wilkening et al. 1985).

Ceratopogonid adults can be distinguished by their wings: wing with hind margin with simple setulae, with eight or fewer longitudinal veins reaching margin, vein  $M_{1+2}$  usually forked, vein  $R_{2+3}$  straight or virtually so (arrowed) not arched and basal medial cross-vein absent (Kirk-Spriggs and Sinclair 2017). The larvae of *Culicoides* are slender and nematode-like, without appendages and are usually whitish with occasional thoracic pigment patterns. They are aquatic and swim with a characteristic eel-like motion. The larvae of *Leptoconops* are semi-aquatic. In contrast, the terrestrial larvae of *Forcipomyia* subgenus *Lasiohelea* are found in sandy soil, under rotting bark or in damp moss. The pupae are usually hidden in litter or mud, amongst floating vegetation or, in the case of *Lasiohelea*, under moss or rotting bark. Those of *Leptoconops* species found on beaches occur in the sand at or near the high-water mark (Boorman 1993).

In Egypt, biting midges constitute a major threat to the tourism industry, especially at recreational beaches and in the resort areas of Southern Sinai, the North Coast and the Red Sea shores (Ghonaim et al. 2001b). This catalogue will hopefully be a base for future studies on monitoring of Egyptian biting midges as well as increasing the knowledge of their geographic range (Rawlings 1996).

Some previous studies have been carried out to study the Egyptian fauna of biting midges, including: Becker (1903), Kieffer (1908), Kieffer (1925c), Macfie (1924), Macfie (1943), Macfie (1944), Nagaty and Morsy (1959a), Nagaty and Morsy (1959b), Nagaty and Morsy (1960a), Nagaty and Morsy (1960b), Morsy (1961), Steyskal and El-Bialy (1967), Abdel-Samei (1974), Eesa (1975), Morsy et al. (1989), Braverman et al. (1981), Ahmed (1991),

Ghonaim (1997), Ghonaim et al. (2001a). From our viewpoint, Kieffer (1925c) and Macfie (1943), in particular, were the most comprehensive studies. Kieffer (1925c) collected 22 ceratopogonid species from different localities in the Coastal Strip, Eastern Desert, Lower Nile Valley & Delta and Upper Nile Valley. He collected these species abundantly from the Coastal Strip and Eastern Desert in April and from Lower Nile Valley & Delta and Upper Nile Valley in October and November. On the other hand, Macfie (1943) collected 23 different ceratopogonid species from Moascar, near Ismailia (Eastern Desert). He collected most of these species in the evening on windows in February, as they were fairly numerous, in March and April, as they were abundant, but in May they again became fewer and, by the middle of that month, were scarce or had entirely vanished. Macfie observed that they were particularly abundant after dust storms, as if they had sought shelter in buildings from the hot, dry, dust-laden wind.

Ghonaim et al. (2001b) summarised all previous studies and presented a checklist of all Egyptian Ceratopogonidae; however, they wrongly listed *Alluaudomyia vudu* De Meillon and Hardy, 1954, *Culicoides arenarius* Edwards, 1922, *Culicoides inornatipennis* Carter, Ingram & Macfie, 1920 and *Dasyhelea inconspicua* Carter, Ingram and Macfie, 1921 as recorded from Egypt by Macfie (1943). In fact, Macfie (1943) did not record any of these species from Egypt and this confusion might result from a misconception of the application of the term variety used by Macfie or a misinterpretation of some of his discussions. In addition, the list of Ghonaim et al. (2001b) included an inaccuracy for the application of the term *Nomen dubium* for the species *Atrichopogon isis* Kieffer, *Culicoides arenarius* Edwards, *Dasyhelea egypti* Macfie, *Dasyhelea heliophila* Macfie and *Dasyhelea inconspicua* Carter, Ingram and Macfie.

In the present study, a total of 64 species belonging to 11 genera, four tribes and four subfamilies has been catalogued (Table 1) and all previous inaccuracies are treated.

Table 1.

Taxa treated in the catalogue.

Subfamily	Tribes	Genera	Species
Leptoconopinae	—	1	3
Forcipomyiinae	—	2	13
Dasyheleinae	—	1	10
Ceratopogoninae	4	7	38
<b>Total</b>	<b>4</b>	<b>11</b>	<b>64</b>

This study is one in a series of planned studies on different Egyptian dipteran taxa aiming to catalogue the whole order in Egypt (EL-Hawagry 2015, El-Hawagry 2017, El-Hawagry 2018, El-Hawagry et al. 2018, El-Hawagry and El-Azab 2019, El-Hawagry et al. 2019, El-Hawagry and Gilbert 2019).

## Materials and methods

**Data sources.** The present catalogue is based mainly on data obtained from previous studies on the Egyptian Ceratopogonidae (all treated species have been recorded in previous studies), in addition to specimens collected by the author and his co-workers from different Egyptian localities using light traps (only 8 species: *Atrichopogon homoius* Ingram and Macfie, *Atrichopogon luteicollis* (Becker), *Forcipomyia psilonota* (Kieffer), *Forcipomyia fuliginosa* (Meigen), *Culicoides circumscriptus* Kieffer, *Culicoides distinctipennis* Austen, *Culicoides puncticollis* (Becker) and *Culicoides schultzei* (Enderlein)). A great deal of information, including synonymies (particularly Old World synonyms) and distributional data has been obtained from relevant literature and website databases as well. These sources are listed in the following subsections.

**Study area.** Egypt, the study area, is a part of the Great Desert Belt, it is characterised by a warm and almost rainless climate and it is one of the driest countries in the world (FAO 2012, Nasser et al. 2019). It is divided into eight ecological zones: the Coastal Strip, Lower Nile Valley & Delta, Upper Nile Valley, Fayoum, Eastern Desert, Western Desert, Sinai and Gebel Elba (Fig. 1). The fauna of all but one of these zones is mostly affiliated to the Palaearctic Region, but that of Gebel Elba, the south-eastern triangle of Egypt, has a greater affiliation to the Afrotropical Region (El-Hawagry and Gilbert 2014, El-Hawagry et al. 2020).

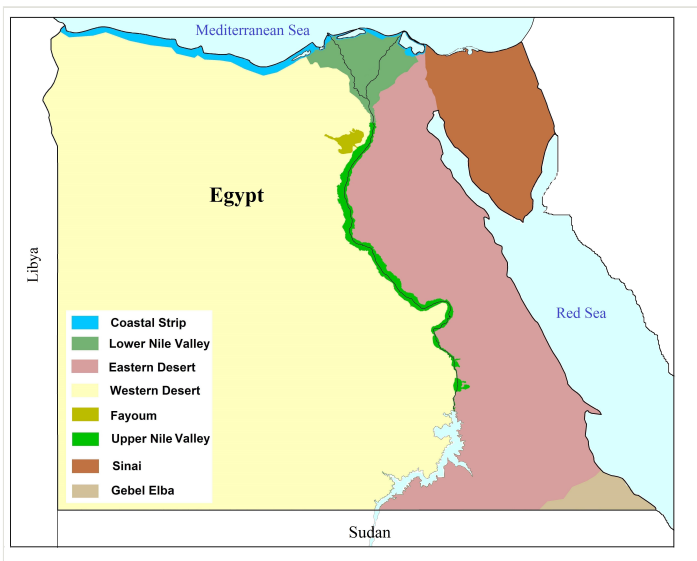


Figure 1. [doi](#)

Map of Egypt showing the ecological zones

**Classification and arrangement of taxa.** The current classification and arrangement of taxa of the family Ceratopogonidae basically follows that used in the world catalogues (Borkent 2016, Borkent and Wirth 1997), in which the family is divided into four subfamilies: Leptoconopinae, Forcipomyiinae, Dasyheleinae and Ceratopogoninae. The Ceratopogoninae is the largest Egyptian subfamily, including four tribes in Egypt, namely Culicoidini, Ceratopogonini, Johannsenomyiini and Palpomyiini.

**World distribution.** Data on world distribution are mainly according to Remm (1988), *Systema Dipteroorum* (<http://sd.zoobank.org>), Filatov and Szadziewski (2017), Dominiak and Szadziewski (2010), Alwin-Kownacka et al. (2016) and Alwin-Kownacka et al. (2017).

**Local distribution (Egyptian localities) and dates of collection.** The distributional data and dates of collection that are known so far in the different ecological zones of Egypt are given. Localities within each ecological zone are arranged alphabetically and written after a colon following the ecological zone, for example, "Lower Nile Valley & Delta: El-Qanatir, El-Mansoura, Marsafa".

The basic sources for this part of the catalogue are data from some specimens collected from different Egyptian localities by the authors, in addition to literature records from previous studies on the Egyptian fauna of biting midges, including: Becker (1903), Kieffer (1908), Kieffer (1925c), Macfie (1924), Macfie (1943), Macfie (1944), Nagaty and Morsy (1959a), Nagaty and Morsy (1959b), Nagaty and Morsy (1960a), Nagaty and Morsy (1960b), Morsy (1961), Steyskal and El-Bialy (1967), Abdel-Samei (1974), Eesa (1975), Morsy et al. (1989), Braverman et al. (1981), Ahmed (1991), Ghonaim (1997), Ghonaim et al. (2001a). If the Egyptian localities or dates of collection of adult were not known, the term "Unknown" is used.

Abbreviations used:

- AF, Afrotropical
- AU, Australasian
- ICZN, The International Commission of Zoological Nomenclature
- Is., Islands
- N., North
- NE, Nearctic
- NT, Neotropical
- OR, Oriental
- PA, Palaearctic
- S., South
- St., Saint
- USA, United States of America
- var., variety

## Catalogue of the Ceratopogonidae of Egypt

### Subfamily LEPTOCONOPINAE

#### Genus *Leptoconops* Skuse, 1889

- GBIF <https://www.gbif.org/species/1633120>

##### Nomenclature:

***Leptoconops*** Skuse, 1889 [Skuse 1889: 288]. Type species: *Leptoconops stygius* Skuse, by monotypy.

*Mycterotypus* Noè, 1905 [Noè 1905: 114]. Type species: *Mycterotypus bezzii* Noè, by designation of Carter (1921).

*Protersesthes* Kieffer, 1921 [*Kieffer 1921b*: 107]. Type species: *Tersesthes brasiliensis* Lutz, by original designation.

*Tersesthes* Townsend, 1893 [*Townsend 1893*: 370]. Type species: *Tersesthes torrens* Townsend, by original designation.

*Schizoconops* Kieffer, 1918 [*Kieffer 1918a*: 135]. Type species: *Schizoconops indicus* Kieffer, by monotypy.

#### Subgenus *Holoconops* Kieffer, 1918

##### Nomenclature:

***Holoconops*** Kieffer, 1918 [*Kieffer 1918a*]: 135. Type species: *Leptoconops kerteszi* Kieffer, by original designation.

*Microconops* Kieffer, 1921 [*Kieffer 1921b*: 108]. Type species: *Microconops vexans* Kieffer, by original designation.

#### *Leptoconops (Holoconops) kerteszi* Kieffer, 1908

##### Nomenclature:

*Leptoconops kerteszi* Kieffer, 1908 [*Kieffer 1908*: 576]. Type locality: Egypt (Cairo).

**Distribution:** PA: Egypt.

Local distribution in Egypt: Eastern Desert: Ismailia (Gebel Maryiam, Moaskar). Lower Nile Valley & Delta: Cairo. Sinai: Bir El-Abd. Western Desert: Saqqara, Wadi El-Natroun.

Dates of collection in Egypt: December to July.

***Leptoconops (Holoconops) macfieii* Clastrier, 1975****Nomenclature:**

*Leptoconops macfieii* Clastrier, 1975 [Clastrier 1975: 28]. Type locality: Egypt (Ismailia).

**Distribution:** AF: Sudan, Yemen (Kamaran Is.). PA: Egypt.

Local distribution in Egypt: Eastern Desert: Ismailia (Gebel Maryiam, Moaskar). Sinai: Bir El-Abd.

Dates of collection in Egypt: January to April.

***Leptoconops (Holoconops) transversalis* (Kieffer, 1921)****Nomenclature:**

*Holoconops transversalis* Kieffer, 1921 [Kieffer 1921b: 112]. Type locality: Tunisia.

**Distribution:** PA: ?Egypt, Tunisia.

Local distribution in Egypt: Unknown.

Dates of collection in Egypt: Unknown.

**Notes:** ?- This species was listed as recorded from Egypt by Steyskal & El-Bialy (1967), but no specimens or published records have been found

**Subfamily FORCIPOMYIINAE****Genus *Atrichopogon* Kieffer, 1906**

- GBIF <https://www.gbif.org/species/1636637>

**Nomenclature:**

***Atrichopogon*** Kieffer, 1906 [Kieffer 1906: 53]. Type species: *Ceratopogon exilis* Coquillett, by subsequent designation of Coquillett (1910).

*Kempia* Kieffer, 1913 [Kieffer 1913c: 162, 179]. Type species: *Dasyhelea calcuttensis* Kieffer, by subsequent designation of Wirth (1952).

*Gymnohelea* Kieffer, 1921 [Kieffer 1921b: 115]. Type species: *Kempia longiserrus* Kieffer, by subsequent designation of Wirth (1973).

*Dolichohelea* Edwards, 1929 [Edwards 1929: 8]. Type species: *Dolichohelea polita* Edwards, by monotypy.

*Lophomyidium* Cordero, 1929 [Cordero 1929: 94]. Type species: *Lophomyidium uruguayense* Cordero, by original designation.

*Psilokempia* Enderlein, 1936 [Enderlein 1936: 49]. Type species: *Kempia appendiculata* Goetghebuer, by monotypy.

*Meloehalea* Wirth, 1956 [Wirth 1956: 16]. Type species: *Atrichopogon meloesugans* Kieffer.

*Psammopogon* Remm, 1979 [Remm 1979: 57]. Type species: *Atrichopogon trifasciata* Kieffer, by original designation.

*Rostropogon* Remm, 1979 [Remm 1979: 57]. Type species: *Ceratopogon rostratus* Winnertz, by original designation.

*Impensukempia* Yu, 2001 [Liu et al. 2001: 47]. Type species: *Atrichopogon impensus* Yu and Yan, by original designation.

*Bessamyia* Yu, Liu, Liu, Liu, Hao, Yan and Zhao, 2005 [Yu et al. 2005: 355]. Type species: *Atrichopogon besa* Yu and Yan, by original designation.

### ***Atrichopogon callipotami* Macfie, 1924**

**Nomenclature:**

*Atrichopogon callipotami* Macfie, 1924 [Macfie 1924: 65]. Type locality: Egypt (Nile at Cairo).

**Distribution:** PA: Egypt.

Local distribution in Egypt: Lower Nile Valley & Delta: Cairo.

Dates of collection in Egypt: December.

### ***Atrichopogon flavitarsatus* (Becker, 1903)**

**Nomenclature:**

*Ceratopogon flavitarsatus* Becker, 1903 [Becker 1903: 74]. Type locality: Egypt (Luxor).

*Atrichopogon flavitarsatus*: Szadziewski, 1984 [Szadziewski 1984: 187].

**Distribution:** PA: Egypt, Spain.

Local distribution in Egypt: Upper Nile Valley: Luxor.

Dates of collection in Egypt: December.

### ***Atrichopogon homoius* Ingram and Macfie, 1921**

**Nomenclature:**

*Atrichopogon homoius* Ingram & Macfie, 1921 [Ingram and Macfie 1921: 338]. Type locality: Ghana.

*Atrichopogon alferii* Kieffer, 1925 [Kieffer 1925c: 249]. Type locality: Egypt.



**Material**

- a. scientificName: *Atrichopogon homoius* Ingram and Macfie, 1921; kingdom: Animalia; phylum: Arthropoda; class: Insecta; order: Diptera; family: Ceratopogonidae; continent: Africa; country: Egypt; stateProvince: Giza; locality: El-Hager; samplingProtocol: light trap; eventDate: 15 Aug 1996; sex: male; lifeStage: adult; recordNumber: 1; disposition: personalcollection of El-Hawagry

**Distribution:** AF: Ghana. PA: Egypt.

Local distribution in Egypt: Lower Nile Valley & Delta: Ayiat, El-Hager (Mansheyet El-Qanatir), El-Qanatir, El-Badrasheen, Maadi. Upper Nile Valley: Assiout, Asswan, Beni Hassan, Dendera, Girga.

Dates of collection in Egypt: August to December.

***Atrichopogon isis* Kieffer, 1925****Nomenclature:**

*Atrichopogon isis* Kieffer, 1925 [Kieffer 1925c: 252]. Type locality: Egypt (Maadi).

**Distribution:** PA: Egypt.

Local distribution in Egypt: Lower Nile Valley & Delta: Maadi (at border of the Nile).

Dates of collection in Egypt: October.

**Notes:** Alwin-Kownacka et al. (2016) treated this species as a nomen dubium because it is poorly described and types most probably not preserved.

***Atrichopogon luteicollis* (Becker, 1903)****Nomenclature:**

*Ceratopogon luteicollis* Becker, 1903 [Becker 1903: 74]. Type locality: Egypt (Asswan).

*Ceratopogon flavoscutellatus* Becker, 1908 [Becker 1908: 74] (preoccupied by *Dasyhelea flavoscutellata* (Zetterstedt 1850). Type locality: Canary Islands (Spain).

*Atrichopogon atriscapula*: Macfie 1924 [Macfie 1924: 63], (= *Atrichopogon atriscapulus* Kieffer, 1918), nec Kieffer 1918b: 45.

*Atrichopogon aegyptius* Kieffer, 1925 [Kieffer 1925c: 250]. Type locality: Egypt.

*Atrichopogon phrixus* de Meillon, 1943 [De Meillon 1943: 105]. Type locality: South Africa.

*Atrichopogon sanani* Boorman & van Harten, 2002 [Boorman and van Harten 2002: 434]. Type locality: Yemen.

## Material

- a. scientificName: *Atrichopogon luteicollis* (Becker, 1903); kingdom: Animalia; phylum: Arthropoda; class: Insecta; order: Diptera; family: Ceratopogonidae; continent: Africa; country: Egypt; stateProvince: Giza; locality: El-Hager; eventDate: 15 Aug 1996; individualCount: 1; sex: male; lifeStage: adult; disposition: personal collection of El-Hawagry

**Distribution:** AF: South Africa, Sudan, Yemen. PA: Algeria, Canary Islands, Egypt, Israel, Spain.

Local distribution in Egypt: Fayoum: Shakshook. Lower Nile Valley & Delta: Cairo, El-Hager (Mansheyet El-Qanatir), Maadi (at border of the Nile). Upper Nile Valley: Asswan, Beni Hassan, Dendera, Edfu, Girga, Luxor. El Sammaneen (Luxor). Western Desert: El-Bustan.

Dates of collection in Egypt: August to December.

## *Atrichopogon osiris* Kieffer, 1925

### Nomenclature:

*Atrichopogon osiris* Kieffer, 1925 [Kieffer 1925c: 250]. Type locality: Egypt (Maadi).

**Distribution:** PA: Egypt.

Local distribution in Egypt: Lower Nile Valley & Delta: Maadi.

Dates of collection in Egypt: October.

**Notes:** Alwin-Kownacka et al. (2016) treated this species as a *nomen dubium* because it is poorly described and types most probably not preserved

## Genus *Forcipomyia* Meigen, 1818

- GBIF <https://www.gbif.org/species/1633624>

### Nomenclature:

***Forcipomyia*** Meigen, 1818 [Meigen 1818: 73, 75]. Type species: *Tipula bipunctata* Linnaeus, by subsequent designation of Westwood (1840).

*Labidomyia* Stephens, 1829 [Stephens 1829a: 52 (1829b: 239)]. Type species: *Tipula bipunctata* Linnaeus, by subsequent designation of Westwood (1840).

*Tetrphora* Philippi, 1865 [Philippi 1865: 630]. Type species: *Tetrphora fusca* Philippi, by monotypy.

*Prohelea* Kieffer, 1911 [Kieffer 1911a: 319]. Type species: *Ceratopogon decipiens* Kieffer, by subsequent designation of Brunetti (1920).

**Subgenus *Euprojoannisia* Brèthes, 1914****Nomenclature:**

***Euprojoannisia*** Brèthes, 1914 [Brèthes 1914: 155]. Type species: *Euprojoannisia platensis* Brèthes, by original designation.

*Euforcipomyia* Malloch, 1915 [Malloch 1915b: 312]. Type species: *Euforcipomyia hirtipennis* Malloch (= *Ceratopogon palustris* Meigen), by original designation.

*Cryptoscena* Enderlein, 1936 [Enderlein 1936: 51]. Type species: *Ceratopogon palustris* Meigen, by monotypy.

*Proforcipomyia* Saunders, 1957 [Saunders 1957: 662]. Type species: *Forcipomyia wirthi* Saunders, by original designation.

***Forcipomyia (Euprojoannisia) psilonota* (Kieffer, 1911)****Nomenclature:**

*Ceratopogon psilonota* Kieffer, 1911 [Kieffer 1911b: 337]. Type locality: Seychelles.

*Ceratopogon aplonota* Kieffer, 1911 [Kieffer 1911b: 337]. Type locality: Seychelles.

*Ceratopogon seychelleana* Kieffer, 1911 [Kieffer 1911b: 338]. Type locality: Seychelles.

*Ceratopogon seychelleana* var. *fulvithorax* Kieffer, 1911 [Kieffer 1911b: 338]. Type locality: Seychelles.

*Forcipomyia indecora* Kieffer, 1914 [Kieffer 1914b: 269]. Type locality: South Africa.

*Forcipomyia litoralis* Santos Abreu, 1918 [Santos Abreu 1918: 277]. Type locality: Canary Islands (Spain).

*Forcipomyia ingrami* Carter, 1919 [Carter 1919: 290]. Type locality: Ghana.

*Forcipomyia egypti* Macfie, 1924 [Macfie 1924: 61]. Type locality: Egypt (Nile near Ayiat).

*Forcipomyia hathor* Kieffer, 1925 [Kieffer 1925c: 247]. Type locality: Egypt (Maadi).

*Forcipomyia conogensis* Goetghebuer, 1933 [Goetghebuer 1933b: 132]. Type locality: Democratic Republic of the Congo.

*Forcipomyia flavipilosella* Goetghebuer, 1933 [Goetghebuer 1933b: 130]. Type locality: Democratic Republic of the Congo.

*Forcipomyia lulengaensis* Goetghebuer, 1935 [Goetghebuer 1935: 155]. Type locality: Democratic Republic of the Congo.

*Forcipomyia superata* Goetghebuer, 1935 [Goetghebuer 1935: 160]. Type locality: Democratic Republic of the Congo.

*Forcipomyia griseipluma* Goetghebuer, 1935 [Goetghebuer 1935: 154]. Type locality: Democratic Republic of the Congo.

*Forcipomyia griseolella* Goetghebuer, 1948 [Goetghebuer 1948: 7]. Type locality: Democratic Republic of the Congo.

#### Material

- a. scientificName: *Forcipomyia psilonota* (Kieffer, 1911); kingdom: Animalia; phylum: Arthropoda; class: Insecta; order: Diptera; family: Ceratopogonidae; continent: Africa; country: Egypt; stateProvince: Asswan; locality: Asswan; samplingProtocol: light trap; eventDate: 17 Dec 1998; individualCount: 2; sex: female; lifeStage: adult; disposition: personal collection of El-Hawagry

**Distribution:** AF: Widely distributed. PA: Algeria, Andorra, Azores, Bahrain, Canary Is., Egypt, Israel, Spain.

Local distribution in Egypt: Eastern Desert: Ismailia (Moaskar). Lower Nile Valley & Delta: Ayiat, El-Qanatir, Maadi. Upper Nile Valley: Asswan, Benni Hassan. Western Desert: El-Bustan.

Dates of collection in Egypt: August to December.

### Subgenus *Forcipomyia* Meigen, 1818 –Nominotypical subgenus

#### *Forcipomyia (Forcipomyia) biannulata* Ingram and Macfie, 1924

##### Nomenclature:

*Forcipomyia biannulata* Ingram & Macfie, 1924 [Ingram and Macfie 1924: 557]. Type locality: Ghana, Nigeria, Malawi.

*Forcipomyia bicolorata* Goetghebuer, 1935 [Goetghebuer 1935: 150]. Type locality: Democratic Republic of the Congo.

*Forcipomyia marginella* Goetghebuer, 1935 [Goetghebuer 1935: 156]. Type locality: Democratic Republic of the Congo.

*Forcipomyia quatuorguttata* Goetghebuer, 1935 [Goetghebuer 1935: 158]. Type locality: Democratic Republic of the Congo.

*Forcipomyia nigricosta* Goetghebuer, 1935 [Goetghebuer 1935: 158]. Type locality: Democratic Republic of the Congo.

*Forcipomyia pallidula* Goetghebuer, 1948 [Goetghebuer 1948: 6]. Type locality: Democratic Republic of the Congo.

*Forcipomyia abonnenci* Clastrier, 1959 [Clastrier 1959: 340]. Type locality: Senegal.

**Distribution:** AF: Widespread. PA: Canary Islands, Egypt, Israel.

Local distribution in Egypt: Eastern Desert: Ismailia (Moaskar). Fayoum: Shakshook. Lower Nile Valley & Delta: El-Badrasheen, El-Qanatir. Upper Nile Valley: Asswan, Sohag (El-Shewash).

Dates of collection in Egypt: September to February.

***Forcipomyia (Forcipomyia) nilicola* (Kieffer, 1925)**

**Nomenclature:**

*Apelma nilicola* Kieffer, 1925 [*Kieffer 1925c*: 253]. Type locality: Egypt (Maadi).

**Distribution:** PA: Egypt.

Local distribution in Egypt: Lower Nile Valley & Delta: Maadi. Upper Nile Valley: Sohag (El-Shewash).

Dates of collection in Egypt: September and October.

**Notes:** Alwin-Kownacka et al. (2016) treated this species as a *nomen dubium* because it is poorly described and types most probably not preserved.

***Forcipomyia (Forcipomyia) urnigera* Kieffer, 1925**

**Nomenclature:**

*Forcipomyia urnigera* Kieffer, 1925 [*Kieffer 1925c*: 247]. Type locality: Egypt (Maadi).

**Distribution:** PA: Egypt.

Local distribution in Egypt: Lower Nile Valley & Delta: Maadi (at border of the Nile).

Dates of collection in Egypt: July.

**Notes:** Alwin-Kownacka et al. (2016) treated this species as a *nomen dubium* because it is poorly described and types most probably not preserved

**Subgenus *Lepidohelea* Kieffer, 1917**

**Nomenclature:**

***Lepidohelea*** Kieffer, 1917 [*Kieffer 1917*: 364]. Type species: *Ceratopogon chrysolophus* Kieffer, by original designation.

***Forcipomyia (Lepidohelea) pulcherrima* Santos Abreu, 1918**

**Nomenclature:**

*Forcipomyia pulcherrima* Santos Abreu, 1918 [*Santos Abreu 1918*: 272]. Type locality: Canary Islands (Spain).

*Lepidohelea ornatipes* Kieffer, 1921 [*Kieffer 1921a*: 1], preoccupied by *Forcipomyia ornatipes* (Kieffer 1918a). Type locality: Cameroon.

*Lepidohelea formosae* Kieffer, 1922 [*Kieffer 1922a*: 153]. Type locality: Taiwan.

*Forcipomyia lepidota* Ingram and Macfie, 1924 [Ingram and Macfie 1924: 566]. Type locality: Ghana.

*Forcipomyia variegata* Goetghebuer, 1933 [Goetghebuer 1933b: 133]. Type locality: Democratic Republic of the Congo.

*Forcipomyia marsafae* Ghonaim, Ibrahim and Ali, 2001 [Ghonaim et al. 2001b: 42]. Type locality: Egypt (Qalyubiya: Marsafa).

**Distribution:** AF: Widely distributed. AU: Hawaii. NE: USA. OR: Widely distributed. PA: Canary Islands, Egypt, Israel, Japan, Lebanon, Saudi Arabia.

Local distribution in Egypt: Lower Nile Valley & Delta: El-Badrasheen, El-Qanatir, Marsafa. Upper Nile Valley: Asswan, Luxor (El-Sammaneen), Sohag (El-Shewash).

Dates of collection in Egypt: September to April.

### Subgenus *Microhelea* Kieffer, 1917

#### Nomenclature:

*Microhelea* Kieffer, 1917 [Kieffer 1917: 364]. Type species: *Atrichopogon microtomus* Kieffer, by subsequent designation of Kieffer (1921b: 7).

*Phasmidohelea* Mayer, 1937 [Mayer 1937: 233]. Type species: *Phasmidohelea crudelis* Mayer, by original designation.

### *Forcipomyia (Microhelea) fuliginosa* (Meigen, 1818)

#### Nomenclature:

*Ceratopogon fuliginosa* Meigen, 1818 [Meigen 1818: 86]. Type locality: Germany.

*Ceratopogon villosa* Zetterstedt, 1850 [Zetterstedt 1850: 3645]. Type locality: Sweden.

*Ceratopogon crudelis* Karsch, 1886 [Karsch 1886: 18]. Type locality: Germany.

*Ceratopogon hirtipes* de Meijere, 1907 [De Meijere 1907: 209]. Type locality: Indonesia.

*Forcipomyia brevimana* Lundström, 1910 [Lundström 1910: 32]. Type locality: Finland.

*Ceratopogon inornatipennis* Austen, 1912 [Austen 1912: 107]. Type locality: Nigeria.

*Forcipomyia bipunctata* var. *obscura* Santos Abreu, 1918 [Santos Abreu 1918: 276], preoccupied by *Forcipomyia obscura* (Walker 1848). Type locality: Canary Islands (Spain).

*Ceratopogon alboclavata* Kieffer, 1919 [Kieffer 1919: 12]. Type locality: Slovak Republic.

*Ceratopogon canaliculata* Goetghebuer, 1920 [Goetghebuer 1920: 110]. Type locality: Belgium.

*Forcipomyia nilotheres* Macfie, 1924 [Macfie 1924: 62]. Type locality: Egypt (Nile at Assiout).

*Forcipomyia inornatipennis* var. *ornaticrus* Ingram and Macfie, 1924 [Ingram and Macfie 1924: 577], preoccupied by *Forcipomyia ornaticrus* Kieffer 1912. Type locality: Ghana.

*Forcipomyia atripennis* Goetghebuer, 1935 [Goetghebuer 1935: 149]. Type locality: Democratic Republic of the Congo.

*Forcipomyia auripila* Goetghebuer, 1935 [Goetghebuer 1935: 150]. Type locality: Democratic Republic of the Congo.

*Forcipomyia curtimana* Goetghebuer, 1935 [Goetghebuer 1935: 151]. Type locality: Democratic Republic of the Congo.

*Forcipomyia grisescens* Goetghebuer, 1935 [Goetghebuer 1935: 154]. Type locality: Democratic Republic of the Congo.

*Forcipomyia vicina* Goetghebuer, 1935 [Goetghebuer 1935: 161]. Type locality: Democratic Republic of the Congo.

*Forcipomyia longiradialis* Tokunaga, 1940 [Tokunaga 1940: 66]. Type locality: Japan.

*Forcipomyia takagii* Tokunaga, 1941 [Tokunaga 1941: 90]. Type locality: China.

*Lasiohelea wansoni* Harant and Baur, 1946 [Harant and Baur 1946: 141], preoccupied by *Forcipomyia wansoni* De Meillon 1939. Type locality: Democratic Republic of the Congo.

### Material

- a. scientificName: *Forcipomyia fuliginosa* (Meigen, 1818); kingdom: Animalia; phylum: Arthropoda; class: Insecta; order: Diptera; family: Ceratopogonidae; continent: Africa; country: Egypt; stateProvince: Giza; locality: Cairo University; samplingProtocol: light trap; eventTime: 15 Jan 1996; individualCount: 1; sex: male; lifeStage: adult; disposition: personal collection of El-Hawagry

**Distribution:** AF: Widely distributed in AF, NE, NEO, OR and PA.

Local distribution in Egypt: Lower Nile Valley & Delta: El-Badrasheen, Giza. Upper Nile. Valley: Assiout. Western Desert: El-Bustan.

Dates of collection in Egypt: December & April.

### Subgenus *Synthyridomyia* Saunders, 1957

#### Nomenclature:

***Synthyridomyia*** Saunders, 1957 [Saunders 1957: 688]. Type species: *Lasiohelea acidicola* Tokunaga, by original designation.

### *Forcipomyia (Synthyridomyia) murina* (Winnertz, 1852)

#### Nomenclature:

*Ceratopogon murinus* Winnertz, 1852 [Winnertz 1852: 26]. Type locality: Europe.

*Helea murina* var. *abdominalis* Santos Abreu, 1918 [Santos Abreu 1918: 265]. Type locality: Canary Islands (Spain).

*Apelma aurosparsum* Kieffer, 1919 [Kieffer 1919: 65]. Type locality: Hungary.

*Forcipomyia sulfurea* Kieffer, 1923 [Kieffer 1923a: 664]. Type locality: Algeria.

*Forcipomyia hirtipalpis* Kieffer, 1924 [Kieffer 1924b: 392]. Type locality: France.

*Forcipomyia sate* Kieffer, 1925 [Kieffer 1925c: 245]. Type locality: Egypt.

*Forcipomyia longitarsis* Tokunaga, 1940 [Tokunaga 1940: 92], preoccupied by *Forcipomyia longitarsis* (Malloch 1915b). Type locality: Taiwan.

*Forcipomyia moascari* Macfie, 1943 [Macfie 1943: 147]. Type locality: Egypt.

*Forcipomyia attonsa* Goetghebuer, 1950 [Goetghebuer 1950: 1]. Type locality: Belgium.

*Forcipomyia tokunagai* Wirth, 1973: 356 [Wirth 1973], preoccupied by *Forcipomyia tokunagai* (Oka and Asahina 1948). New name for *longitarsis*.

*Forcipomyia submurina* Remm, 1980 [Remm 1980: 115], as *sibmurina*, as subspecies of *murina*. Type locality: Russia.

**Distribution:** Widespread in AF, PA and NE.

Local distribution in Egypt: Coastal Strip: Alexandria (Sidi Gaber). Eastern Desert: Ismailia (Moascar), Suez (Guyot Garden). Lower Nile Valley & Delta: El-Qanatir, Maadi. Upper Nile Valley: Asswan.

Dates of collection in Egypt: August to April.

## Subfamily DASYHELEINAE

### Genus *Dasyhelea* Kieffer, 1911

- GBIF <https://www.gbif.org/species/1635616>

#### Nomenclature:

***Dasyhelea*** Kieffer, 1911 [Kieffer 1911b: 5]. Type species: *Dasyhelea halophila* Kieffer, by monotypy.

*Prokempia* Kieffer, 1913 [Kieffer 1913c: 163], 179. Type species: *Dasyhelea ornaticornis* Kieffer, by subsequent designation of Wirth (1973: 358).

*Pseudoculicoides* Malloch, 1915 [Malloch 1915a: 309]. Type species: *Ceratopogon mutabilis* Coquillett, by original designation.

*Tetrahelea* Kieffer, 1925 [Kieffer 1925a: 423]. Type species: *Culicoides insignicornis* Kieffer, by original designation.

*Dicryptoscena* Enderlein, 1936 [Enderlein 1936: 51]. Type species: *Dasyhelea inclusa* Kieffer, by original designation.



*Sebessia* Remm, 1979 [Remm 1979: 55]. Type species: *Dasyhelea flavopyga* Zilahi-Sebess, by original designation.

*Borkentimyia* Yu, Liu, Liu, Liu, Hao, Yan and Zhao, 2005 [Yu et al. 2005: 321]. Type species: *Dasyhelea forsteri* Grogan and Wirth, by original designation.

### ***Dasyhelea arenivaga* Macfie, 1943**

**Nomenclature:**

*Dasyhelea inconspicua* var. *arenivaga* Macfie, 1943 [Macfie 1943: 151]. Type locality: Egypt (Ismailia).

**Distribution:** PA: Algeria, Bulgaria, Czech Republic, Egypt, Israel, Poland, Romania, Spain, Switzerland, Ukraine.

Local distribution in Egypt: Eastern Desert: Ismailia (Moascar). Upper Nile Valley: Asswan.

Dates of collection in Egypt: November to March.

### ***Dasyhelea arenosa* Kieffer, 1925**

**Nomenclature:**

*Dasyhelea arenosa* Kieffer, 1925 [Kieffer 1925c: 255]. Type locality: Algeria.

**Distribution:** PA: Algeria, Egypt, Spain.

Local distribution in Egypt: Lower Nile Valley & Delta: Pyramids.

Dates of collection in Egypt: April.

### ***Dasyhelea begueti* Kieffer, 1922**

**Nomenclature:**

*Dasyhelea begueti* Kieffer, 1922 [Kieffer 1922b: 508]. Type locality: Algeria.

*Dasyhelea astyla* Kieffer, 1922b: 510. Type locality: Algeria.

*Dasyhelea hirtipes* Kieffer, 1922b: 510 (as variety of *begueti*, preoccupied by *Dasyhelea hirtipes* (Kieffer, 1917). Type locality: Algeria.

**Distribution:** PA: Algeria, Egypt.

Local distribution in Egypt: Coastal Strip: Alexandria (sea shore). Eastern Desert: Suez (Guyot Gardens), Wadis near Helwan. Lower Nile Valley & Delta: Maadi.

Dates of collection in Egypt: April and October.

***Dasyhelea egypti* Macfie, 1943****Nomenclature:**

*Dasyhelea inconspicua* var. *egypti* Macfie, 1943 [Macfie 1943: 149]. Type locality: Egypt (Ismailia: Moascar).

**Distribution:** PA: Egypt.

Local distribution in Egypt: Eastern Desert: Ismailia (Moascar), Lower Nile Valley & Delta: Maadi.

Dates of collection in Egypt: February to November.

***Dasyhelea fusca* Carter, Ingram and Macfie, 1921****Nomenclature:**

*Dasyhelea fusca* Carter, Ingram and Macfie, 1921 [Carter et al. 1921b: 204]. Type locality: Ghana.

**Distribution:** AF: Ghana, Madagascar, Mozambique, South Africa. AF: Egypt.

Local distribution in Egypt: Eastern Desert: Ismailia (Moascar).

Dates of collection in Egypt: March and April.

***Dasyhelea heliophila* Macfie, 1943****Nomenclature:**

*Dasyhelea inconspicua* var. *heliophila* Macfie, 1943 [Macfie 1943: 150]. Type locality: Egypt (Ismailia: Nifisha).

**Distribution:** PA: Egypt.

Local distribution in Egypt: Eastern Desert: Ismailia (Nifisha).

Dates of collection in Egypt: July.

***Dasyhelea ismailiae* Macfie, 1943****Nomenclature:**

*Dasyhelea ismailiae* Macfie, 1943 [Macfie 1943: 152]. Type locality: Egypt.

**Distribution:** AF: South Africa. PA: Egypt.

Local distribution in Egypt: Eastern Desert: Ismailia (Moascar).

Dates of collection in Egypt: February and March.

***Dasyhelea luteocincta* Kieffer, 1925****Nomenclature:**

*Dasyhelea luteocincta* Kieffer, 1925 [Kieffer 1925c: 254]. Type locality: Egypt (Maadi).

**Distribution:** PA: Egypt.

Local distribution in Egypt: Lower Nile Valley & Delta: Maadi.

Dates of collection in Egypt: October.

***Dasyhelea modesta* (Winnertz, 1852)****Nomenclature:**

*Ceratopogon modestus* Winnertz, 1852 [Winnertz 1852: 43]. Type locality: Germany.

*Ceratopogon aestivus* Winnertz, 1852 [Winnertz 1852: 42]. Type locality: Germany.

*Dasyhelea longipalpis* Kieffer, 1913 [Kieffer 1913b: 37]. Type locality: Germany.

*Dasyhelea inclusa* Kieffer, 1918 [Kieffer 1918b: 188]. Type locality: Czech Republic.

*Dasyhelea strobli* Kieffer, 1919 [Kieffer 1919: 63]. Type locality: Spain.

*Dasyhelea pratensis* Goetghebuer, 1920 [Goetghebuer 1920: 44]. Type locality: Belgium.

*Dasyhelea bihamata* Kieffer, 1923 [Kieffer 1923a: 667]. Type locality: Algeria.

*Dasyhelea moascari* Macfie, 1943 [Macfie 1943: 153]. Type locality: Egypt.

*Dasyhelea densipilosa* Tokunaga, 1963 [Tokunaga 1963: 41]. Type locality: Japan.

**Distribution:** AF: Yemen. PA: Afghanistan, Algeria, Andorra, Austria, Azerbaijan, Belgium, Bulgaria, Canary Is., China, Czech Republic, Egypt, Estonia, France, Georgia, Germany, Great Britain, Hungary, Iran, Japan, Lithuania, The Netherlands, Norway, Poland, Romania, Russia, Spain, Sweden, Switzerland, Ukraine.

Local distribution in Egypt: Eastern Desert: Ismailia (Moascar). Lower Nile Valley & Delta: El-Qanatir, El-Mansoura, Marsafa. Western Desert: El-Bustan (Beheira).

Dates of collection in Egypt: February, April, August and November.

***Dasyhelea nyasae* Ingram and Macfie, 1925****Nomenclature:**

*Dasyhelea nyasae* Ingram and Macfie, 1925 [Ingram and Macfie 1925: 286]. Type locality: Malawi.

**Distribution:** AF: Malawi, Uganda. PA: Egypt.

Local distribution in Egypt: Eastern Desert: Ismailia (Moascar). Western Desert: El-Bustan (Beheira).

Dates of collection in Egypt: February.

## Subfamily CERATOPOGONINAE

### Tribe CULICOIDINI

#### Genus *Culicoides* Latreille, 1809

- GBIF <https://www.gbif.org/species/9951338>

##### Nomenclature:

***Culicoides*** Latreille, 1809 [Latreille 1809: 251]. Type species: *Culicoides punctatus* Latreille, by monotypy.

*Padrosia* Rafinesque, 1815 [*Rafinesque 1815*: 130], unnecessary new name for *Culicoides* Latreille. Type species: *Culicoides punctatus* Latreille, automatic.

*Oecacta* Poey, 1853 [*Poey 1853*: 238]. Type species: *Oecacta furens* Poey, by monotypy.

*Psychophaena* Philippi, 1865 [*Philippi 1865*: 628]. Type species: *Psychophaena pictipennis* Philippi (= *Culicoides venezuelensis* Ortiz and Mirsa), by monotypy.

*Haematomyidium* Goeldi, 1905 [*Goeldi 1905*: 137]. Type species: *Haematomyidium paraense* Goeldi, by original designation.

*Cotocripus* Brèthes, 1912 [*Brèthes 1912, 1912*: 451]. Type species: *Cotocripus caridei* Brèthes, by monotypy.

*Oxyhelea* Kieffer, 1921 [*Kieffer 1921a*: 14]. Type species: *Culicoides dentatus* Kieffer, by monotypy.

*Diplosella* Kieffer, 1921 [*Kieffer 1921b*: 113]. Type species: *Culicoides sergenti* Kieffer, by monotypy.

*Haemophoructus* Macfie, 1925 [*Macfie 1925*: 349]. Type species: *Haemophoructus maculipennis* Macfie, by monotypy.

*Prosapelma* Kieffer, 1925 [*Kieffer 1925a*: 417]. Type species: *Prosapelma cinerea* Kieffer, by original designation.

*Synhelea* Kieffer, 1925 [*Kieffer 1925a*: 423]. Type species: *Culicoides tropicalis* Kieffer, by subsequent designation of Wirth et al. (1980).

*Hoffmania* Fox, 1948 [*Fox 1948*: 21]. Type species: *Culicoides inamollae* Fox and Hoffman (= *Culicoides insignis* Lutz), by original designation.

*Beltranmyia* Vargas, 1953 [*Vargas 1953*: 34]. Type species: *Culicoides crepuscularis* Malloch, by original designation.

*Selfia* Khalaf, 1954 [*Khalaf 1954*: 38]. Type species: *Culicoides hieroglyphicus* Malloch, by original designation.

*Monoculicoides* Khalaf, 1954 [*Khalaf 1954*: 39]. Type species: *Ceratopogon nubeculosus* Meigen, by original designation.

*Macfiella* Fox, 1955 [*Fox 1955*: 217]. Type species: *Ceratopogon phlebotomus* Williston, by original designation.

*Avaritia* Fox, 1955 [*Fox 1955*: 218]. Type species: *Ceratopogon obsoletus* Meigen, by original designation.

*Trithecoides* Wirth and Hubert, 1959 [*Wirth and Hubert 1959*: 2]. Type species: *Culicoides flaviscutatus* Wirth and Hubert, by original designation.

*Anilomyia* Vargas, 1960 [*Vargas 1960*: 37]. Type species: *Culicoides covagarciai* Ortiz, by original designation.

*Drymodesmyia* Vargas, 1960 [*Vargas 1960*: 40]. Type species: *Culicoides copiosus* Root and Hoffman, by original designation.

*Diphaomyia* Vargas, 1960 [*Vargas 1960*: 40]. Type species: *Culicoides baueri* Hoffman, by original designation.

*Glaphiromyia* Vargas, 1960 [*Vargas 1960*: 41]. Type species: *Culicoides scopus* Root and Hoffman, by original designation.

*Mataemyia* Vargas, 1960 [*Vargas 1960*: 43]. Type species: *Culicoides mojingaensis* Wirth and Blanton, by original designation.

*Meijerehelea* Wirth and Hubert, 1961 [*Wirth and Hubert 1961*: 23]. Type species: *Ceratopogon guttifer* de Meijere, by original designation.

*Pontoculicoides* Remm, 1968 [Remm and Zhogolev 1968: 840]. Type species: *Culicoides tauricus* Gutsevich, by original designation.

*Callotia* Vargas and Kremer, 1972 [Vargas and Kremer 1972: 242]. Type species: *Culicoides saevus* Kieffer, by original designation.

*Wirthomyia* Vargas, 1973 [*Vargas 1973*: 112]. Type species: *Culicoides segnis* Campbell and Pelham Clinton, by original designation.

*Sensiculicoides* Shevchenko, 1977 [*Shevchenko 1977*: 133]. Type species: *Ceratopogon pictipennis* Staeger, by original designation.

*Remmia* Glukhova, 1977 [*Glukhova 1977*: 116]. Type species: *Ceratopogon schultzei* Enderlein, by original designation.

*Silvaticulicoides* Glukhova, 1977 [*Glukhova 1977*: 117]. Type species: *Ceratopogon fascipennis* Staeger, by original designation.

*Neoculicoides* Boorman and Lane, 1979 [Boorman and Lane 1979: 327], preoccupied by *Neoculicoides* Pierce, 1966. Type species: *Neoculicoides taylori* Boorman and Lane, by original designation.

*Nullicella* Lee, 1982 [Lee 1982: 165]. Type species: *Culicoides lasaensis* Lee, (by original designation).

*Sinocoides* Chu, 1983 [Chu 1983: 26]. Type species: *Culicoides hamiensis* Chu, Qian and Ma, by original designation.

*Jilinocoides* Chu, 1983 [Chu 1983: 28]. Type species: *Culicoides dunhuaensis* Chu, by original designation.

*Amosovia* Glukhova, 1989 [Glukhova 1989: 226]. Type species: *Culicoides dendrophilus* Amosova, by original designation.

*Silvicola* Mirzaeva and Isaev, 1990 [Mirzaeva and Isaev 1990: 98]. Type species: *Culicoides grisescens* Edwards, by original designation.

*Tokunagahalea* Dyce and Meiswinkel, 1995 [Dyce and Meiswinkel 1995: 131]. Type species: *Culicoides mikros* Dyce and Meiswinkel, by original designation.

*Fastus* Liu, 2005 [Yu et al. 2005: 1196]. Type species: *Culicoides alpigenus* Yu and Liu, by original designation.

*Marksomyia* Bellis and Dyce, 2011 [Bellis and Dyce 2011: 36]. Type species: *Culicoides marksi* Lee and Reye, by original designation.

*Devalquia* Choufani and Nel, 2013 [Choufani et al. 2013: 75]. Type species: *Devalquia brisaci* Choufani & Nel, 2013, by original designation.

### ***Culicoides azerbaijdzhanicus* Dzhafarov, 1962**

#### **Nomenclature:**

*Culicoides azerbaijdzhanicus* Dzhafarov, 1962 [Dzhafarov 1962: 211]. Type locality: Azerbaijan.

**Distribution:** AF: Senegal. PA: Algeria, Armenia, Azerbaijan, Cyprus, Egypt, Iran, Israel, Morocco, Turkmenistan, Uzbekistan.

Local distribution in Egypt: Sinai: El-Tour, Marsa Abu Zabad, Wadi Ba'aba'a (S. Sinai).

Dates of collection in Egypt: Unknown.

### ***Culicoides bedfordi* Ingram and Macfie, 1923**

#### **Nomenclature:**

*Culicoides bedfordi* Ingram and Macfie, 1923 [Ingram and Macfie 1923: 57]. Type locality: South Africa.

**Distribution:** AF: Cameroon, Kenya, South Africa, Sudan, Tanzania, Zimbabwe. PA: Egypt.

Local distribution in Egypt: Lower Nile Valley & Delta: El-Hamra, El-Qanatir. Upper Nile Valley: Luxor. Western Desert: Bahariya Oasis (El-Hara), Wadi El-Natroun.

Dates of collection in Egypt: August to December.

***Culicoides calloti* Kremer, Delécolle, Bailly-Choumara and Chaker, 1979**

**Nomenclature:**

*Culicoides calloti* Kremer, Delécolle and Bailly-Choumara and Chaker, 1979 [*Kremer et al. 1979*: 195]. Type locality: Morocco (Tahjicht).

**Distribution:** PA: Egypt, Israel, Morocco.

Local distribution in Egypt: Sinai: El-Tour (Wadi Dissa), Hammam Moussa.

Dates of collection in Egypt: Unknown.

***Culicoides cataneii* Clastrier, 1957**

**Nomenclature:**

*Culicoides cataneii* Clastrier, 1957 [*Clastrier 1957*: 438]. Type locality: Algeria

**Distribution:** PA: Algeria, Bulgaria, Cyprus, Egypt, France, Iraq, Iran, Israel, Italy, former Yugoslavia, Morocco, Russia, Turkmenistan, Ukraine.

Local distribution in Egypt: Sinai: El-Arish.

Dates of collection in Egypt: Unknown.

***Culicoides catharinae* Kremer, Delécolle and Braverman, 1991**

**Nomenclature:**

*Culicoides catharinae* Kremer, Delécolle and Braverman, 1991 [*Kremer et al. 1991*: 151]. Type locality: Egypt.

**Distribution:** PA: Egypt.

Local distribution in Egypt: Sinai: St. Catherine (S. Sinai).

Dates of collection in Egypt: June.

***Culicoides circumscriptus* Kieffer, 1918**

**Nomenclature:**

*Culicoides circumscriptus* Kieffer, 1918 [*Kieffer 1918a*: 49]. Type locality: Tunisia.

*Culicoides nadayanus* Kieffer, 1918 [*Kieffer 1918a*: 95]. Type locality: Turkey.

*Culicoides edwardsi* Goetghebuer, 1921 [*Goetghebuer 1921*: 177]. Type locality: Belgium.

*Culicoides algarum* Kieffer, 1924 [*Kieffer 1924a*: 18]. Type locality: Germany.

*Culicoides salicola* Kieffer, 1924 [Kieffer 1924b: 405]. Type locality: Norway.

*Culicoides salicola* var. *pictidorsum* Kieffer, 1924 [Kieffer 1924b: 406]. Type locality: Norway.

*Culicoides albonotatus* Vimmer, 1932 [Vimmer 1932: 133], preoccupied by *Culicoides albonotatus* Kieffer 1918. Type locality: Israel.

*Culicoides albosignatus* Vimmer, 1932 [Vimmer 1932: 135]. Type locality: Israel.

*Culicoides polymaculatus* Vimmer, 1932 [Vimmer 1932: 135]. Type locality: Israel.

*Culicoides pulcher* Zilahi-Sebess, 1934 [Zilahi-Sebess 1934: 155], misspelled as *pulscher*. Type locality: Bulgaria.

*Culicoides kirovabadicus* Dzshafarov, 1964 [Dzshafarov 1964: 228]. Type locality: Azerbaijan.

*Culicoides circumscriptus matsuenensis* Lien, Weng and Lin, 1996 [Lien et al. 1996: 20]. Type locality: Taiwan.

*Culicoides circumscriptus meridionalis* Xue, Liu and Yu, 2003 [Xue et al. 2003: 112]. Type locality: China.

## Material

- a. scientificName: *Culicoides circumscriptus* Kieffer, 1918; kingdom: Animalia; phylum: Arthropoda; class: Insecta; order: Diptera; family: Ceratopogonida; continent: Africa; country: Egypt; stateProvince: Giza; locality: El-Hager; samplingProtocol: light trap; eventDate: 15 Aug 1996; individualCount: 1; sex: female; lifeStage: adult; disposition: personal collection of El-Hawagry

**Distribution:** OR & PA: Widespread in Asia and Europe, Egypt, Tunisia.

Local distribution in Egypt: Coastal Strip: Abis. Eastern Desert: Ismailia (Moascar). Fayoum: El-Siliyin, Lower Nile Valley & Delta: Abbassiya (Cairo), Abu-Rawash, Aga, El-Hager (Mansheyet El-Qanater), El-Qanatir, Mit Yaish (Mit Ghamr), Nawasa El-Gheit. Upper Nile Valley: Assiout (Biblaw), Minya. Western Desert: Abis, El-Bustan.

Dates of collection in Egypt: March to November.

## *Culicoides distinctipennis* Austen, 1912

### Nomenclature:

*Culicoides distinctipennis* Austen, 1912 [Austen 1912: 101]. Type locality: Nigeria.

*Forcipomyia multiguttata* Goetghebuer, 1935 [Goetghebuer 1935: 156]. Type locality: Democratic Republic of the Congo.

### Materials

- a. scientificName: *Culicoides distinctipennis* Austen, 1912; kingdom: Animalia; phylum: Arthropoda; class: Insecta; order: Diptera; family: Ceratopogonida; continent: Africa; country: Egypt; stateProvince: El-Dakahlyia; locality: El-Mansoura; samplingProtocol: light



trap; eventDate: 17 Nov 199; individualCount: 1; sex: female; lifeStage: adult; disposition: personal collection of El-Hawagry

- b. scientificName: *Culicoides distinctipennis* Austen, 1912; kingdom: Animalia; phylum: Arthropoda; class: Insecta; order: Diptera; family: Ceratopogonida; continent: Africa; country: Egypt; stateProvince: El-Dakahlyia; locality: El-Mansoura; samplingProtocol: light trap; eventDate: 17 Nov 199; individualCount: 1; sex: male; lifeStage: adult; disposition: personal collection of El-Hawagry

**Distribution:** AF: Widespread. PA: Egypt.

Local distribution in Egypt: Eastern Desert: Ismailia. Fayoum: El-Siliyin. Lower Nile Valley & Delta: Abbassiya, Abu-Rawash, Ashmoun, Ayiat, Bulaq El-Dakrou, Cairo, El-Khanka, El-Mansoura, El-Qanatir, Etay El-Baroud, Kafr Hamza, Kafr Tarkhan, Maadi, Mit Yaish (Mit Ghamr), Shatanuf. Upper Nile Valley: Assiout. Western Desert: El-Bustan, Itay El-Baroud.

Dates of collection in Egypt: May to December.

### ***Culicoides firuzae* Dzhafarov, 1958**

**Nomenclature:**

*Culicoides firuzae* Dzhafarov, 1958 [*Dzhafarov 1958*: 245]. Type locality: Azerbaijan (Araks Valley).

**Distribution:** PA: Armenia, Azerbaijan, Egypt, Georgia, Iran, Israel, Kazakhstan, Mongolia, Russia, Tajikistan, Turkmenistan, Uzbekistan.

Local distribution in Egypt: Sinai: Wadi Ba'aba'a.

Dates of collection in Egypt: Unknown.

### ***Culicoides hanae* Braverman, Delécolle and Kremer, 1983**

**Nomenclature:**

*Culicoides hanae* Braverman, Delécolle and Krémer, 1983 [Braverman et al. 1983: 678]. Type locality: Egypt (Sinai: Qadesh Barnea).

**Distribution:** PA: Egypt, Israel.

Local distribution in Egypt: Sinai: Qadesh Barnea (El-Arish).

Dates of collection in Egypt: November.

### ***Culicoides imicola* Kieffer, 1913**

**Nomenclature:**

*Culicoides imicola* Kieffer, 1913 [Kieffer 1913d: 11]. Type locality: Kenya.

*Ceratopogon pallidipennis* Carter, Ingram and Macfie, 1920 [Carter et al. 1920: 265].  
Type locality: Ghana.

*Culicoides iraqensis* Khalaf, 1957 [*Khalaf 1957*: 343]. Type locality: Iraq.

*Culicoides minutus* Sen and Das Gupta, 1959 [Sen and Das Gupta 1959: 622]. Type locality: India.

*Culicoides pseudoturgidus* Das Gupta, 1962 [Das Gupta 1962: 537]. Type locality: India.

**Distribution:** AF: Widespread. OR: India, Laos, Sri Lanka, Thailand, Vietnam. PA: Algeria, Cyprus, France, the Near and Middle East, Morocco, Portugal, Spain.

Local distribution in Egypt: Eastern Desert: Ismailia (Moascar), Suez. Lower Nile Valley & Delta: Giza, Bulaq El-Dakroul.

Dates of collection in Egypt: February to May.

### ***Culicoides jumineri* Callot and Kremer, 1969**

**Nomenclature:**

*Culicoides jumineri* Callot and Krémer, 1969 [*Callot and Kremer 1969*: 1112]. Type locality: Tunisia.

**Distribution:** PA: Algeria, Corsica, Egypt, Israel, Morocco, Tunisia, Portugal, Spain, Turkey.

Local distribution in Egypt: Sinai: Ga'al.

Dates of collection in Egypt: Unknown.

### ***Culicoides kingi* Austen, 1912**

**Nomenclature:**

*Culicoides kingi* Austen, 1912 [Austen 1912: 104]. Type locality: Sudan (Khor Arbaat, Red sea Hills).

*Culicoides nilotes* Kieffer, 1925 [*Kieffer 1925c*: 257]. Type locality: Egypt.

**Distribution:** AF: Sudan. PA: Egypt.

Local distribution in Egypt: Eastern Desert: Ismailia (Moascar). Lower Nile Valley & Delta: Maadi. Sinai: Bir El-Abd.

Dates of collection in Egypt: February to April and August to November.

***Culicoides langeroni* Kieffer, 1921****Nomenclature:**

*Culicoides langeroni* Kieffer, 1921 [Kieffer 1921c: 262]. Type locality: Tunisia.

**Distribution:** PA: Egypt, Iran, Israel, Tunisia.

Local distribution in Egypt: Sinai: Bir El-Abd, El-Tour, Hammam Moussa.

Dates of collection in Egypt: July.

***Culicoides leucostictus* Kieffer, 1911****Nomenclature:**

*Culicoides leucostictus* Kieffer, 1911 [Kieffer 1911b: 340]. Type locality: Seychelles.

*Culicoides praetermissus* Carter, Ingram and Macfie, 1920 [Carter et al. 1920: 240].  
Type locality: Ghana.

*Culicoides distinctipennis* var. *egypti* Macfie, 1924 [Macfie 1924: 66]. Type locality:  
Egypt (Nile at Assiout).

*Culicoides pharao* Kieffer, 1925 [Kieffer 1925c: 259]. Type locality: Egypt (Maadi).

**Distribution:** AF: Widespread. PA: Cyprus, Egypt, Israel.

Local distribution in Egypt: Eastern Desert: Ismailia (Moascar). Lower Nile Valley &  
Delta: Maadi. Upper Nile Valley: Assiout, Minya. Western Desert: Wadi El-Natroun.

Dates of collection in Egypt: October to April.

***Culicoides marclei* Callot, Krémer and Basset, 1968****Nomenclature:**

*Culicoides marclei* Callot, Krémer and Basset, 1968 [Callot et al. 1968: 271]. Type  
locality: Algeria.

**Distribution:** PA: Algeria, Egypt, Morocco, Spain, Tunisia.

Local distribution in Egypt: Sinai: Khirba.

Dates of collection in Egypt: Unknown.

***Culicoides maritimus* Kieffer, 1924****Nomenclature:**

*Culicoides maritimus* Kieffer, 1924 [Kieffer 1924a: 16]. Type locality: Germany  
(Schleswig-Holstein: Holstein).

*Culicoides submaritimus* Dzhafarov, 1962 [Dzhafarov 1962: 206]. Type locality: Azerbaijan.

**Distribution:** PA: Europe (Widespread), Middle East and North Africa.

Local distribution in Egypt: Sinai: Bir El-Abd, Salmana, Ga'al, Khirba.

Dates of collection in Egypt: Unknown.

### ***Culicoides mesghalii* Navai, 1973**

**Nomenclature:**

*Culicoides mesghalii* Navai, 1973 [Navai 1973: 196]. Type locality: Iran.

**Distribution:** PA: Egypt, Iran, Israel.

Local distribution in Egypt: Sinai: Mersa Abu Zabad.

Dates of collection in Egypt: Unknown.

### ***Culicoides navaiae* Lane, 1983**

**Nomenclature:**

*Culicoides navaiae* Lane, 1983 [Lane 1983: 534]. Type locality: Saudi Arabia.

**Distribution:** PA: Egypt, Saudi Arabia.

Local distribution in Egypt: Sinai: Khirba.

Dates of collection in Egypt: April.

### ***Culicoides neavei* Austen, 1912**

**Nomenclature:**

*Culicoides neavei* Austen, 1912 [Austen 1912: 102]. Type locality: Uganda.

**Native status:** Doubtful record.

**Distribution:** AF: Angola, Cameroon, Congo, Ethiopia, Gambia, Ghana, Guinea, Kenya, Madagascar, Mali, Nigeria, Senegal, South Africa, Sudan, Tanzania, Uganda, Upper Volta, Zaire, Zimbabwe. PA: ?Egypt.

Local distribution in Egypt: ?Eastern Desert: ?Ismailia.

**Notes:** ?- This Afrotropical species was listed as recorded from Egypt by Morsy et al. (1989), but no specimens have been found to ensure this record. It must be considered very doubtful as an Egyptian species.

***Culicoides newsteadi* Austen, 1921****Nomenclature:**

*Culicoides newsteadi* Austen, 1921 [Austen 1921: 113]. Type locality: Israel (Jerisheh).

*Culicoides biclavatus* Kieffer, 1924 [Kieffer 1924a: 14]. Type locality: Germany.

*Culicoides halophilus* Kieffer, 1924 [Kieffer 1924b: 404]. Type locality: Norway.

*Culicoides pulicaris* var. *edwardsi* Goetghebuer, 1933 [Goetghebuer 1933c: 46], preoccupied by *Culicoides edwardsi* Goetghebuer, 1921. Type locality: Europe.

*Culicoides pulicaris* var. *edwardsianus* Goetghebuer, 1933 [Goetghebuer 1933a: 367]. Type locality: Great Britain.

**Distribution:** PA: Algeria, Egypt, Europe (distributed through much of Europe), Iran, Iraq, Israel, Morocco.

Local distribution in Egypt: Sinai: Sheikh Zowaid (N. Sinai). Western Desert: El-Bustan.

Dates of collection in Egypt: February and March.

***Culicoides pilosipennis* Kieffer, 1925****Nomenclature:**

*Culicoides pilosipennis* Kieffer, 1925 [Kieffer 1925c: 257]. Type locality: Egypt.

**Distribution:** PA: Egypt.

Local distribution in Egypt: Eastern Desert: Suez (Guyot Garden).

Dates of collection in Egypt: April.

***Culicoides pulicaris* (Linnaeus, 1758)****Nomenclature:**

*Culex pulicaris* Linnaeus, 1758 [Linnaeus 1758: 603]. Type locality: Europe.

*Culicoides setosinervis* Kieffer, 1913 [Kieffer 1913a: 8]. Type locality: Germany.

*Culicoides pullatus* Kieffer, 1915 [Kieffer 1915: 474]. Type locality: Germany.

*Culicoides stephensi* Carter, 1916 [Carter 1916: 135]. Type locality: Egypt.

*Culicoides cinerellus* Kieffer, 1919 [Kieffer 1919: 40]. Type locality: Ukraine.

*Culicoides quinquepunctatus* Goetghebuer, 1921 [Goetghebuer 1921: 177]. Type locality: Belgium.

*Culicoides flaviplumus* Kieffer, 1924 [Kieffer 1924a: 19]. Type locality: Germany.

*Culicoides sawamotoi* Kono and Takahasi, 1940 [Kono and Takahasi 1940: 75.] Type locality: Russia.

**Distribution:** PA: Widespread.

Local distribution in Egypt: Eastern Desert: Ismailia (Moascar). Sinai: Bir El-Abd.

Dates of collection in Egypt: March to July.

### ***Culicoides puncticollis* (Becker, 1903)**

#### **Nomenclature:**

*Ceratopogon puncticollis* Becker, 1903 [Becker 1903: 75]. Type locality: Egypt.

*Ceratopogon pulicaris* form *algecirensis* Strobl, 1900 [Strobl 1900: 170]. Type locality: Spain. Name suppressed by ICZN Opinion 1643.

*Culicoides impressus* Kieffer, 1918 [Kieffer 1918a: 47]. Type locality: Tunisia.

*Culicoides distigma* Kieffer, 1922 [Kieffer 1922b: 502]. Type locality: Algeria.

*Culicoides donatieni* Kieffer, 1922 [Kieffer 1922b: 504]. Type locality: Algeria.

*Culicoides sciniphes* Kieffer, 1925 [Kieffer 1925c: 261]. Type locality: Egypt.

*Culicoides bipunctatus* Vimmer, 1932 [Vimmer 1932: 133]. Type locality: Israel.

*Culicoides tripunctatus* Vimmer, 1932 [Vimmer 1932: 137]. Type locality: Israel.

*Culicoides wenigi* Vimmer, 1932 [Vimmer 1932: 138]. Type locality: Israel.

*Culicoides flavitarsis* Vimmer, 1932 [Vimmer 1932: 137]. Type locality: Israel.

*Culicoides griseovittatus* Vimmer, 1932 [Vimmer 1932: 133]. Type locality: Israel.

*Culicoides luteosignatus* Vimmer, 1932 [Vimmer 1932: 140]. Type locality: Israel.

*Culicoides vavrai* Vimmer, 1932 [Vimmer 1932: 140]. Type locality: Israel.

#### **Material**

- a. scientificName: *Culicoides puncticollis* (Becker, 1903); kingdom: Animalia; phylum: Arthropoda; class: Insecta; order: Diptera; family: Ceratopogonidae; continent: Africa; country: Egypt; stateProvince: El-Dakahlyia; locality: Sallent, El-Mansoura; samplingProtocol: light trap; eventDate: 17 Nov 1997; individualCount: 1; sex: male; disposition: personal collection of El-Hawagry

**Distribution:** PA: Balearic Is., Belgium, British Is., Corsica, Cyprus, Dodecanese Is., France, Hungary, Italy, Middle East, North Africa, Poland, Portugal, Russia, Slovakia, Spain, Turkey, Ukraine.

Local distribution in Egypt: Coastal Strip: Alexandria, Burg El-Arab, Burg Rashid. Eastern Desert: Ismailia (Fayed, Nifisha & Moascar), Suez. Fayoum: Sinnuris. Lower Nile Valley & Delta: Abbassiya, Abu-Rawash, Aga, Bulaq El-Dakrou, Cairo, Desouk, El-Basatin, El-Mansoura, Giza, Maadi, Mit Yaish (Mit Ghamr). Upper Nile Valley: Dairout, Minya. Western Desert: Abis, Itay El-Baroud.

Dates of collection in Egypt: March to November.

***Culicoides riethi* Kieffer, 1914****Nomenclature:**

*Culicoides riethi* Kieffer, 1914 [Kieffer 1914a: 237]. Type locality: Germany.

*Culicoides cordatus* Kieffer, 1921 [Kieffer 1921b: 114 (1921d: 275)]. Type locality: Latvia.

*Culicoides crassiforceps* Kieffer, 1924 [Kieffer 1924a: 15]. Type locality: Germany.

*Culicoides gigas* Root and Hoffman, 1937 [Root and Hoffman 1937: 172]. Type locality: Canada (Saskatchewan).

**Distribution:** NE: from Alaska to Manitoba, south to British Columbia, Wyoming and Nebraska. PA: China, Egypt, Europe (widespread), Iran, Japan, Mongolia, Morocco.

Local distribution in Egypt: Coastal Strip: Roseta. Fayoum: El-Siliyin Lower Nile valley & Delta: Abu-Rawash. Upper Nile Valley: Asswan (Botanical Garden, High Dam), Minya. Western Desert: Wadi El-Natroun.

Dates of collection in Egypt: throughout the year.

***Culicoides sahariensis* Kieffer, 1923****Nomenclature:**

*Culicoides sahariensis* Kieffer, 1923 [Kieffer 1923a: 678]. Type locality: Algeria.

*Culicoides similis baghdadensis* Khalaf, 1957 [Khalaf 1957: 341]. Type locality: Iraq.

*Culicoides coluzzii* Callot, Kremer and Bailly-Choumara, 1970 [Callot et al. 1970: 710]. Type locality: Tunisia.

**Distribution:** PA: Algeria, Cyprus, Italy, Portuguese, Sicily, Spain, Middle East, Turkey.

Local distribution in Egypt: Sinai: Bir El-Abd, Bir Lahfan.

Dates of collection in Egypt: Unknown.

***Culicoides schultzei* (Enderlein, 1908)****Nomenclature:**

*Ceratopogon schultzei* Enderlein, 1908 [Enderlein 1908: 459]. Type locality: Namibia.

*Culicoides irroratus* Goetghebuer, 1948 [Goetghebuer 1948: 12]. Type locality: Democratic Republic of the Congo.

**Materials**

- a. scientificName: *Culicoides schultzei* (Enderlein, 1908); kingdom: Animalia; phylum: Arthropoda; class: Insecta; order: Diptera; family: Ceratopogonidae; continent: Africa;

- country: Egypt; stateProvince: El-Behaira; locality: Wadi El-Natrou; samplingProtocol: light trap; eventDate: 3 May 1993; individualCount: 1; sex: male; lifeStage: adult
- b. scientificName: *Culicoides schultzei* (Enderlein, 1908); kingdom: Animalia; phylum: Arthropoda; class: Insecta; order: Diptera; family: Ceratopogonidae; continent: Africa; country: Egypt; stateProvince: El-Dakahlyia; locality: Sellent, El-Mansoura; samplingProtocol: light trap; eventDate: 17 Nov 199; individualCount: 1; sex: female; lifeStage: adult

**Distribution:** AF: Widespread. AU: New Guinea. OR: Indonesia. PA: China, Cyprus, Japan, Korea, Middle East, North Africa, Tajikistan, Turkmenistan, Uzbekistan.

Local distribution in Egypt: widely distributed.

Dates of collection in Egypt: throughout the year.

### ***Culicoides sejfadinei* Dzhafarov, 1958**

**Nomenclature:**

*Culicoides sejfadinei* Dzhafarov, 1958 [Dzhafarov 1958: 247]. Type locality: Azerbaijan.

*Culicoides flavidus* Dzhafarov, 1959 [Dzhafarov 1959: 470]. Type locality: Azerbaijan

**Distribution:** PA: Algeria, Armenia, Azerbaijan, Bosnia and Herzegovina, China, France, Greece, Italy, Kyrgyzstan, Middle East, Morocco, Tajikistan, Turkey, Turkmenistan, Uzbekistan, former Yugoslavia.

Local distribution in Egypt: Sinai: Wadi Sa'al.

Dates of collection in Egypt: Unknown.

### ***Culicoides sergenti* (Kieffer, 1921)**

**Nomenclature:**

*Diplosella sergenti* Kieffer, 1921 [Kieffer 1921b: 113]. Type locality: Algeria (El-Outaya).

*Culicoides citrinellus* Kieffer, 1923 [Kieffer 1923a: 674]. Type locality: Algeria.

*Culicoides mosulensis* Khalaf, 1957 [Khalaf 1957: 339]. Type locality: Iraq.

*Culicoides turkmenicus* Gutsevich, 1959 [Gutsevich 1959: 678]. Type locality: Turkmenistan.

**Distribution:** PA: Algeria, Cyprus, Egypt, France, Iran, Iraq, Israel, Russia, Tajikistan, Turkmenistan, Uzbekistan.

Local distribution in Egypt: Sinai: El-Tour, Wadi Ba'aba'a.

Dates of collection in Egypt: Unknown.



***Culicoides similis* Carter, Ingram and Macfie, 1920****Nomenclature:**

*Culicoides similis* Carter, Ingram and Macfie, 1920 [Carter et al. 1920: 255]. Type locality: Ghana.

**Distribution:** AF: Widespread. OR: India, Laos, Malaysia, Thailand. PA: Middle East, Morocco.

Local distribution in Egypt: Eastern Desert: Ismailia (Moascar). Lower Nile Valley & Delta: Kafr El-Zaiyat, Shatanouf.

Dates of collection in Egypt: February to July.

***Culicoides stigma* (Meigen, 1818)****Nomenclature:**

*Ceratopogon stigma* Meigen, 1818 [Meigen 1818: 73]. Type locality: Europe.

*Culicoides kiefferi* Goetghebuer, 1910 [Goetghebuer 1910: 96]. Type locality: Belgium.

*Culicoides cordiformitarsis* Carter, 1916 [Carter 1916: 134]. Type locality: Egypt.

*Culicoides unimaculatus* Goetghebuer, 1920 [Goetghebuer 1920: 57]. Unnecessary new name for *kiefferi* Goetghebuer.

*Culicoides stigmoides* Callot, Kremer and Dedit, 1962 [Callot et al. 1962: 166]. Type locality: France.

**Distribution:** NE: Canada. PA: Egypt, Europe (widespread).

Local distribution in Egypt: Unknown.

Dates of collection in Egypt: Unknown.

**Notes:** This species was listed as recorded from Egypt by Steyskal & El-Bialy (1967), but no other published records or specimens have been found.

***Culicoides vitreipennis* Austen, 1921****Nomenclature:**

*Culicoides vitreipennis* Austen, 1921 [Austen 1921: 108]. Type locality: Israel (Jerisheh).

**Distribution:** PA: Egypt, Israel.

Local distribution in Egypt: Eastern Desert: Ismailia (Moascar). Sinai: Bir El-Abd.

Dates of collection in Egypt: April to July.

## Tribe CERATOPOGONINI

### Genus *Alluaudomyia* Kieffer, 1913

- GBIF <https://www.gbif.org/species/1632585>

#### Nomenclature:

***Alluaudomyia*** Kieffer, 1913 [Kieffer 1913d: 12]. Type species: *Alluaudomyia imparunguis* Kieffer, by monotypy.

*Neoceratopogon* Malloch, 1915 [*Malloch 1915b*: 310]. Type species: *Ceratopogon bellus* Coquillett, by original designation.

*Prionognathus* Carter, Ingram and Macfie, 1921 [*Carter et al. 1921a*: 309]. Type species: *Prionognathus marmoratus* Carter, Ingram and Macfie, by original designation.

*Thysanognathus* Ingram and Macfie, 1922 [*Ingram and Macfie 1922*: 244]. New name for *Prionognathus* Carter, Ingram and Macfie. Type species: *Prionognathus marmoratus* Carter, Ingram and Macfie, automatic.

*Isoecacta* Garrett, 1925 [*Garrett 1925*: 9]. Type species: *Isoecacta poeyi* Garrett (= *Ceratopogon bellus* Coquillett), by original designation.

### *Alluaudomyia melanosticta* (Ingram and Macfie, 1922)

#### Nomenclature:

*Thysanognathus melanosticta* Ingram and Macfie, 1922 [*Ingram and Macfie 1922*: 248]. Type locality: Ghana.

*Thysanognathus nilogenes* Kieffer, 1925 [*Kieffer 1925c*: 262]. Type locality: Egypt.

**Distribution:** AF: Widespread. PA: Egypt.

Local distribution in Egypt: Eastern Desert: Ismailia. Lower Nile Valley & Delta: Ayiat, Maadi. Upper Nile Valley: Beni Hassan.

Dates of collection in Egypt: October to March.

### Genus *Serromyia* Meigen, 1818

- GBIF <https://www.gbif.org/species/1633463>

#### Nomenclature:

***Serromyia*** Meigen, 1818 [Meigen 1818: 83]. Type species: *Ceratopogon femoratus* Meigen, by monotypy.

*Prionomyia* Stephens, 1829 [*Stephens 1829b*: 237]. Type species: *Ceratopogon femoratus* Meigen, by subsequent designation of Westwood (1840: 126).

*Atmobia* Bigot, 1857 [*Bigot 1857*: 519]. Type species: *Ceratopogon femoratus* Meigen, by subsequent designation of Evenhuis and Pont (2004).

*Ceratolophus* Kieffer, 1899 [*Kieffer 1899*: 69], preoccupied by Barboza de Bocage, 1873. Type species: *Ceratopogon femoratus* Meigen, by original designation.

*Johannseniella* Williston, 1907 [*Williston 1907*: 1]. New name for *Ceratolophus* Kieffer. Type species: *Ceratopogon femoratus* Meigen, automatic.

*Ceratolophana* Strand, 1928 [*Strand 1928*: 48]. New name for *Ceratolophus* Kieffer. Type species: *Ceratopogon femoratus* Meigen, automatic.

### ***Serromyia mangrovi* Delécolle and Braverman, 1987**

#### **Nomenclature:**

*Serromyia mangrovi* Delécolle and Braverman, 1987 [Delécolle and Braverman 1987: 57]. Type locality: Egypt.

**Distribution:** PA: Egypt.

Local distribution in Egypt: Sinai: E-Shira el Gharkana, Marsa Abu Zabad, Ras Muhammad.

Dates of collection in Egypt: Unknown.

### **Tribe JOHANNSENYIINI**

### **Genus *Johannsenomyia* Malloch, 1915**

- GBIF <https://www.gbif.org/species/1630921>

#### **Nomenclature:**

*Johannsenomyia* Malloch, 1915 [Malloch 1915a: 332]. Type species: *Johannsenomyia halteralis* Malloch, by subsequent designation of Wirth (1952).

*Dicrohelea* Kieffer, 1917 [*Kieffer 1917*: 363]. Type species: *Palpomyia filicornis* Kieffer, by subsequent designation of Macfie (1940).

### ***Johannsenomyia imparunguis* (Becker, 1903)**

#### **Nomenclature:**

*Ceratopogon imparunguis* Becker, 1903 [Becker 1903: 72]. Type locality: Egypt.

**Distribution:** PA: Egypt.

Local distribution in Egypt: Lower Nile Valley & Delta: Cairo. Upper Nile Valley: Luxor.

Dates of collection in Egypt: November and December.

## Genus *Macropeza* Meigen, 1818

### Nomenclature:

***Macropeza*** Meigen, 1818 [Meigen 1818: 87]. Type species: *Macropeza albitarsis* Meigen, by monotypy.

*Macroptilum* Becker, 1903 [Becker 1903: 76]. Type species: *Macroptilum nudum* Becker, by monotypy.

*Haasiella* Kieffer, 1913 [Kieffer 1913c: 190]. Type species: *Haasiella semiflava* Kieffer, by original designation.

## *Macropeza nuda* (Becker, 1903)

### Nomenclature:

*Macroptilum nudum* Becker, 1903 [Becker 1903: 77]. Type locality: Egypt.

**Distribution:** PA: Egypt.

Local distribution in Egypt: Lower Nile Valley & Delta: Cairo. Upper Nile Valley: Sohag (El-Shewash).

Dates of collection in Egypt: September to November.

## Genus *Nilobezzia* Kieffer, 1921

- GBIF <https://www.gbif.org/species/1630740>

### Nomenclature:

***Nilobezzia*** Kieffer, 1921 [Kieffer 1921a: 24]. Type species: *Nilobezzia armata* Kieffer, by monotypy.

*Crespinia* Kieffer, 1923 [Kieffer 1923b: 141]. Type species: *Crespinia brevipalpis* Kieffer, by monotypy.

*Parrotia* Kieffer, 1923 [Kieffer 1923b: 140]. Type species: *Parrotia flaviventris* Kieffer (= *Nilobezzia kiefferi* Wirth), by original designation.

*Sphaerobezzia* Zilahi-Sebess, 1940 [Zilahi-Sebess 1940: 108]. Type species: *Bezzia paradoxa* Zilahi-Sebess (= *Ceratopogon formosa* Loew), by monotypy.

## *Nilobezzia nilotica* (Kieffer, 1925)

### Nomenclature:

*Parrotia nilotica* Kieffer, 1925 [Kieffer 1925c: 263]. Type locality: Egypt (Maadi, on border of the Nile).

**Distribution:** PA: Egypt.

Local distribution in Egypt: Lower Nile Valley & Delta: Maadi.

Dates of collection in Egypt: October.

## Tribe PALPOMYIINI

### Genus *Bezzia* Kieffer, 1899

- GBIF <https://www.gbif.org/species/1637599>

#### Nomenclature:

***Bezzia*** Kieffer, 1899 [Kieffer 1899: 69]. Type species: *Ceratopogon ornatus* Meigen, by original designation.

*Pseudobezzia* Malloch, 1915 [*Malloch 1915a*: 351]. Type species: *Ceratopogon expolitus* Coquillett, by original designation.

*Allobezzia* Kieffer, 1917 [*Kieffer 1917*: 296]. Type species: *Ceratopogon expolitus* Coquillett, by original designation.

*Lasiobezzia* Kieffer, 1925 [Kieffer 1925b: 54]. Type species: *Bezzia pilipennis* Lundström, by original designation.

*Homobezzia* Macfie, 1932 [Macfie 1932: 496]. Type species: *Homobezzia nysae* Macfie, by monotypy.

*Sivabezzia* Remm, 1974 [Remm 1974: 440]. Type species: *Bezzia campanai* Clastrier, by original designation.

*Pygobezzia* Remm, 1974 [Remm 1974: 441]. Type species: *Bezzia strobli* Kieffer (= *Ceratopogon albicornis* Meigen), by original designation.

*Aspinabezzia* Dow and Turner, 1976 [*Dow and Turner 1976*: 122]. Type species: *Ceratopogon glaber* Coquillett, by original designation.

### ***Bezzia aegyptia* Kieffer, 1925**

#### Nomenclature:

*Bezzia aegyptia* Kieffer, 1925 [*Kieffer 1925c*: 264]. Type locality: Egypt (Suez).

**Distribution:** PA: Egypt.

Local distribution in Egypt: Eastern Desert: Suez.

Dates of collection in Egypt: September.

### ***Bezzia albicornis* (Meigen, 1818)**

#### Nomenclature:

*Ceratopogon albicornis* Meigen, 1818 [Meigen 1818: 74]. Type locality: Germany.

*Ceratopogon pallidetarsata* Strobl, 1900 [*Strobl 1900*Strobl, 1900: 171]. Type locality: Spain.

*Bezzia strobli* Kieffer, 1919 [Kieffer 1919: 122]. Type locality: Montenegro.

*Bezzia brevinervis* Kieffer, 1919 [Kieffer 1919: 122]. Type locality: Hungary.

*Homobezzia atrata* Macfie, 1944 [*Macfie 1944*: 126]. Type locality: Egypt.

**Distribution:** AF: Gambia, Nigeria, South Africa, United Arab Emirates, Yemen. PA: Afghanistan, Algeria, Egypt, Europe (widespread), Israel, Lebanon.

Local distribution in Egypt: Fayoum: Etsa, Fayoum City. Lower Nile Valley & Delta: Banha, Cairo, El-Mansoura, El-Qanatir, Maadi, Marsafa. Western Desert: El-Bustan (Beheira).

Dates of collection in Egypt: March to November.

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## Author contributions

All authors contributed equally to this manuscript

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