The taxonomic status of Jean-Jacques Kieffer’s type specimens of Afrotropical Cecidomyiidae (Diptera)

Keith M. Harris¹ and Netta Dorchin²

¹81 Linden Way, Ripley, Woking, Surrey, GU23 6LP, UK; kmharris@lineone.net
²Department of Zoology, Tel Aviv University, Tel Aviv, 69978 Israel; ndorchin@post.tau.ac.il

ABSTRACT

Holotypes and syntypes of cecidomyiid genera and species described from the Seychelles and East Africa by J.-J. Kieffer in the early 20th century are held in the collections of the Natural History Museum, London and the Muséum national d’Histoire naturelle, Paris, France. All are specimens caught in flight, so without associated biological data and most are unidentifiable females. Many are in poor condition and inadequate for detailed study and are of little assistance in advancing understanding of the Afrotropical Cecidomyiidae fauna. Following examination of all extant specimens, 16 genera and 59 species are listed and assigned to nomina dubia. Six other species that are represented by holotypes or syntypes that still have intact genitalia (which may possibly be recognised in future revisionary studies), are also listed.

KEY WORDS: Afrotropical, Cecidomyiidae, gall midges, Jean-Jacques Kieffer, nomina dubia, types.

INTRODUCTION

R.J. Gagné (1994), in an account of the gall midges of the Neotropical Region, provided a brief biography of Jean-Jacques Kieffer (1857–1925), in which he noted that Kieffer published 470 scientific papers, including taxonomic studies of the Cecidomyiidae, Ceratopogonidae, Chironomidae and parasitic Hymenoptera. Gagné also noted that no collection survived at Kieffer’s work place in Bitche, Lorraine, France, an observation that was first made by F.W. Edwards in 1938 and confirmed by later searchers (including Gagné himself in 1987). It is, therefore, surprising that types of almost all of the Cecidomyiidae described by Kieffer from tropical Africa have survived, either in Muséum national d’Histoire naturelle, Paris (MNHN) or in the Natural History Museum, London (BMNH). These specimens were collected by two expeditions: the Percy Sladen Trust expedition to the Indian Ocean in 1905, which collected in the Seychelles, and the Alluaud-Jeannel expedition in 1911–12, which collected in East Africa (Kenya and Tanzania). Kieffer’s accounts of this material were published in various papers (Kieffer 1911, 1912, 1913a–f). All of the specimens were caught in flight, so nothing is known regarding their biology, and most are females, without associated males. These types are, therefore, of very little value in understanding the Afrotropical Cecidomyiidae fauna, but the genus and species names based on them were validly published under provisions of the International Code of Zoological Nomenclature (ICZN 1999).

The specimens in the MNHN were originally stored in alcohol in small glass tubes and those in the BMNH were staged on pins. In the late 1970s they were mostly mounted on microscope slides by KMH and examined during preparation of the Cecidomyiidae entries for the Catalogue of the Diptera of the Afrotropical Region (Harris 1980). No revisionary studies were conducted at that time, but some generic names were treated as junior synonyms and some species were reassigned. In particular, the following genera were placed in synonymy: Properrisia Kieffer, 1912, Sphaerolauthia Kieffer, 1912 and Nanolauthia Kieffer, 1913 with Ledomyia Kieffer, 1894; Parasphondylia Kieffer, 1913 with Schizomyia Kieffer, 1889; Tristephanus Kieffer, 1913 with Karshomyia Felt, 1908;
Plagiodiplosis Kieffer, 1913 with Trisopsis Kieffer, 1912; and Baeomyza Kieffer, 1913 and Jeannellomyia Kieffer, 1913 with Stomatozema Kieffer, 1904. Most of the other genera described by Kieffer from the Seychelles and East Africa were listed by Harris (1980) as valid taxa, pending further study. We have now reassessed the situation during preparation of the chapter on Cecidomyiidae for the forthcoming Manual of Afrotropical Diptera and have decided that most of these genera and species named by Kieffer, which have remained unrecognised for almost a century, are unlikely to be recognised with any degree of certainty now or in the future and are best treated as nomina dubia.

This is especially true of the many monotypic genera erected by Kieffer on the basis of single, caught, rather than reared, specimens (mostly females); a practice that was acceptable at that time, but not acceptable today. In most cases, Kieffer provided minimal generic descriptions, or no descriptions at all, and almost no comparative diagnoses and, although the type specimens have survived, they are mostly damaged and in poor condition. We, therefore, formally designate all of the genera and species listed below as nomina dubia. A few male specimens have distinctive genitalia that may or may not be diagnostic of species. We list them separately, but do not assign them to nomina dubia.

Full biographical and other information for all of the species and genera dealt with in this paper is provided in A Catalog of the Cecidomyiidae (Diptera) of the World (Gagné 2004) and a digital update, which is available on open access (Gagné 2010). For consistency and ease of amendment, we have listed species names in the format of this catalogue, with the species name preceding the generic assignation. Many cecidomyiid genera erected in sole or joint authorship by Kieffer, mainly in earlier publications, which include Afrotropical representatives, are retained as recognised taxa, notably Baldratia Kieffer, 1897; Clinodiplosis Kieffer, 1894; Dicrodiplosis Kieffer, 1895; Endaphis Kieffer, 1896; Lauthia Kieffer, 1912; Ledomyia Kieffer, 1894; Lestodiplosis Kieffer, 1894; Mitodiplosis Kieffer, 1914; Ochnephila Kieffer, 1914; Orseolia Kieffer & Massalongo, 1902; Procontarinia Kieffer & Cecconi, 1906; Schizomyia Kieffer, 1889; Stefaniola Kieffer, 1913; Stomatozema Kieffer, 1904; Trisopsis Kieffer, 1912; Trotteria Kieffer, 1902; and Zeuxidiplosis Kieffer, 1904.

**TAXONOMY**

The following listed genera and species are here regarded as nomina dubia:

**Subfamily Micromyinae Rondani, 1856**


**Subfamily Porricondylinae Kieffer, 1913**


**Subfamily Cecidomyiinae Newman, 1834**

Aplecus Kieffer, 1913e: 105. Type species: Aplecus validus Kieffer (by original designation). Monotypic genus.
**BAEODIPLOSIS** Kieffer, 1913e: 111. Type species: *Baeodiplosis tropicalis* Kieffer (by original designation). Monotypic genus.

**CACOPLECUS** Kieffer, 1913e: 112. Type species: *Cacoplecus brevitarsis* Kieffer (by original designation). Monotypic genus.

**CHAETODIPLOSIS** Kieffer, 1913e: 103. Type species: *Chaetodiplosis tropica* Kieffer (by original designation). Genus based on one caught female; the later addition from Nigeria of *C. gymnastica* Collin, 1922: 507, is currently in unplaced Cecidomyiidae (Gagné 2010).

**CONODIPLOSIS** Kieffer, 1913e: 102. Type species: *Conodiplosis dolichopsis* Kieffer (by original designation). Monotypic genus.

**CTENODIPLOSIS** Kieffer, 1913e: 109. Type species: *Ctenodiplosis elongatus* Kieffer (by original designation). Two species included.

**HOLODIPLOSIS** Kieffer, 1913e: 103. Type species: *Holodiplosis alticola* Kieffer (by original designation).


**LEPIDOBREMA** Kieffer, 1913b: x. Type species: *Bremia mahensis* Kieffer (by original designation). Monotypic genus.


**PACHYDIPLOSIS** Kieffer, 1913e: 108. Type species: *Pachydiplosis apricans* Kieffer (by original designation). This genus was subsequently widely and incorrectly used in applied entomology to accommodate the Asian rice gall midge, *Orseolia oryzae* (Wood-Mason, 1889) (see Krishnaiah 2004).

**PERODIPLOSIS** Kieffer, 1913e: 100. Type species: *Perodiplosis coronata* Kieffer (by original designation). Monotypic genus.

**PLANODIPLOSIS** Kieffer, 1911: 323. Type species: *Planodiplosis insularis* Kieffer (by monotypy). Monotypic genus.

**PLECOPHORUS** Kieffer, 1913e: 104. Type species: *Plecophorus fuscocinctus* Kieffer (by original designation). Monotypic genus.


**albiventris** Kieffer, 1913e: 93 (*Asphondylia*). Kenya, holotype ♀ (MNHN).

**alluaudi** Kieffer, 1913e: 94 (*Trisopsis*). Kenya, holotype ♀ (MNHN).

**alticola** Kieffer, 1913e: 104 (*Holodiplosis*). Kenya, holotype ♂ (MNHN). Type species of *Holodiplosis* Kieffer.


**brevipalpis** Kieffer, 1913e: 92 (*Asphondylia*). Kenya, holotype ♂ (MNHN).

**brevitarsis** Kieffer, 1913e: 113 (*Cacoplecus*). Kenya, syntypes 4♀ (MNHN). Type species of *Cacoplecus* Kieffer.
callopus Kieffer, 1911: 323 (Lepidodiplosis Kieffer, 1911). Seychelles, holotype ♀ (BMNH).
ciliatipennis Kieffer, 1911: 325 (Lepidodiplosis). Seychelles, holotype ♀ (BMNH).
cincticornis Kieffer, 1913: 99 (Lepidodiplosis). Tanzania, holotype ♀ (MNHN).
cincticornis Kieffer, 1913: 99 (Lestodiplosis). Tanzania, holotype ♀ (MNHN).

Type species of Conodiplosis Kieffer.
dubia Kieffer, 1913: 95 (Lamprodiplosis). Tanzania, holotype ♀ (MNHN).
fuscocinctus Kieffer, 1913: 105 (Plecophorus). Tanzania, holotype ♀ (MNHN). Type species of Plecophorus Kieffer.
gracilis Kieffer, 1913: 97 (Coprodiplosis). Tanzania, holotype ♀ (MNHN).
homotomus Kieffer, 1911: 319 (Chrysodiplosis). Seychelles, holotype ♀ (BMNH).
insula Kieffer, 1911: 326 (Clinodiplosis). Seychelles, sympotypes 1♂, 1♀ (BMNH).
longicauda Kieffer, 1913: 99 (Coprodiplosis). Tanzania, sympotypes 2♀ (MNHN).
lumienis Kieffer, 1913: 97 (Coprodiplosis). Tanzania, holotype ♀ (MNHN).
mahensis Kieffer, 1911: 326 (Bremia). Seychelles, holotype ♀ not found (BMNH). Type species of Lepidobremia Kieffer.
mahensis Kieffer, 1911: 320 (Lepidodiplosis Kieffer, 1911). Seychelles, sympotypes 1♂, 1♀ (BMNH). Type species of Lepidodiplosis Kieffer, 1911.
monticola Kieffer, 1913: 90 (Baeomyza). Tanzania, holotype ♀ (MNHN).
nana Kieffer, 1911: 325 (Trisopsis). Seychelles, sympotypes 2♂, 2♀ (BMNH).
nympha Kieffer, 1913: 96 (Coprodiplosis). Tanzania, holotype ♀ (MNHN).
pedicellatum Kieffer, 1913: 90 (Baeomyza). Kenya, holotype ♀ (MNHN).
scotti Kieffer, 1911: 326 (Clinodiplosis). Seychelles, holotype ♀ (BMNH).
scottianus Kieffer, 1911: 324 (Lestodiplosis). Seychelles, holotype ♀ (BMNH).
styloptera Kieffer, 1911: 317 (Ledomyia). Seychelles, holotype ♀ (BMNH).
subrotunda Kieffer, 1913e: 110 (Ctenodiplosis). Tanzania, holotype ♀ (MNHN).
subsessile Kieffer, 1913e: 89 (Baeomyza). Kenya, holotype ♀ (MNHN).
tritomus Kieffer, 1913e: 98 (Coprodiplosis). Tanzania, holotype ♀ (MNHN).
tropica Kieffer, 1913e: 103 (Chaetodiplosis). Tanzania, holotype ♀ (MNHN). Type species of Chaetodiplosis Kieffer.
tropicalis Kieffer, 1913e: 112 (Baeodiplosis). Tanzania, holotype ♀ (MNHN). Type species of Baeodiplosis Kieffer.
tropicalis Kieffer, 1913e: 98 (Coprodiplosis). Tanzania, holotype ♀ (MNHN).
tuberosa Kieffer, 1913e: 88 (Lasioptera). Tanzania, holotype ♀ (MNHN).
validus Kieffer, 1913e: 105 (Aplecus). Tanzania, holotype ♀ (MNHN). Type species of Aplecus Kieffer.

Types of six of the Cecidomyiinae species described by Kieffer from the Seychelles and East Africa have male genitalia that are reasonably intact and may possibly be recognised again in future revisionary studies. These are not here assigned to nomina dubia, but are listed below.

atricauda Kieffer, 1913e: 107 (Tristephanus). Kenya, syntypes 2♂, 1♀ (MNHN). Type species of Tristephanus Kieffer, treated as a junior synonym of Karshomyia Felt by Harris (1980).
brevipalpis Kieffer, 1913e: 108 (Microplecus). Tanzania, holotype ♂ (MNHN). Type species of Microplecus Kieffer, 1913.
monticola Kieffer, 1913e: 111 (Clinodiplosis). Tanzania, holotype ♂ (MNHN).
pulchricornis Kieffer, 1911: 318 (Chrysodiplosis). Seychelles, holotype ♂ (BMNH). Type species of Chrysodiplosis Kieffer, 1911.

The study of Afrotropical Cecidomyiidae is still at a very early stage, probably with most species and genera unknown and a great need for thorough new systematic studies.

ACKNOWLEDGEMENTS

This paper is dedicated to the memory of Brian Stuckenberg, who, as early as the 1960s, was aware of the need for new and comprehensive taxonomic studies of the virtually unknown African Cecidomyiidae. We are grateful to Mathias Jaschhof (Senckenberg Deutsches Entomologisches Institut, Müncheberg, Germany) for advising on the status of the Micromyinae and Porricondylinae species and to Erica McAlister (BMNH) and the late Loïc Matile (formerly MNHN) for enabling examination of relevant specimens in their care. Mathias
Jaschhof, Peter Kolesik and Raymond J. Gagné (United States Department of Agriculture, Washington DC, USA) also kindly commented on the draft manuscript.

REFERENCES


