



FIOCRUZ

UPDATED JUNE 2023

ATUALIZADO EM JUNHO DE 2023

BRAZILIAN SPECIES OF BITING MIDGES

Espécies de Maruins do Brasil

(DIPTERA: CERATOPOGONIDAE)

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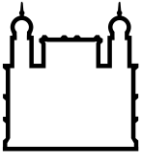
Coleção de Ceratopogonidae (CCER / Fio Cruz)

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Catalogs and lists of species are important tools in the study of biodiversity of localities, states, countries and zoogeographic regions. Throughout the years, several catalogs as well as lists of Ceratopogonidae tribes and genera have been created in order to update the species lists for family study facilitation. Ceratopogonidae catalogs and lists from different parts of the World are accessible in < <http://campus.belmont.edu/cienews/cie.html>>. From the Neotropical Region, the most recent Ceratopogonidae species catalogs have been elaborated by Borkent & Spinelli (2000, 2007). Nicaraguan, Mexican and Argentine species were published sequentially by Maes & Wirth (1990), Ibanez-Bernal et al. (1996) and Spinelli et al. (2023). Ceratopogonidae fauna was also mentioned by Wirth (1952a), Davies & Giglioli (1979) and Borkent (1991) for Juan Fernandez, Grand Cayman and Galápagos Islands, respectively. *Culicoides* species lists from Argentina, Colombia and Costa Rica are available in the publications by Spinelli et al. (2005, 2009) and Spinelli & Borkent (2004). The *Culicoides* from Panama, West Indian, Mexico and Ecuador were published by Wirth & Blanton (1959), Wirth (1974), Mendez-Andrade & Ibáñez-Bernal (2023) and Mosquera et al. (2022). From Brazil, Wirth & Blanton (1973) and Castellón & Felipe-Bauer (2015) have published *Culicoides* species and their distribution in the Brazilian Amazon area. Since 2016, we have been publishing a list of Ceratopogonidae species described and recorded for Brazil and their distribution in the 26 Brazilian States that are available in <https://portal.fiocruz.br/conteudo-documento/arquivo-tipo-de-documento/arquivo/catalogo>. A table with species number distributed with respect to genera reported in the Neotropical region, Brazil and the Brazilian Amazon Region is included together with a brief history of Brazilian Ceratopogonidae fauna studies. The distribution of Neotropical species out of Brazil can be accessed in Borkent & Spinelli (2000, 2007).

In this list, we follow the species arrangement according to the catalog of “World Ceratopogonidae fauna” and “Subgeneric classification of species of *Culicoides*” by Borkent (2015a, b) and “Catalog of Neotropical Ceratopogonidae” by Borkent & Spinelli (2007). The distribution of species was adopted from specific literature including the most recent records of *Culicoides* from the Brazilian Amazon Region States from Castellón & Felipe-Bauer (2015) in addition to reliable localities with regard to the pertinent species deposited in the entomological collections of the following Institutions: Faculty of Public Health, University of São Paulo, São Paulo, Brazil; Ceratopogonidae Collection of Oswaldo Cruz Foundation, Rio de Janeiro, Brazil; National Museum of Natural History, Washington, DC, United States and British Museum, London, United Kingdom. In doubt of species presence in the cited localities, we chose to maintain them in the distribution until further

studies, as revisions of genera, subgenera or species group are carried out to confirm or not their presence.

The species records are included in alphabetical order of Brazilian States after the indication of the locality type, considering the geopolitical regions (North, Northeast, Midwest, Southeast and South). In 1977, the state of Mato Grosso was split into the states of Mato Grosso and Mato Grosso do Sul and in 1989, the state of Goiás divided into the states of Goiás and Tocantins. Localities mentioned in manuscripts prior to these dates had to be updated due to the newly created States. When the collection site of the species is not provided in the original paper, we consider the cited geographic region of the species.

To set the species in the Neotropical Region we relied on the biogeographical regionalisation of the Neotropical Region by Morrone (2014). For inclusion of species in the Brazilian Amazon Region, we considered the political map of the “Amazônia Legal Brasileira”, despite the fragility of geographical borders in the delimitation of the species distribution. Brazilian municipalities and states included here can be accessed in: <http://www.cidades.ibge.gov.br/xtras/home.php>

This list recognizes 1324 extant valid Ceratopogonidae species in the Neotropical Region, 525 in Brazil and 294 in the Brazilian Amazon Region. The Ceratopogoninae subfamily is the most represented according to the studies of the sanitary important *Culicoides* genus. This subfamily is better studied in the North and Southeast Brazilian regions and few species have been reported for the Brazilian northeast region despite containing nine States in an area of 1.558.196 km². Forcipomyinae is the second subfamily with a higher number of species, followed by Dasyheleinae. These two subfamilies are founded in the north, northeast, southeast and south of Brazil, and for Midwest Brazil, only four species have been reported for Forcipomyinae. For Leptoconopinae, only *Leptoconops brasiliensis* (Lutz) and *Leptoconops knowltoni* Clastrier & Wirth have been cited for the northern and southern Brazilian coastal areas. A close look at the number of listed species indicates the need for further studies in the five Brazilian geopolitical regions, especially in the Midwest and Northeast that encompass the natural biomes of Cerrado, Pantanal and Caatinga. In the Northeast, no Ceratopogonidae species has ever been reported for the State of Sergipe and in Alagoas just *Culicoides insignis* has been registered recently. Despite political inclusion in the northern region, Tocantins State presents a Cerrado biome and has no records of Ceratopogonidae as of yet.

We have been updating annually the species reported from Brazil and their records for the Brazilian States. We hope that the cited data and references available online may aid the systematic, biodiversity, biogeographical and epidemiological studies regarding the Ceratopogonidae fauna.

Brief historical report of the Brazilian Ceratopogonidae fauna studies.

Jean Jacques Kieffer was one of the most important naturalists who studied the world Ceratopogonidae fauna during the first quarter of the 20th Century. He proposed hundreds of taxa, of which several tribe, genera, subgenera and species are still valid. The species from Kieffer later reported for Brazil have been described based on material, particularly, from Paraguay. **Daniel William Coquillett** (1904) described the first Ceratopogonidae species from Brazil, *Ceratopogon guttatus* (*Culicoides guttatus*), based on three specimens collected by Adolpho Lutz in São Paulo State. **Emílio Augusto Goeldi**, from Paraense Museum, later Museu Paraense Emilio Goeldi, described a new genus and species, *Haematomyidium paraense* (*Culicoides paraensis*) in the manuscript “Os moquitos no Pará” published in 1905. Actually, *C. paraensis* is considered the most medical important species, due to Oropouche fever transmission and the possible implication in the transmission of Mansonellose in the Brazilian Amazon region. **Adolpho Lutz** (1913, 1914) described 15 new species belonging to diverse genera of Ceratopogonidae, and **Ângelo Moreira da Costa Lima** (1928, 1937) described four new *Culicoides* and *Forcipomyia* species and designed a key for the identification of the *Culicoides* of the Neotropical Region. **Frederico Simões Barbosa** (1943-1952) described new Neotropical *Culicoides* species, some still valid, his primary focus of study being *Culicoides* from the State of Pernambuco. **John William Scott Macfie** has produced several important manuscripts concerning the world Ceratopogonidae fauna, in which from Brazil, he described from 1935 to 1953 numerous species, especially from Santa Catarina State, based on specimens collected by Fritz Plaumann. In “A report on a collection of Brazilian Ceratopogonidae”, Macfie characterized 40 new species belonging to 13 genera. From 1942 to 1964, **Irving Fox** published a series of papers, primarily on the Caribbean *Culicoides*, also electing *Avaritia*, *Hoffmania* and *Macfiella* as subgenera of *Culicoides*. **John Lane** (1944-1964) and **Oswaldo P. Forattini** (1953-1960) described and redescribed several Neotropical species and published bionomic data about *Culicoides* from the mangrove swamp in São Vicente, São Paulo. In 1957, Forattini published a book intitled “*Culicoides* da Região Neotropical” including a key for identification of species. His life and bibliography, written in Portuguese, can be found in <<http://www.scielosp.org/pdf/rsp/v41n6/03.pdf>>. **Ignacio Ortíz** (1950-1961) in collaboration with Luis A. León and Marie Mirsa, dealing especially with the *Culicoides* from Venezuela and Ecuador, described dozens of species, some of them reported later in Brazil. **Jean Clastrier** carried on his Ceratopogonidae research activities from 1968 to 1995 also in the Neotropical Region, focusing primarily on the Guyana fauna. He also published Brazilian species of *Forcipomyia* with material

from Pará and Santa Catarina States. His life and scientific contributions can be accessed in <<http://campus.belmont.edu/cienews/Clastrier.html>>. From 1953 until his death in 1994, **Willis W. Wirth** motivated the studies of World Ceratopogonidae fauna with descriptions of hundreds of taxa in important and numerous manuscripts, extensive revisions, including handbooks, catalogs and species lists. **Wirth and Blanton** (1973) published “A review of the maruins or biting midges of the genus *Culicoides* (Diptera: Ceratopogonidae) in the Amazon Basin”, the first consolidation of the *Culicoides* species from the Brazilian Amazon Region, with a description of 15 new species. His life and contributions is available in <<http://campus.belmont.edu/cienews/Wirth.html>>. During three years, from 1978 to 1980, **Omar Tavares** and collaborators studying material from Rio de Janeiro, characterized 14 new species, actually belonging to the *Culicoides*, *Monohelea* and *Downshelea* genera. More recently, since 1990, **Eloy G. Castellón** has been publishing papers regarding survey and some bionomic aspects of *Culicoides* from the Amazonas and Pará States. Since 1981, **Gustavo R. Spinelli** and co-authors have been concentrating on Neotropical Ceratopogonidae, publishing studies, including revisions, which contributed with knowledge of the Brazilian biting midges, especially those of the Argentine fauna. Since 1987, **Maria Luiza Felipe-Bauer** and collaborators have been conducting taxonomy studies of Neotropical Ceratopogonidae, mainly of Brazilian *Culicoides*, describing several new species.

Catálogos e listas de espécies são ferramentas importantes no estudo da biodiversidade de localidades, estados, países e regiões zoogeográficas. Ao longo dos anos, vários catálogos e listas de tribos e gêneros de Ceratopogonidae têm sido feitos a fim de atualizar as listas de espécies para facilitar o estudo da família. Catálogos e listas de Ceratopogonidae de diferentes partes do mundo estão disponíveis em <<http://campus.belmont.edu/cienews/cie.html>>. Para a região Neotropical, os mais recentes catálogos das espécies de Ceratopogonidae foram realizados por Borkent & Spinelli (2000, 2007). Espécies de Nicarágua, México e Argentina foram publicadas sequencialmente por Maes & Wirth (1990), Ibanez-Bernal et al. (1996) e Spinelli et al. (2023). A fauna de Ceratopogonidae foi também mencionada por Wirth (1952a), Davies & Giglioli (1979) e Borkent (1991) para as Ilhas de Juan Fernandez, Grand Cayman e Galápagos, respectivamente. Listas das espécies de *Culicoides* para a Argentina, Colômbia e Costa Rica são obtidas nas publicações de Spinelli et al. (2005, 2009) e Spinelli & Borkent (2004). *Culicoides* para o Panamá, West Indian, México e Equador

foram publicados por Wirth & Blanton (1959), Wirth (1974), Mendez-Andrade & Ibáñez-Bernal (2023) e Mosquera et al. (2022). Para o Brasil, Wirth & Blanton (1973) e Castellón & Felipe-Bauer (2015) publicaram as espécies de *Culicoides* e sua distribuição na Amazônia Brasileira.

A partir de 2016, vimos publicando uma lista das espécies descritas e reportadas para o Brasil e sua distribuição nos 26 estados brasileiros que estão disponíveis em <https://portal.fiocruz.br/conteudo-documento/arquivo-tipo-de-documento/arquivo/catalogo>. Uma tabela com o número das espécies distribuídas por gênero reportadas para a Região Neotropical, Brasil e para a Região Amazônica Brasileira é incluída juntamente com um breve histórico dos estudos da fauna brasileira de Ceratopogonidae. A distribuição das espécies neotropicais fora do território brasileiro pode ser obtida em Borkent & Spinelli (2000, 2007).

Nessa lista, seguimos a ordenação das espécies conforme o catálogo “World Ceratopogonidae fauna” e “Subgeneric classification of species of *Culicoides*” de Borkent (2015a, b) e o “Catalog of Neotropical Ceratopogonidae” de Borkent & Spinelli (2007). A distribuição das espécies foi baseada na literatura específica incluindo os mais recentes registros de *Culicoides* para os estados da Região Amazônica Brasileira de Castellón & Felipe-Bauer (2015) além das localidades fiáveis relacionadas as espécies depositadas nas coleções entomológicas das seguintes instituições: Faculdade de Saúde Pública, Universidade de São Paulo, Brasil; Coleção de Ceratopogonidae da Fundação Oswaldo Cruz, Rio de Janeiro, Brasil; Museu Nacional de História Natural, Washington, DC, Estados Unidos e Museu Britânico, Londres, Inglaterra. Na dúvida da presença de espécies nas localidades citadas, optamos por mantê-las na distribuição até que futuros estudos, como revisões de gênero, subgênero ou grupo de espécies sejam realizados para confirmar ou não a presença das mesmas.

Os registros das espécies estão incluídos em ordem alfabética dos estados brasileiros após a indicação da localidade tipo, considerando as regiões geopolíticas (Norte, Nordeste, Centro-oeste, Sudeste e Sul). Em 1977, o estado de Mato Grosso foi separado nos estados de Mato Grosso e Mato Grosso do Sul e em 1989, o estado de Goiás foi dividido nos estados de Goiás e Tocantins. Localidades mencionadas em manuscritos anteriores a essas datas foram atualizadas devido a criação desses novos estados. Quando a localidade de coleta da espécie não é fornecida no trabalho original, consideramos a região geográfica citada para a espécie.

Para inserir as espécies na Região Neotropical contamos com o trabalho de regionalização biogeográfica da Região Neotropical de Morrone (2014). Para inclusão das espécies na Região Amazônica Brasileira, nós consideramos o mapa político da “Amazônia Legal Brasileira”, apesar da fragilidade das fronteiras geográficas na delimitação da distribuição das espécies. Os municípios e estados brasileiros aqui incluídos podem ser acessados em <http://www.cidades.ibge.gov.br/xtras/home.php>

Essa lista reconhece 1324 espécies de Ceratopogonidae existentes e válidas para a Região Neotropical, 525 para o Brasil e 294 para a Região Amazônica Brasileira. A subfamília Ceratopogoninae é a melhor representada devido aos estudos do gênero *Culicoides*, com importância sanitária. Essa subfamília é bem estudada nas regiões norte e sudeste do Brasil e poucas espécies têm sido reportadas para o nordeste brasileiro, apesar de abranger nove estados em uma área de 1.558.196 km². Forcipomyinae é a segunda subfamília com maior número de espécies, seguida de Dasyheleinae. Essas duas subfamílias são encontradas nas regiões norte, nordeste, sudeste e sul do Brasil, e para o Centro-oeste, apenas quatro espécies têm sido reportadas para Forcipomyinae. Para Leptoconopinae, apenas *Leptoconops brasiliensis* (Lutz) e *Leptoconops knowltoni* Clastrier & Wirth têm sido citadas para as áreas costeiras do norte e sul do Brasil. Um olhar atento ao número das espécies listadas indica a necessidade de futuros estudos nas cinco regiões geopolíticas brasileiras, especialmente na Centro-oeste e Nordeste que abriga os biomas naturais de Cerrado, Pantanal e Caatinga. No Nordeste, nenhuma espécie de Ceratopogonidae tem sido reportada para o estado de Sergipe e apenas *Culicoides insignis* foi registrada recentemente para o estado de Alagoas. Apesar de politicamente incluído na região norte, o estado de Tocantins apresenta um bioma de cerrado e não tem registros de Ceratopogonidae até o presente.

Vimos atualizando anualmente as espécies reportadas para o Brasil e seus registros para os estados brasileiros. Esperamos que os dados incluídos e as referências disponíveis possam auxiliar os estudos da Sistemática, Biodiversidade, Biogeografia e Epidemiologia relacionados à fauna de Ceratopogonidae.

Para correções e inclusões, favor contactar os autores através dos e-mails incluídos na primeira página.

Breve histórico dos estudos da fauna de Ceratopogonidae do Brasil.

Jean Jacques Kieffer foi um dos mais importantes naturalistas que estudou a fauna mundial de Ceratopogonidae durante o primeiro quartel do Século XX. Ele propôs centenas de taxons, dos quais várias tribos, gêneros, subgêneros e espécies são ainda válidos. As espécies de Kieffer relatadas posteriormente para o Brasil têm sido descritas baseadas em material, especialmente, do Paraguai. **Daniel William Coquillett** (1904) descreveu a primeira espécie de Ceratopogonidae para o Brasil, *Ceratopogon guttatus* (*Culicoides guttatus*), baseada em três exemplares coletados por Adolpho Lutz no estado de São Paulo. **Emílio Augusto Goeldi**, do Museu Paraense, posteriormente, Museu Paraense Emilio Goeldi, descreveu um novo gênero e espécie, *Haematomyidium paraense* (*Culicoides paraensis*) no manuscrito “Os moquitos no Pará” publicado em 1905. Atualmente, *C. paraensis* é considerada a espécie de maior importância médica, devido a transmissão da Febre de Oropouche e a possível implicação na transmissão da Mansonelose na Região Amazônica Brasileira. **Adolpho Lutz** (1913, 1914) descreveu 15 novas espécies pertencentes a diversos gêneros de Ceratopogonidae, e **Ângelo Moreira da Costa Lima** (1928, 1937) descreveu quatro novas espécies de *Culicoides* e *Forcipomyia* e fez uma chave para a identificação dos *Culicoides* da Região Neotropical. **Frederico Simões Barbosa** (1943-1952) descreveu novas espécies de *Culicoides* neotropicais, algumas ainda válidas, focando seus estudos principalmente nos *Culicoides* do estado de Pernambuco. **John William Scott Macfie** publicou vários manuscritos importantes no que concerne a fauna mundial de Ceratopogonidae, dos quais para o Brasil, ele descreveu de 1935 a 1953 numerosas espécies, especialmente para o estado de Santa Catarina, baseadas em espécimes coletados por Fritz Plaumann. Em “A report on a collection of Brazilian Ceratopogonidae”, Macfie caracterizou 40 novas espécies incluídas em 13 gêneros. De 1942 a 1964, **Irving Fox** publicou uma série de trabalhos, principalmente sobre os *Culicoides* do Caribe, elegendo também *Avaritia*, *Hoffmania* e *Macfiella* como subgênero de *Culicoides*. **John Lane** (1944-1964) e **Oswaldo P. Forattini** (1953-1960) descreveram e redescreveram várias espécies neotropicais e publicaram dados bionômicos sobre *Culicoides* de manguezal em São Vicente, São Paulo. Em 1957, Forattini publicou um livro intitulado “*Culicoides* da Região Neotropical” incluindo uma chave para identificação das espécies. Sua vida e bibliografia, escritas em Português, podem ser encontradas em <<http://www.scielosp.org/pdf/rsp/v41n6/03.pdf>>. **Ignacio Ortiz**

(1950-1961) em colaboração com Luis A. León e Marie Mirsa, trabalharam especialmente com os *Culicoides* da Venezuela e Equador, descrevendo dezenas de espécies, algumas delas reportadas posteriormente para o Brasil. **Jean Clastrier** exerceu suas atividades de pesquisa em Ceratopogonidae de 1968 a 1995 também na Região Neotropical, focado principalmente na fauna da Guiana. Ele também publicou espécies de *Forcipomyia* do Brasil com material dos estados do Pará e de Santa Catarina. Sua vida e contribuições científicas podem ser acessadas através do site <<http://campus.belmont.edu/cienews/Clastrier.html>>. De 1953 até sua morte em 1994, **Willis W. Wirth** impulsionou os estudos da fauna mundial de Ceratopogonidae com descrições de centenas de taxons em importantes e numerosos manuscritos, amplas revisões, incluindo livros, catálogos e listas de espécies. **Wirth and Blanton** (1973) publicaram “A review of the maruins or biting midges of the genus *Culicoides* (Diptera: Ceratopogonidae) in the Amazon Basin”, a primeira reunião das espécies de *Culicoides* da Região Amazônica Brasileira, com descrição de 15 novas espécies. Sua vida e contribuições estão disponíveis em <<http://campus.belmont.edu/cienews/Wirth.html>>. Durante três anos, de 1978 a 1980, **Omar Tavares** e colaboradores estudando material do Rio de Janeiro, caracterizaram 14 novas espécies, atualmente pertencentes aos gêneros *Culicoides*, *Monohelea* e *Downshelea*. Mais recentemente, desde 1990, **Eloy G. Castellón** tem publicado manuscritos relativos ao levantamento e alguns aspectos da bionomia de *Culicoides* dos estados do Amazonas e Pará. Desde 1981, **Gustavo R. Spinelli** e coautores têm se dedicado aos Ceratopogonidae neotropicais, publicando estudos, incluindo revisões, os quais contribuem com o conhecimento dos ceratopogonídeos brasileiros, principalmente os da fauna Argentina. Desde 1987, **Maria Luiza Felipe-Bauer** e colaboradores têm conduzido estudos taxonômicos dos Ceratopogonidae neotropicais, principalmente de *Culicoides* do Brasil, descrevendo várias espécies novas.

Table 1. Number of species of Ceratopogonidae genera reported in Neotropical Region, Brazil and in the Brazilian Amazon Region.

Subfamily	Tribe	Genus	Subgenus	Neotropical Region	Brazil	Brazilian Amazon Region
Ceratopogoninae	Ceratopogonini	<i>Allohelea</i>		1	-	-
		<i>Alluaudomyia</i>		18	7	5
		<i>Austrohelea</i>		3	-	-
		<i>Baeodasomyia</i>		5	-	-
		<i>Baeohelea</i>		1	-	-
		<i>Bahiahelea</i>		1	1	-
		<i>Borkenthelea</i>		4	-	-
		<i>Brachypogon</i>	<i>Brachypogon</i>	23	8	6
		<i>Brachypogon</i>	<i>Isohelea</i>	7	1	-
		<i>Bhachypogon</i>	Out of subgenus	2	-	-
		<i>Cacaohelea</i>		1	-	-
		<i>Ceratoculicoides</i>		1	-	-
		<i>Diaphanobezzia</i>		4	-	-
		<i>Downshelea</i>		46	19	9
		<i>Echinohelea</i>	<i>Echinohelea</i>	10	5	4
		<i>Echinohelea</i>	<i>Echinoideshelea</i>	1	1	1
		<i>Fittkauhelea</i>		1	1	1
		<i>Isthmohelea</i>		1	-	-
		<i>Leptohelea</i>		1	-	-
		<i>Macrurohelea</i>		17	-	-
		<i>Monohelea</i>		27	18	11
		<i>Nannohelea</i>		1	-	-
		<i>Notiohelea</i>		2	-	-
		<i>Parabezzia</i>		30	8	2
		<i>Rhynchohelea</i>		1	-	-

Table 1. Continued

Subfamily	Tribe	Genus	Subgenus	Neotropical Region	Brazil	Brazilian Amazon Region
		<i>Schizonyxhelea</i>		9	4	2
		<i>Spinellihelea</i>		1	-	-
		<i>Stilobezzia</i>	<i>Acanthohelea</i>	40	3	3
		<i>Stilobezzia</i>	<i>Eukraiohelea</i>	5	5	1
		<i>Stilobezzia</i>	<i>Stilobezzia</i>	45	23	7
		<i>Yungahelea</i>		1	-	-
	Culicoidini	<i>Culicoides</i>	<i>Amosovia</i>	1	-	-
		<i>Culicoides</i>	<i>Anilomyia</i>	20	2	1
		<i>Culicoides</i>	<i>Avaritia</i>	8	3	2
		<i>Culicoides</i>	<i>Beltranmyia</i>	3	-	-
		<i>Culicoides</i>	<i>Cotocripus</i>	6	2	-
		<i>Culicoides</i>	<i>Culicoides</i>	6	-	-
		<i>Culicoides</i>	<i>Diphaomyia</i>	14	3	2
		<i>Culicoides</i>	<i>Drymodesmyia</i>	13	3	1
		<i>Culicoides</i>	<i>Glaphiromyia</i>	2	-	-
		<i>Culicoides</i>	<i>Haematomyidium</i>	38	25	19
		<i>Culicoides</i>	<i>Hoffmania</i>	46	37	35
		<i>Culicoides</i>	<i>Macfiella</i>	2	1	1
		<i>Culicoides</i>	<i>Mataemyia</i>	19	13	10
		<i>Culicoides</i>	<i>Oecacta</i>	5	2	2
		<i>Culicoides</i>	<i>Psychophaena</i>	2	1	-
		<i>Culicoides</i>	Out of subgenus	116	59	50
		<i>Paradasyhelea</i>		3	-	-
	Heteromyiini	<i>Clinohelea</i>	<i>Ceratobezzia</i>	1	1	1
		<i>Clinohelea</i>	<i>Clinohelea</i>	11	9	6
		<i>Heteromyia</i>		11	6	4

Table 1. Continued

Subfamily	Tribe	Genus	Subgenus	Neotropical Region	Brazil	Brazilian Amazon Region
		<i>Pellucidomyia</i>		4	1	-
		<i>Physohelea</i>		2	-	-
	Johannsenomyiini	<i>Groganhelea</i>		1	1	1
		<i>Johannsenomyia</i>		2	1	-
		<i>Lanehelea</i>		2	-	-
		<i>Mallochohelea</i>		6	4	2
		<i>Neobezzia</i>		8	6	5
		<i>Nilobezzia</i>		3	3	2
	Palpomyiini	<i>Amerohelea</i>		13	4	3
		<i>Bezzia</i>		49	19	11
		<i>Clastrieromyia</i>		4	1	1
		<i>Pachyhelea</i>		2	1	1
		<i>Palpomyia</i>		55	32	6
		<i>Phaenobezzia</i>		2	2	1
	Sphaeromyiini	<i>Austrosphaeromias</i>		4	-	-
		<i>Sphaerohelea</i>		1	-	-
	Stenoxenini	<i>Paryphoconus</i>		42	30	18
		<i>Stenoxenus</i>		16	7	4
Forcipomyiinae	Dasyheleini	<i>Dasyhelea</i>		104	18	7
	Forcipomyiini	<i>Atrichopogon</i>	<i>Atrichopogon</i>	97	28	5
		<i>Atrichopogon</i>	<i>Lophomyidium</i>	5	2	2
		<i>Atrichopogon</i>	<i>Psilokempia</i>	17	6	3
		<i>Forcipomyia</i>	<i>Blantonia</i>	1	-	-
		<i>Forcipomyia</i>	<i>Caloforcipomyia</i>	11	9	4
		<i>Forcipomyia</i>	<i>Euprojoannisia</i>	16	5	3
		<i>Forcipomyia</i>	<i>Forcipomyia</i>	37	11	4

Table 1. Continued

Subfamily	Tribe	Genus	Subgenus	Neotropical Region	Brazil	Brazilian Amazon Region
		<i>Forcipomyia</i>	<i>Lasiohelea</i>	11	5	1
		<i>Forcipomyia</i>	<i>Lepidohelea</i>	23	10	1
		<i>Forcipomyia</i>	<i>Metaforcipomyia</i>	23	1	-
		<i>Forcipomyia</i>	<i>Microhelea</i>	50	22	11
		<i>Forcipomyia</i>	<i>Pedilohelea</i>	5	3	2
		<i>Forcipomyia</i>	<i>Phytohelea</i>	11	5	1
		<i>Forcipomyia</i>	<i>Pterobosca</i>	3	2	-
		<i>Forcipomyia</i>	<i>Rhynchoforcipomyia</i>	7	2	1
		<i>Forcipomyia</i>	<i>Saliohelea</i>	2	1	1
		<i>Forcipomyia</i>	<i>Schizoforcipomyia</i>	2	1	1
		<i>Forcipomyia</i>	<i>Synthyridomyia</i>	4	1	-
		<i>Forcipomyia</i>	<i>Thyridomyia</i>	8	2	-
		<i>Forcipomyia</i>	<i>Trichohelea</i>	13	2	1
		<i>Forcipomyia</i>	<i>Warkea</i>	7	4	4
Leptoconopinae		<i>Leptoconops</i>	<i>Brachyconops</i>	1	-	-
		<i>Leptoconops</i>	<i>Holoconops</i>	3	1	-
		<i>Leptoconops</i>	<i>Leptoconops</i>	7	1	1
		<i>Leptoconops</i>	<i>Megaconops</i>	1	-	-
		<i>Leptoconops</i>	<i>Proleptoconops</i>	1	-	-
Unplaced	Unplaced	<i>Ceratopogon</i>		1	-	-
TOTAL				1324	525	294

SUBFAMILY CERATOPOGONINAE NEWMAN, 1834

TRIBE CERATOPOGONINI

Genus ALLUAUDOMYIA Kieffer

ALLUAUDOMYIA Kieffer, 1913a: 12. Type species: *Alluaudomyia imparunguis* Kieffer, by monotypy.

NEOCERATOPOGON Malloch, 1915a: 310. Type species: *Ceratopogon bellus* Coquillett, by original designation.

PRIONOGNATHUS Carter, Ingram & Macfie, 1921: 309 (preoccupied by *Prionognathus* LaFerté-Sénectère, 1851). Type species: *Prionognathus marmoratus* Carter, Ingram & Macfie, by original designation.

THYSANOGNATHUS Ingram & Macfie, 1922: 244. New name for *Prionognathus* Carter, Ingram & Macfie. Type species: *Prionognathus marmoratus* Carter, Ingram & Macfie, automatic.

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

amazonica Spinelli & Wirth, 1984a: 676. Brazil (Amazonas)

catarinensis Spinelli & Wirth, 1984a: 681. Brazil (Santa Catarina)

distispinulosa Spinelli & Wirth, 1984a: 682. Brazil (Amazonas)

fittkai Spinelli & Wirth, 1984a: 686. Brazil (Amazonas). Brazil records – Amazonas, Pará

nubeculosa Spinelli & Wirth, 1984a: 689. Brazil (Amazonas). Brazil records – Amazonas, Pará

plaumanni Spinelli & Wirth, 1984a: 691. Brazil (Santa Catarina)

punctivenosa Wirth & Grogan, 1988: 20. New name for *punctiradialis*.

punctiradialis Spinelli & Wirth, 1984a: 692 (preoccupied by *Alluaudomyia punctiradialis* Chaudhuri, Das Gupta & Chaudhuri, 1972). Brazil (Pará)

Genus BAHIAHELEA Wirth

BAHIAHELEA Wirth, 1992: 276. Type species: *Bahiahelea brasiliensis* Wirth, by original designation.

brasiliensis Wirth, 1992: 280. Brazil (Bahia)

Genus BRACHYPOGON Kieffer

BRACHYPOGON Kieffer, 1899: 69. Type species: *Ceratopogon vitiosus* Winnertz, by original designation.

Subgenus BRACHYPOGON Kieffer

apunctipennis Spinelli & Grogan, 1998: 64. Brazil (Rondônia)

bimaculatus Spinelli & Grogan, 1998: 67. Colombia. Brazil records – Mato Grosso

fuscivenosus (Lutz), 1914: 94 (*Palpomyia*). Brazil (Rio de Janeiro)
impar (Johannsen), 1938: 223 (*Ceratopogon*). Puerto Rico (USA). Brazil records – Santa Catarina
paraensis Wirth & Blanton, 1970a: 99 (as *parasensis*). Brazil (Pará)
pseudoparaensis Spinelli & Grogan, 1998: 64. Brazil (Pará)
schmitzi Spinelli & Grogan, 1998: 65. Brazil (Rondônia)
spatuliformis Spinelli & Grogan, 1998: 65. Brazil (Rondônia)

Subgenus ISOHELEA Kieffer

ISOHELEA Kieffer, 1917a: 295. Type species: *Ceratopogon lacteipennis* Zetterstedt (misidentified, = *Psilohelea sociabilis* Goetghebuer), by original designation.
NILOHELEA Kieffer, 1921a: 22. Type species: *Nilohalea albipennis* Kieffer, by monotypy.
TRISHELEA Kieffer, 1925a: 153. Type species: *Trishelea incompleta* Kieffer, by original designation.
misionensis Spinelli, 1990: 752. Argentina. Brazil records – Southeast, Santa Catarina

Genus DOWNESHELEA Wirth & Grogan

DOWNESHELEA Wirth & Grogan, 1988: 50. Type species: *Monohalea stonei* Wirth, by original designation.
avizi Santarém, Borkent & Felipe-Bauer, 2020: 15. Brazil (Pará)
bahiana Santarém, Borkent & Felipe-Bauer, 2020: 17. Brazil (Bahia)
bicornis Felipe-Bauer & Quintelas, 1993a: 185. Brazil (Rio de Janeiro)
carioca (Tavares & Silva Pereira), 1978: 157 (*Monohalea*). Brazil (Rio de Janeiro)
casimirensis Santarém, Borkent, Spinelli & Felipe-Bauer, 2018: 517. Brazil (Rio de Janeiro)
castroi (Tavares & Silva Pereira), 1978: 159 (*Monohalea*). Brazil (Rio de Janeiro)
divergentis Santarém, Borkent & Felipe-Bauer, 2020: 46. Brazil (Amazonas)
eclectica Santarém, Borkent, Spinelli & Felipe-Bauer, 2018: 521. Costa Rica. Brazil records – Pará
fluminensis Felipe-Bauer & Quintelas, 1993b: 33. Brazil (Rio de Janeiro). Brazil records – Mato Grosso do Sul, Espírito Santo, Rio de Janeiro
fuscipennis (Lane & Wirth), 1964: 221 (*Monohalea*). Colombia. Brazil records – Acre, Amazonas
guianae (Wirth), 1953a: 150 (*Monohalea*). Guyana. Brazil records – Pará
lanei Felipe-Bauer & Borkent in Felipe-Bauer et al., 2011: 21. Brazil (Pará)
litorale Santarém, Borkent, Spinelli & Felipe-Bauer, 2018: 533. Bahamas. Brazil records - Rio de Janeiro

marambaia Santarém, Borkent, Spinelli & Felipe-Bauer, 2018: 535. Brazil (Rio de Janeiro)

multilineata (Lutz), 1914: 93 (*Palpomyia*). Brazil (Rio de Janeiro). Brazil records – Bahia, Rio de Janeiro, Rio Grande do Sul

oliveirai Felipe-Bauer, *in* Felipe-Bauer & Silva, 2008: 400. Brazil (Rondônia). Brazil records – Pará, Rondônia

quasidentica Felipe-Bauer & Quintelas, 1993b: 37. Brazil (Rio de Janeiro)

spatha Santarém, Borkent & Felipe-Bauer, 2020: 75. Costa Rica. Brazil records – Pará

venus Santarém, Borkent & Felipe-Bauer, 2020: 81. Brazil (Amazonas)

Genus ECHINOHELEA Macfie

ECHINOHELEA Macfie, 1940a: 187. Type species: *Echinohelea ornatipennis* Macfie, by original designation.

Subgenus ECHINOHELEA Macfie

lanei Wirth, 1951: 319. USA (Virginia). Brazil records – Pará, Rondônia

macfiei Lane, 1947a: 228. Brazil (São Paulo)

neotropica Wirth, 1994: 237. Colombia. Brazil records – Amazonas, Pará, Rio de Janeiro

ornatipennis Macfie, 1940a: 188. Guyana. Brazil records – Pará

richardsi Macfie, 1940a: 189. Guyana. Brazil records – Pará, Rondônia, Rio de Janeiro, São Paulo

Subgenus ECHINOIDESHELEA Wirth

ECHINOIDESHELEA Wirth, 1994: 231 (as subgenus of *Echinohelea*). Type species: *Echinohelea aitkeni* Wirth, by original designation.

aitkeni Wirth, 1994: 231. Brazil (Pará)

Genus FITTKAUHELEA Wirth & Blanton

FITTKAUHELEA Wirth & Blanton, 1970b: 7. Type species: *Fittkauhelea amazonica* Wirth and Blanton, by original designation.

amazonica Wirth and Blanton, 1970b: 9. Brazil (Amazonas)

Genus MONOHELEA Kieffer

MONOHELEA Kieffer, 1917a: 294. Type species: *Monohelea hieroglyphica* Kieffer, by original designation.

affinis Felipe-Bauer & Spinelli, 1991: 201. Brazil (Amazonas). Brazil records – Amazonas, Pará

aguirrei Tavares & Souza, 1980: 97. Brazil (Rio de Janeiro). Brazil records – Espírito Santo, Rio de Janeiro, Santa Catarina

archibaldoi Tavares & Souza, 1980: 98. Brazil (Rio de Janeiro). Brazil records – Espírito Santo, Rio de Janeiro

barbara Felipe-Bauer & Trindade, *in* Felipe-Bauer et al., 2017: 144. Brazil (Pará)

brasiliensis Lane, 1947a: 226. Brazil (Rio de Janeiro). Brazil records – Rio de Janeiro, São Paulo

capixaba Santarém & Felipe-Bauer, *in* Santarém et al., 2022: 176. Brazil (Espírito Santo)

coimbrai Santarém & Felipe-Bauer, *in* Santarém et al., 2022:179. Brazil (Rio de Janeiro)

cornuta Felipe-Bauer & Trindade, *in* Felipe-Bauer et al., 2017: 146. Brazil (Pará)

ema Felipe-Bauer & Trindade, *in* Felipe-Bauer et al., 2017: 148. Brazil (Pará)

forceps Felipe-Bauer & Trindade, *in* Felipe-Bauer et al., 2017: 149. Brazil (Pará)

gorayebi Felipe-Bauer & Trindade, *in* Felipe-Bauer et al., 2017: 151. Brazil (Pará)

guaimiesi Lane & Wirth, 1964: 227. Panama. Brazil records – Pará

hieroglyphica Kieffer, 1917a: 312. Paraguay. Brazil records – Distrito Federal, Rio de Janeiro

maculipennis (Coquillett), 1905: 64. USA (Florida). Brazil records – Amapá, Pará, Espírito Santo, Rio de Janeiro.

patauateua Felipe-Bauer & Trindade, *in* Felipe-Bauer et al., 2017: 152. Brazil (Pará)

poncai Lane & Wirth, 1964: 228. Panama. Brazil records – Bahia, Rio de Janeiro

roraimensis Felipe-Bauer & Spinelli, 1991: 202. Brazil (Roraima). Brazil records - Amazonas, Roraima

visinensis Felipe-Bauer & Trindade, *in* Felipe-Bauer et al., 2017: 154. Brazil (Pará)

Genus **PARABEZZIA** Malloch

PARABEZZIA Malloch, 1915b: 358. Type species: *Parabezzia petiolata* Malloch, by original designation.

balseiroi Spinelli & Grogan, 1987: 13. Argentina. Brazil records – Rio Grande do Sul

brasiliensis Spinelli & Grogan, 1987: 34. Brazil (Mato Grosso)

casimirensis Felipe-Bauer & Spinelli, 2015: 396. Brazil (Rio de Janeiro)

costalis Wirth, 1965a: 221. Panama. Brazil records – Rio de Janeiro

fluminensis Felipe-Bauer & Spinelli, 2015: 399. Brazil (Rio de Janeiro)

inaequalis Spinelli & Grogan, 1987: 38. Brazil (Amazonas)

indistincta Felipe-Bauer & Spinelli, 2015: 393. Brazil (Rio de Janeiro)

unica Felipe-Bauer & Spinelli, 2015: 391. Brazil (Rio de Janeiro)

Genus SCHIZONYXHELEA Clastrier

SCHIZONYXHELEA Clastrier, 1984: 1. Type species: *Schizonyxhelea guyana* Clastrier, by original designation.

forattinii Wirth & Grogan, 1988: 81. Brazil (Santa Catarina)

guyana Clastrier, 1984: 2. French Guiana. Brazil records – Mato Grosso

panamensis (Lane & Forattini), 1958: 218 (*Stilobezzia*). Panama. Brazil records – Rio de Janeiro, São Paulo

thomsenae (Wirth), 1953b: 83 (*Stilobezzia*). USA (Florida). Brazil records – Pará, Bahia
scutata Lane & Forattini, 1961: 92. Panama

Genus STILOBEZZIA Kieffer

STILOBEZZIA Kieffer, 1911a: 118. Type species: *Stilobezzia festiva* Kieffer, by original designation.

HARTOMYIA Malloch, 1915b: 339. Type species: *Ceratopogon pictus* Coquillett (= *Stilobezzia coquilletti* Kieffer), by original designation.

Subgenus ACANTHOHELEA Kieffer

ACANTHOHELEA Kieffer, 1917b: 198. Type species: *Acanthohelea pruinosa* Kieffer, by monotypy.

PALEOTETRAGONEURA Meunier, 1920: 897 (1920: 1221). Type species: *Tetragoneura veterana* Meunier, by monotypy.

NEOSTILOBEZZIA Goetghebuer, 1934a: 53 (as subgenus of *Stilobezzia*). Unavailable name; proposed after 1930 without type species designation.

NEOSTILOBEZZIA Wirth, 1953b: 63. Type species: *Ceratopogon ochraceus* Winnertz, by original designation.

longiradix Cazorla & Spinelli, 2016: 189. Brazil (Rondônia)

manaosensis Lane & Forattini, 1958: 205. Brazil (Amazonas)

tarsispinosa Cazorla & Spinelli, 2016: 191. Brazil (Rondônia)

Subgenus EUKRAIOHELEA Ingram & Macfie

EUKRAIOHELEA Ingram & Macfie, 1921: 347. Type species: *Eukraiohelea africana* Ingram & Macfie, designation by Macfie, 1940b: 22.

amnigena (Macfie), 1935a: 56 (*Eukraiohelea*). Brazil (Maranhão)

dorsofasciata (Lutz), 1914: 96 (*Palpomyia*). Brazil (Rio de Janeiro)

elegantula (Johannsen), 1907: 109 (*Bezzia*). USA (Kansas). Brazil records – Amazonas, Rio de Janeiro

maculitibia Lane & Forattini, 1956: 207. Panama

subsessilis Kieffer, 1917a: 311. Paraguay

proxima Cazorla & Felipe-Bauer in Cazorla et al., 2017: 562. Brazil (Rio de Janeiro)

quasielegantula Cazorla & Felipe-Bauer in Cazorla et al., 2017: 566. Brazil (Rio de Janeiro)

Subgenus **STILOBEZZIA** Kieffer

albicoxa Lane & Forattini, 1956: 210. Panama. Brazil records - Amazonas, Rio de Janeiro, São Paulo

dureti Lane & Forattini, 1958: 210. Brazil (São Paulo)

albocincta Kieffer, 1917a: 309. Paraguay. Brazil records – Rio de Janeiro

bicolor Lane, 1947b: 208. Brazil (São Paulo)

bimaculata Lane & Forattini, 1956: 211. Panama. Brazil records – Rio de Janeiro

bispinosa Kieffer, 1917a: 310. Paraguay. Brazil records – Rio de Janeiro, São Paulo

chaconi Macfie, 1938: 166. Trinidad and Tobago. Brazil records – Goiás, São Paulo

coquilletti Kieffer, 1917a: 308. New name for *picta*. Brazil records – Amazonas, São Paulo

picta (Coquillett), 1905: 60 (*Ceratopogon*) (preoccupied by *Sphaeromyias pictus* (Meigen), 1818). USA (Virginia)

coracina Kieffer, 1917a: 311. Paraguay. Brazil records – São Paulo

dubitans Lane, Forattini & Rabello, 1955: 85. Brazil (São Paulo)

fiebrigi Kieffer, 1917a: 309. Paraguay. Brazil records – Rio de Janeiro, São Paulo

glauca Macfie, 1939a: 204. Brazil (Santa Catarina). Brazil records – Rio de Janeiro, São Paulo, Santa Catarina

fluminensis Lane, 1947b: 210. Brazil (Rio de Janeiro)

kiefferi Lane, 1947b: 205. Brazil (Minas Gerais). Brazil records – Pará, Minas Gerais

punctipes Wirth, 1953b: 79. USA (Florida)

macfieii Lane, 1947b: 213. Brazil (São Paulo). Brazil records – Rio de Janeiro, São Paulo

maculata Lane, 1947b: 207. Brazil (Rio de Janeiro)

modesta Lane, 1947b: 206. Brazil (Rio de Janeiro). Brazil records – Rio de Janeiro, São Paulo

pallescens Lane & Forattini, 1958: 218. Panama. Brazil records – São Paulo

paulistensis Lane, 1947b: 200. Brazil (São Paulo). Brazil records – Pará, Rio de Janeiro, São Paulo

punctulata Lane, 1947b: 204. Brazil (Rio de Janeiro). Brazil records – Amazonas, Mato Grosso do Sul, Minas Gerais, Rio de Janeiro

pseudopunctulata Cazorla & Ronderos, 2012: 400. Argentina. Brazil records – Amazonas

rabelloi Lane, 1947b: 203. Brazil (Rio de Janeiro). Brazil records – Amazonas, Mato Grosso do Sul, Minas Gerais, Rio de Janeiro

simplex Lane & Forattini, 1958: 222. Panama. Brazil records – Rio de Janeiro

travassosi Lane, 1947b: 210. Brazil (Espírito Santo). Brazil records – Espírito Santo, São Paulo

wygodzinskyi Lane, 1947b: 212. Brazil (São Paulo)

TRIBE CULICOIDINI KIEFFER, 1911b,1911c

Genus **CULICOIDES** Latreille

CULICOIDES Latreille, 1809: 251. Type species: *Culicoides punctatus* Latreille (= *Ceratopogon punctatus* Meigen), by monotypy.

PADROSIA Rafinesque, 1815: 130 (unnecessary new name for *Culicoides* Latreille). Type species: *Culicoides punctatus* Latreille (= *Ceratopogon punctatus* Meigen), automatic.

OXYHELEA Kieffer, 1921a: 14 (as subgenus of *Culicoides*). Type species: *Culicoides dentatus* Kieffer, by monotypy.

PROSAPELMA Kieffer, 1925b: 417. Type species: *Prosapelma cinerea* Kieffer, by original designation.

NEOCULICOIDES Boorman & Lane, 1979: 327 (preoccupied by *Neoculicoides* Pierce, 1966). Type species: *Neoculicoides taylori* Boorman & Lane, by original designation.

Subgenus **ANILOMYIA** Vargas

ANILOMYIA Vargas, 1960: 37 (as subgenus of *Culicoides*). Type species: *Culicoides covagarciai* Ortíz, by original designation.

efferus Fox, 1952: 365. Peru. Brazil records – Acre, Amazonas, Pará, Rondônia

trapidoi Wirth & Barreto, 1978: 554. Colombia. Brazil records - ??

Subgenus **AVARITIA** Fox

AVARITIA Fox, 1955: 218 (as subgenus of *Culicoides*). Type species: *Ceratopogon obsoletus* Meigen, by original designation.

impusilloides Spinelli & Wirth, 1984b: 178. Brazil (Santa Catarina). Brazil records – Rio grande do Sul, Santa Catarina

pusilloides Wirth & Blanton, 1955a: 104. Panama. Brazil records – Acre, Amazonas

pusillus Lutz, 1913: 52. Brazil (Rio de Janeiro). Brazil records – Acre, Amapá, Amazonas, Pará, Rondônia, Bahia, Ceará, Minas Gerais, Rio de Janeiro, São Paulo, Rio Grande do Sul, Santa Catarina

Subgenus COTOCRIPUS Brèthes

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

bambusicola Lutz, 1913: 62. Brazil (Rio de Janeiro). Brazil records – Bahia, Espírito Santo, Rio de Janeiro, São Paulo

bahiensis Barbosa, 1947: 11. Brazil (Bahia)

caridei (Brèthes), 1912: 451 (*Cotocripus*). Argentina. Brazil records – Rio Grande do Sul
setifer (Lutz), 1913: 64 (*Centrorhynchus*). Brazil (Rio Grande do Sul)

Subgenus DIPHAOMYIA Vargas

DIPHAOMYIA Vargas, 1960: 40 (as subgenus of *Culicoides*). Type species: *Culicoides baueri* Hoffman, by original designation.

freitasi Wirth & Blanton, 1973: 434. Brazil (Pará). Brazil records – Amazonas, Pará

iriartei Fox, 1952: 368. Venezuela. Brazil records – Pará

vargasi Wirth & Blanton, 1953a: 74. Panama

minasensis Felipe-Bauer, 1987: 147. Brazil (Minas Gerais)

Subgenus DRYMODESMYIA Vargas

DRYMODESMYIA Vargas, 1960: 40 (as subgenus of *Culicoides*). Type species: *Culicoides copiosus* Root & Hoffman, by original designation.

jamaicensis Edwards, 1922: 165 (as *loughnani* var.). Jamaica. Brazil records – Rio de Janeiro

pilosus Wirth & Blanton, 1959: 332. Panama. Brazil records – Pará

poikilonotus Macfie, 1948: 82. Mexico. Brazil records – Bahia, Ceará, Rio de Janeiro

cacozelus Macfie, 1948: 85. Mexico

hertigi Wirth and Blanton, 1953b: 229. Panama

Subgenus HAEMATOMYIDIUM Goeldi

HAEMATOMYIDIUM Goeldi, 1905: 137. Type species: *Haematomyidium paraensis* Goeldi, by original designation.

aragaoi Tavares & Dias, 1980: 393. Brazil (Rio de Janeiro)

crucifer Clastrier, 1968: 85. French Guiana. Brazil records – Amazonas, Pará

darlingtonae Wirth & Blanton, 1971: 39. Trinidad and Tobago. Brazil records – Rondônia

debilipalpis Lutz, 1913: 60. Brazil (São Paulo). Brazil records – Acre, Amapá, Amazonas, Pará, Rondônia, Roraima, Ceará, Maranhão, Pernambuco, Goiás, Mato Grosso do Sul, Espírito Santo, São Paulo, Santa Catarina

khalafi Beck, 1957: 104. USA (Florida)

ichesi Ronderos & Spinelli, 1995: 77. Argentina

denisae Clastrier, 1971: 290. French Guiana. Brazil records – Amazonas, Pará

espinolai Felipe-Bauer & Lourenco-de-Oliveira, 1987: 149. Brazil (Minas Gerais)

flinti Wirth, 1982a: 251. Argentina. Brazil records – Santa Catarina

ginesi Ortíz, 1951a: 586. Venezuela. Brazil records – Pará, Rondônia

glabrior Macfie, 1940c: 27 (as variety of *debilipalpis*). Guyana. Brazil records – Acre, Amazonas, Pará, Rondônia, Roraima
grahambelli Forattini, 1956a: 35. Panama

hoffmani Fox, 1946: 251. Trinidad and Tobago. Brazil records – Amazonas

horticola Lutz, 1913: 61. Brazil (São Paulo). Brazil records – Espírito Santo, Rio de Janeiro, São Paulo
bachmanni Spinelli, in Spinelli et al., 2005: 146. Argentina

insinuatus Ortíz & León, 1955: 577. Ecuador. Brazil records – Acre, Amapá, Amazonas, Pará, Roraima, Maranhão, São Paulo

jurutiensis Trindade & Felipe-Bauer, 2011a: 61. Brazil (Pará)

kampa Felipe-Bauer, Veras & Castellon in Felipe-Bauer et. al, 2000: 35. Brazil (Acre). Brazil records – Acre, Rondônia

lahillei (Iches), 1906: 264 (*Ceratopogon*). Argentina. Brazil records – São Paulo

limonensis Ortíz & León, 1955: 576. Ecuador. Brazil records – Pará, Bahia, São Paulo, Santa Catarina

martyrius Trindade & Felipe-Bauer, 2011a: 62. Brazil (Pará)

neoparaensis Tavares & Souza, 1978: 621. Brazil (Rio de Janeiro). Brazil records – Amazonas, Rondônia, Rio de Janeiro, Santa Catarina

paraensis (Goeldi), 1905: 137 (*Haematomyidium*). Brazil (Pará). Brazil records – Acre, Amazonas, Pará, Rondônia, Roraima, Bahia, Ceará, Maranhão, Pernambuco, Mato Grosso do Sul, Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo, Santa Catarina
undecimpunctatus Kieffer, 1917a: 307. Argentina

peruvianus Felipe-Bauer, in Felipe-Bauer, et al., 2003: 1054. Peru. Brazil records - Rio de Janeiro, São Paulo

quasiparaensis Clastrier, 1971: 286. French Guiana. Brazil records – Acre, Amazonas, Pará, Rondônia, Roraima, Maranhão

rachoui Tavares & Souza, 1978: 622. Brazil (Rio de Janeiro). Brazil records – Minas Gerais, Rio de Janeiro

spurius Wirth & Blanton, 1959: 433. Panama. Brazil records – Acre, Amazonas, Rondônia, Roraima

todatangae Wirth & Blanton, 1973: 447. Brazil (Pará). Brazil records – Acre, Amapá, Amazonas, Pará, Santa Catarina

youngi Wirth & Barreto, 1978: 562. Colombia. Brazil records – Amazonas

Subgenus **HOFFMANIA** Fox

HOFFMANIA Fox, 1948: 21 (as subgenus of *Culicoides*). Type species: *Culicoides inamollae* Fox & Hoffman (= *Culicoides insignis* Lutz), by original designation.

aitkeni Wirth & Blanton, 1968a: 214. Trinidad and Tobago. Brazil records – Amazonas, Pará

baniwa Felipe-Bauer, in Felipe-Bauer et al., 2009: 852. Brazil (Amazonas). Brazil records - Amazonas, Pará, Rondônia.

batesi Wirth & Blanton, 1973: 426. Brazil (Pará). Brazilian records – Amazonas, Pará, Rondônia
sanmartini Wirth & Barreto, 1978: 553. Colombia

bimaculatus Floch & Abonnenc, 1942a: 3. French Guiana. Brazil records – Amazonas, Pará

brasilianum Forattini, 1956b: 81. Brazil (São Paulo). Brazil records – Amazonas, Pará, Ceará, Pernambuco, Rio de Janeiro, São Paulo, Santa Catarina

brownei Spinelli, in Spinelli et al., 1993: 24. Colombia. Brazil records – Amazonas, Rondônia

contubernalis Ortíz & León, 1955: 574. (as a variety of *rozemboomi*). Ecuador. Brazil records - Rondônia

coutinhoi Barretto, 1944: 96. Brazil (São Paulo). Brazil records – Amazonas, Pará, Rondônia, São Paulo

diabolicus Hoffman, 1925: 294. Panama. Brazil records – Amazonas, Rondônia, Roraima, Maranhão

diffusus Spinelli, in Spinelli et al., 1993: 34. Brazil (Espírito Santo)

fernandoi Tavares & Souza, 1979: 611. Brazil (Rio de Janeiro). Brazil records –Bahia, Maranhão, Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo, Santa Catarina

filariferus Hoffman, 1939: 172. Mexico. Brazil records – Amazonas, Pará, Maranhão

flavivenulus Costa Lima, 1937a: 418. Brazil (Rio de Janeiro). Brazil records – Amazonas, Pará, Bahia, Maranhão, Pernambuco, Mato Grosso do Sul, Espírito Santo, Rio de Janeiro, São Paulo, Santa Catarina

foxi Ortíz, 1950a: 461. Puerto Rico (USA). Brazil records – Amazonas, Pará, Rondônia, Roraima, Bahia, Maranhão, Pernambuco, Piauí, Goiás, Mato Grosso do Sul, Minas Gerais, Rio de Janeiro, São Paulo, Paraná

franklini Spinelli, in Spinelli et al., 1993: 45. Panama. Brazil records – Amazonas, Pará

fusipalpis Wirth & Blanton, 1973: 435. Brazil (Pará). Brazil records – Acre, Amapá, Amazonas, Pará, Rondônia, Roraima, Bahia, Maranhão, Rio de Janeiro

guttatus (Coquillett), 1904a: 35 (*Ceratopogon*). Brazil (São Paulo). Brazil records – Minas Gerais, Rio de Janeiro, São Paulo, Santa Catarina

heliconiae Fox & Hoffman, 1944: 108. Venezuela. Brazil records – Acre, Amazonas, Pará, Rondônia

hylas Macfie, 1940c: 26. Guyana. Brazil records – Amapá, Amazonas, Pará, Rondônia, Roraima, Maranhão

ignacioi Forattini, 1957: 215. Brazil (São Paulo). Brazil records – Acre, Amazonas, Pará, Rondônia, Roraima, Maranhão, Minas Gerais, Rio de Janeiro, São Paulo
saintjusti Tavares & Ruiz, 1980: 27. Brazil (Rio de Janeiro)

insignis Lutz, 1913: 51. Brazil (Bahia e Rio de Janeiro). Brazil records Amazonas, Pará, Rondônia, Alagoas, Bahia, Ceará, Maranhão, Paraíba, Pernambuco, Goiás, Mato Grosso, Mato Grosso do Sul, Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo, Rio Grande do Sul, Santa Catarina
inamollae Fox & Hoffman, 1944: 110. Puerto Rico (USA)
painteri Fox, 1946: 257. Honduras

lutzi Costa Lima, 1937a: 419. Brazil (Pará). Brazil records – Acre, Amazonas, Pará, Rondônia, Roraima, Maranhão, Goiás, Mato Grosso, Minas Gerais, Rio de Janeiro, São Paulo, Paraná, Santa Catarina

maruim Lutz, 1913: 48. Brazil (Rio de Janeiro). Brazil records – Pará, Bahia, Ceará, Maranhão, Pernambuco, Espírito Santo, Rio de Janeiro, São Paulo
recifei Barbosa, 1947: 25. Brazil (Pernambuco)

ocumarensis Ortíz, 1950b: 455. Venezuela. Brazil records – Amazonas, Pará, Rondônia

palpalis Macfie, 1948: 78. Mexico. Brazil records – Amazonas

paraignacioi Spinelli, in Spinelli et al., 1993: 66. Colombia. Brazil records – Amazonas, Pará, Rondônia

paramaruim Wirth & Blanton, 1973: 443. Brazil (Pará). Brazil records – Amazonas, Pará, Maranhão

parauapebensis Trindade & Felipe-Bauer, 2011b: 42. Brazil (Pará)

plaumanni Spinelli, in Spinelli et al., 1993: 69. Argentina. Brazil records – Amazonas, Pará, Rondônia, Minas Gerais

polypori Wirth & Blanton, 1968a: 212. Panama. Brazil records – Amazonas, Pará

pseudodiabolicus Fox, 1946: 256. Trinidad and Tobago. Brazil records – Acre, Amapá, Amazonas, Pará, Rondônia, Roraima, Maranhão, Rio Grande do Sul

pseudoheliconiae Felipe-Bauer, in Felipe-Bauer et al., 2008: 260. Peru. Brazil records – Amazonas, Roraima

ruizi Forattini, 1954a: 189. Brazil (Goiás). Brazil records – Amazonas, Pará, Maranhão, Goiás

tidwelli Spinelli, in Spinelli et al., 1993: 74. Colombia. Brazil records – Amazonas, Rondônia

travassosi Forattini, 1957: 198. Brazil (Pará). Brazil records – Amazonas, Pará, Maranhão, Mato Grosso

trinidadensis Hoffman, 1925: 286. Trinidad and Tobago. Brazil records – Roraima
oliveri Fox & Hoffman, 1944: 108. Haiti
wokei Barbosa, 1947: 28 (preoccupied by *Culicoides wokei* Fox, 1947). Panama.
diminutus Barbosa, 1951: 163. New name for *wokei*.

verecundus Macfie, 1948: 76. Mexico. Brazil records – Amazonas, Pará, Roraima

Subgenus MACFIELLA Fox

MACFIELLA Fox, 1955: 217 (as subgenus of *Culicoides*). Type species: *Ceratopogon phlebotomus* Williston, by original designation.

phlebotomus (Williston), 1896: 281 (*Ceratopogon*). St. Vincent. Brazil records – Amapá, Pará, Ceará, Maranhão, Pernambuco, Goiás

amazonius Macfie, 1935a: 52. Brazil (Pará)

Subgenus MATAEMYIA Vargas

MATAEMYIA Vargas, 1960: 43 (as subgenus of *Culicoides*). Type species: *Culicoides mojingaensis* Wirth & Blanton, by original designation.

albuquerquei Wirth & Blanton, 1973: 424. Brazil (Pará). Brazil records - Pará, Rondônia

aldomari Felipe-Bauer & Trindade, *in* Felipe-Bauer et al., 2013:56. Brazil (Pará). Brazil records – Amazonas, Pará.

barthi Tavares & Souza, 1978: 619. Brazil (Rio de Janeiro)

bricenoi Ortíz, 1951b: 445. Venezuela. Brazil records – Amazonas, Pará, Rondônia, Roraima

cuiabai Wirth, 1982a: 250. Brazil (Mato Grosso)

dalessandroi Wirth & Barreto, 1978: 556. Colombia. Brazil records – Roraima

daviesi Wirth & Blanton, 1968b: 251. Guyana. Brazil records – Pará

discrepans Ortíz & Mirsa, 1951: 595. Venezuela. Brazil records – Amazonas

felippebauerae Spinelli, *in* Spinelli et al., 2007: 660. Brazil (Amazonas)

lenti Tavares & Dias, 1980: 396. Brazil (Rio de Janeiro). Brazil records – Bahia, Rio de Janeiro

macieli Tavares & Ruiz, 1980: 29. Brazil (Rio de Janeiro). Brazil records – Bahia, Rio de Janeiro

sherlocki Felipe-Bauer & Trindade, *in* Felipe-Bauer et al., 2013:56. Brazil (Pará)

wallacei Wirth & Blanton, 1973: 449. Brazil (Pará). Brazil records – Amazonas, Pará, Maranhão

Subgenus OECACTA Poey

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

DIPLOSELLA Kieffer, 1921b: 113 (as subgenus of *Culicoides*). Type species: *Culicoides sergenti* Kieffer, by monotypy.

SENSICULICOIDES Shevchenko, 1977: 133 (as subgenus of *Culicoides*). Type species: *Ceratopogon pictipennis* Staeger, by original designation.

alahialinus Barbosa, 1952: 11 (1953:12). Equador. Brazil records – Amazonas

furens (Poey), 1853: 238 (*Oecacta*). Cuba. Brazil records – Pará, Maranhão, Rio de Janeiro, São Paulo

maculithorax (Williston), 1896: 277 (*Ceratopogon*). St. Vincent

dovei Hall, 1932: 88. USA (Georgia)

birabeni Cavalieri, 1966: 59. Venezuela

Subgenus PSYCHOPHAENA Philippi

PSYCHOPHAENA Philippi, 1865: 628. Type species: *Psychophaena pictipennis* Philippi (= *Culicoides venezuelensis* Ortíz & Mirsa), by monotypy.

venezuelensis Ortíz & Mirsa, 1950: 137. Venezuela. Brazil records – Ceará, Pernambuco, Minas Gerais, São Paulo, Rio Grande do Sul, Santa Catarina

pictipennis (Philippi), 1865: 628 (*Psychophaena*, preoccupied by *Culicoides pictipennis* (Staeger), 1839). Chile

ortizi Fox, 1952: 366. Venezuela

Subgenus unplaced, *acotylus* species group

acotylus Lutz, 1913: 69. Brazil (Mato Grosso). Brazil records – Amazonas, Pará, Rondônia, Roraima, Mato Grosso

panamericanus Fox, 1947: 90. Mexico

atripalpis Wirth & Blanton, 1973: 325. Brazil (Pará)

carsiomelas Wirth & Blanton, 1955a: 100. Panama. Brazil records – Pará, Rondônia

Subgenus unplaced, *carpenteri* species group

belemensis Wirth & Blanton, 1973: 427. Brazil (Pará). Brazil records – Amazonas, Pará

camposi Ortíz & León, 1955: 569. Ecuador. Brazil records – Amazonas

fairchildi Wirth & Blanton, 1955a: 102. Panama

carpenteri Wirth & Blanton, 1953a: 72. Panama. Brazil records – Amazonas, Rondônia

Subgenus unplaced, *daedalus* species group

pseudocrescentis Tavares & Dias, 1980: 397. Brazil (Rio de Janeiro). Brazil records – Espírito Santo, Rio de Janeiro

Subgenus unplaced, *dasyophrus* species group

dasyophrus Macfie, 1940c: 27. Guyana. Brazil records – Amazonas, Pará, Rondônia, Roraima, Mato Grosso

guerrai Wirth & Blanton, 1971: 41. Trinidad and Tobago. Brazil records – Pará, Rondônia, Roraima, Bahia

Subgenus unplaced, *eublepharus* species group

eublepharus Macfie, 1948: 86. Guyana. Brazil records – Amazonas, Pará, Rondônia, Roraima

transferrans Ortíz, 1953: 801. Venezuela

propriipennis Macfie, 1948: 84. Mexico. Brazil records – Amazonas, Pará, Rondônia, Bahia

rangeli Ortíz & Mirsa, 1952: 126. Venezuela. Brazil records – Amazonas

donajii Vargas, 1954: 28. Mexico

patulipalpis Wirth & Blanton, 1959: 421. Panama

Subgenus unplaced, *fluvialis* species group

balsapambensis Ortíz & León, 1955: 569 (as variety of *pifanoi*). Ecuador. Brazil records – Rio de Janeiro

fluvialis Macfie, 1940c: 25. Guyana. Brazil records – Amazonas, Pará, Rondônia, Roraima

leopoldoi Ortíz, 1951a: 579. Venezuela. Brazil records – Amapá, Amazonas, Pará, Rondônia, Roraima, Bahia, Ceará, Maranhão, Pernambuco, Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo, Rio Grande do Sul

pulchripennis Macfie, 1939a: 200. Brazil (Santa Catarina)

tetrathyris Wirth & Blanton, 1959: 409. Panama. Brazil records – Acre, Amazonas, Pará, Rondônia, Roraima, Bahia

Subgenus unplaced, *leoni* species group

benarrochi Ortíz & Mirsa, 1952: 126 (as *benarrochei*). Venezuela. Brazil records – Amazonas, Roraima, Rio de Janeiro

fieldi Wirth & Blanton, 1956: 50. Honduras. Brazil records – Amazonas, Pará, Rondônia, Rio de Janeiro,

gabaldoni Ortíz, 1954: 221. Venezuela. Brazil records – Pará, Rondônia, Roraima, Bahia, São Paulo

glabellus Wirth & Blanton, 1956: 47. Panama. Brazil records – Amazonas, Pará, Rondônia, Roraima, Bahia

leoni Barbosa, 1952: 17 (1953: 19). Ecuador. Brazil records – Amazonas

Subgenus unplaced, *limai* species group

antunesi Forattini, 1954b: 315. Brazil (Goiás). Brazil records – Amazonas, Goiás, Mato Grosso do Sul, Minas Gerais, São Paulo

boliviensis Spinelli & Wirth, 1984b: 172. Bolivia. Brazil records – Maranhão, Goiás, Minas Gerais

carvalhoi Wirth & Blanton, 1973: 429. Brazil (Pará)

duartei Tavares & Dias, 1980: 395. Brazil (Rio de Janeiro)

galindoi Wirth & Blanton, 1953a: 73. Panama. Brazil records – Acre, Amazonas, Rondônia, Roraima, Maranhão

limai Barretto, 1944: 99. Brazil (São Paulo). Brazil records – Amapá, Amazonas, Pará, Rondônia, Roraima, Maranhão, Mato Grosso do Sul, Minas Gerais, Rio de Janeiro, São Paulo, Rio Grande do Sul, Santa Catarina

lobatoi Felipe-Bauer, *in* Felipe-Bauer & Quintelas, 1994: 25. Brazil (Rio de Janeiro)

lopesi Barretto, 1944: 102. Brazil (São Paulo). Brazil records – Acre, Amazonas, Rio de Janeiro, São Paulo

santanderi Browne, 1980: 536. Colombia. Brazil records – Amazonas, Rondônia

vernoni Wirth & Blanton, 1973: 448. Brazil (Pará). Brazil records – Amazonas, Pará, Rondônia

Subgenus unplaced, *pachymerus* species group

caprilesi Fox, 1952: 364. Venezuela. Brazil records – Amazonas, Pará, Mato Grosso
kintzi Wirth and Blanton, 1953a: 72. Panama

cylindricornis Wirth & Blanton, 1973: 430. Brazil (Pará)

pachymerus Lutz, 1914: 83. Brazil (Amazonas). Brazil records – Amazonas, Rondônia

Subgenus unplaced, *reticulatus* species group

amazonicus Santarém, Felipe-Bauer & Trindade *in* Santarém et. al, 2014: 259. Brazil (Pará)

aureus Ortíz, 1951a: 585. Venezuela. Brazil records – Amazonas, Goiás
miyamotoi Wirth & Blanton, 1953b: 231. Panama

castelloni Santarém & Felipe-Bauer 2015: 959. Brazil (Amazonas)

fittkai Wirth & Blanton, 1973: 432. Brazil (Pará). Brazil records – Amazonas, Pará

fluminensis Santarém & Felipe-Bauer *in* Santarém et. al, 2014: 263. Brazil (Rio de Janeiro)

forattinii Ortíz, 1961: 211. Venezuela. Brazil records – Roraima, Rondônia

goeldii Wirth & Blanton, 1973: 437. Brazil (Pará)

guamai Wirth & Blanton, 1973: 438. Brazil (Pará). Brazil records – Amazonas, Pará

guyanensis Floch & Abonnenc, 1942b: 4. French Guiana. Brazil records – Amapá, Pará, Ceará, Maranhão, Pernambuco, Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo
recifensis Barbosa, 1943: 263. Brazil (Pernambuco)
stubalensis Fox, 1946: 254. Trinidad and Tobago

hildebrandoi Farias, Pereira Júnior, Felipe-Bauer, Pessoa, Medeiros & Santarém, 2016: 107. Brazil (Rondônia). Brazilian records – Amazonas, Rondônia

irregularis Santarém, Felipe-Bauer & Castellón *in* Santarém et. al, 2014: 265. Brazil (Roraima)
Brazil records – Amazonas, Roraima

kuripako Felipe-Bauer, *in* Felipe-Bauer et al., 2010: 863. Brazil (Amazonas). Brazil records – Amazonas, Rondônia

lanei Ortíz, 1950c: 431. Panama. Brazil records – Amazonas, Pará, Roraima

lyrinotatus Wirth & Blanton, 1955b: 126. Panama. Brazil records – Pará

paucienfuscatus Barbosa, 1947: 23. Brazil (Amazonas). Brazil records – Acre, Amazonas, Pará, Rondônia, Roraima, Maranhão, Goiás

pifanoi Ortíz, 1951a: 588. Venezuela. Brazil records – Pará, Bahia, Ceará, Rio de Janeiro
tricoloratus Wirth & Blanton, 1953b: 233. Panama

profundus Santarém, Felipe-Bauer & Trindade *in* Santarém et. al, 2014: 266. Brazil (Pará). Brazil records – Amazonas, Pará, Rondônia

pseudoreticulatus Santarém, Felipe-Bauer & Castellón *in* Santarém et. al, 2014: 268. Brazil (Roraima). Brazil records – Amazonas, Roraima, Rondônia

reticulatus Lutz, 1913: 49. Brazil (Bahia). Brazil records – Bahia, Pernambuco

rhombus Santarém, Felipe-Bauer & Castellón *in* Santarém et. al, 2014: 270. Brazil (Roraima).
Brazil records – Amazonas, Rondônia, Roraima

tavaresi Felipe-Bauer & Wirth, 1988: 261. Brazil (Rio de Janeiro). Brazil records – Rio de Janeiro,
Santa Catarina

Subgenus unplaced, *stigmalis* species group

deanei Felipe-Bauer & Wirth, 1987: 416. Brazil (Rio de Janeiro)

fluviatilis (Lutz), 1914: 82 (*Johannseniella*). Brazil (Amazonas)
scorzai Ortíz, 1956: 93. Venezuela

Miscellaneous unplaced species

wokei Fox, 1947: 90. Panama. Brazil records - Amazonas

aethionotus Wirth & Blanton, 1955b: 121. Panama

TRIBE HETEROMYIINI WIRTH, 1962

Genus CLINOHELEA Kieffer

CLINOHELEA Kieffer, 1917a: 295. Type species: *Ceratopogon variegatus* Winnertz
(=*Ceratopogon unimaculata* Macquart), by original designation.

Subgenus CERATOBIZZIA Kieffer

CERATOBIZZIA Kieffer, 1917a: 326. Type species: *Ceratobizzia fallax* Kieffer, by original
designation.

fallax Kieffer, 1917a: 326. Paraguay. Brazil records – Amazonas, Pará, Rondônia, Mato Grosso, Rio
de Janeiro, São Paulo

barrettoi Lane & Duret, 1954: 249. Brazil (São Paulo)

Subgenus CLINOHELEA

albopennis Lane, 1944: 259. Brazil (São Paulo). Brazil records – Pará, São Paulo

damascenoi Lane & Duret, 1954: 250. Brazil (Pará)

horacioi Lane, 1944: 257. Brazil (São Paulo). Brazil records – Amapá, Pará, Rondônia, Bahia, Mato
Grosso, Mato Grosso do Sul, Rio de Janeiro, São Paulo, Paraná

neivai Lane, 1944: 252. Brazil (São Paulo). Brazil records – Mato Grosso do Sul, Minas Gerais, Rio
de Janeiro, São Paulo, Paraná

nigripes Macfie, 1939a: 205. Brazil (Santa Catarina). Brazil records – Rondônia, São Paulo, Santa
Catarina

rubriceps Kieffer, 1917a: 318. Paraguay. Brazil records – Rio de Janeiro

saltanensis Lane & Duret, 1954: 252. Argentina. Brazil records – Rondônia, Paraná, Santa Catarina,
townsendi Lane, 1944: 256. Brazil (São Paulo). Brazil records – Amazonas, Pará, Rondônia, Mato Grosso do Sul, Minas Gerais, Rio de Janeiro, São Paulo
 townesi Lane, 1944: 254. Brazil (Mato Grosso do Sul)
wygodzinskyi Lane, 1947a: 231. Brazil (Rio de Janeiro)

Genus HETEROMYIA Say

HETEROMYIA Say, 1825: plate 35. Type species: *Heteromyia fasciata* Say, by monotypy.
PACHYLEPTUS Walker, 1856: 426. Type species: *Pachyleptus fasciatus* Walker (= *Heteromyia nigra* Kieffer), by monotypy.

castanea Lane, 1946a: 214. Brazil (São Paulo)

clavata Williston, 1900: 225. Mexico. Brazil records – Amazonas
 rufa Kieffer, 1917a: 325. Colombia
 caloptera Kieffer, 1919a: 192. Unnecessary new name for *H. rufa* Kieffer, not Loew, 1861.

chaquensis Duret & Lane, 1955: 37. Argentina. Brazil records – Amazonas, Minas Gerais

correntina Duret & Lane, 1955: 39. Argentina. Brazil records – Amazonas, Rondônia

kiefferi Lane, 1946a: 213. Brazil (Rio de Janeiro)

nigra Kieffer, 1917a: 326. Paraguay. Brazil records – Amapá, Rio Grande do Norte, Rio de Janeiro, São Paulo, Paraná
 fasciatus (Walker), 1856: 426 (*Pachyleptus*, preoccupied by *Heteromyia fasciata* Say, 1825).
South America

Genus PELLUCIDOMYIA Macfie

PELLUCIDOMYIA Macfie, 1939b: 99. Type species: *Pellucidomyia ugandae* Macfie, by original designation.

MACFIEHELEA Lane, 1946a: 208. Type species: *Macfiehelea oliveirai* Lane, by original designation.

oliveirai (Lane), 1946a: 209 (*Macfiehelea*). Brazil (Minas Gerais). Brazil records – Mato Grosso do Sul, Minas Gerais

TRIBE JOHANNSENYIINI CRAMPTON, 1925

Genus GROGANHELEA Spinelli & Dippolito

GROGANHELEA Spinelli & Dippolito, in Spinelli et al., 1995: 166. Type species: *Groganhelea rondoniensis* Spinelli & Dippolito, by original designation.

rondoniensis Spinelli & Dippolito, *in* Spinelli et al., 1995: 167. Brazil (Rondônia)

Genus JOHANNSENYOMYIA Malloch

JOHANNSENYOMYIA Malloch, 1915b: 332. Type species: *Johannsenomyia halteralis* Malloch (= *Ceratopogon argentata* Loew), designation by Wirth, 1952b: 211.

DICROHELEA Kieffer, 1917a: 363. Type species: *Palpomyia filicornis* Kieffer, designation by Macfie, 1940b: 26.

lanei Wirth, 1965b: 4. Brazil (Santa Catarina)

Genus MALLOCHOHELEA Wirth

MALLOCHOHELEA Wirth, 1962: 278. Type species: *Johannsenomyia albibasis* Malloch, by original designation.

aenipes (Macfie), 1940a: 193 (*Bezzia*). Guyana. Brazil records – Rio de Janeiro

nigripes (Macfie), 1939a: 216 (*Johannsenomyia*). Brazil (Santa Catarina)

pullata (Wirth), 1952b: 213 (*Johannsenomyia*). USA (California). Brazil records – Amapá
bicellii (Lane), 1961a: 449 (*Nilobezzia*). Brazil (Amapá)

termophila (Spinelli), 1984: 197 (*Neobezzia*). Argentina. Brazil records – Rondônia

Genus NEOBEZZIA Wirth & Ratanaworabhan

NEOBEZZIA Wirth and Ratanaworabhan, 1972: 477. Type species: *Neobezzia clavipes* Wirth & Ratanaworabhan, by original designation.

albitarsis Wirth & Ratanaworabhan, 1972: 478. Brazil (Pará)

amnicola (Macfie), 1940c: 30 (*Bezzia*). Guyana. Brazil records – Amazonas, Pará, Rondônia, Mato Grosso do Sul, Rio de Janeiro, São Paulo

blantoni Wirth & Ratanaworabhan, 1972: 482. Panama. Brazil records – Amazonas, Pará, Rondônia

brasiliae (Lane), 1961b: 37 (*Macropeza*). Brazil (Distrito Federal)

clavipes Wirth & Ratanaworabhan, 1972: 485. Brazil (Amazonas)

fittkai Wirth & Ratanaworabhan, 1972: 489. Brazil (Amazonas)

Genus NILOBEZZIA Kieffer

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

CRESPINIA Kieffer, 1923: 141. Type species: *Crespinia brevipalpis* Kieffer, by monotypy.

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

SPHAEROBEZZIA Zilahi-Sebess, 1940: 108 (as subgenus of *Bezzia*). Type species: *Bezzia paradoxa* Zilahi-Sebess (= *Ceratopogon formosa* Loew), by monotypy.

neotropica (Macfie), 1940d: 78 (*Bezzia*). Brazil (Northeast). Brazil records – Rondônia, Bahia, Ceará

paraensis (Lane), 1958: 33 (*Bezzia*). Brazil (Pará). Brazil records – Amapá, Pará

schwarzii (Coquillett), 1901: 605 (*Ceratopogon*). USA (Texas). Brazil records – Rio de Janeiro
setipes (Coquillett), 1905: 59 (*Ceratopogon*). USA (Texas)

banksi (Gerry), 1933: 94 (*Bezzia*). Cuba

brasiliensis (Lane), 1958: 28 (*Bezzia*). Brazil (Rio de Janeiro)

TRIBE PALPOMYIINI ENDERLEIN, 1936

Genus AMEROHELEA Grogan & Wirth

AMEROHELEA Grogan & Wirth, 1981: 1280. Type species: *Amerohelea galindoi* Grogan & Wirth, by original designation.

dalcyi Grogan & Wirth, 1981: 1289. Brazil (Amazonas)

nelsoni Grogan & Wirth, 1981: 1290. Brazil (Amazonas)

pseudofasciata Grogan & Wirth, 1981: 1286. Brazil (Santa Catarina). Brazil records – Goiás, Santa Catarina

sordidipes (Macfie), 1939a: 209 (*Palpomyia*). Brazil (Santa Catarina). Brazil records – Pará, Minas Gerais, São Paulo, Santa Catarina

Genus BEZZIA Kieffer

BEZZIA Kieffer, 1899: 69. Type species: *Ceratopogon ornatus* Meigen, by original designation.

PSEUDOBESSIA Malloch, 1915b: 351. Type species: *Ceratopogon explitus* Coquillett, by original designation.

ALLOBESSIA Kieffer, 1917a: 296. Type species: *Ceratopogon explitus* Coquillett, by original designation.

LASIOBEZZIA Kieffer, 1925c: 54. Type species: *Bezzia pilipennis* Lundström, by original designation.

HOMOBESSIA Macfie, 1932a: 496. Type species: *Homobezzia nyasae* Macfie, by monotypy.

SIVABESSIA Remm, 1974: 440 (as subgenus of *Bezzia*). Type species: *Bezzia campanai* Clastrier, by original designation.

PYGOBEZZIA Remm, 1974: 441 (as subgenus of *Bezzia*). Type species: *Bezzia strobli* Kieffer (= *Ceratopogon albicornis* Meigen), by original designation.

ASPINABEZZIA Dow & Turner, 1976: 122 (as subgenus of *Bezzia*). Type species: *Ceratopogon glaber* Coquillett, by original designation.

aitkeni Spinelli & Wirth, 1991: 5. Brazil (Pará)

albuquerquei Lane, 1961b: 43. Brazil (Distrito Federal)

carioca Lane, 1958: 30. Brazil (Rio de Janeiro)

catarinensis Spinelli & Wirth, 1990: 17. Brazil (Santa Catarina)

clavipennis Spinelli & Wirth, 1989: 775. Brazil (Amazonas). Brazil records – Amazonas, Rondônia

dentifemur Spinelli & Wirth, 1991: 3. Colombia. Brazil records – Pará

fluminensis Lane, 1947a: 236. Brazil (Rio de Janeiro). Brazil records – Distrito Federal, Rio de Janeiro

goianensis Lane, 1961b: 44. Brazil (Distrito Federal)

lenkoi Lane, 1958: 31. Brazil (São Paulo). Brazil records – Amazonas, Pará, Distrito Federal, Rio de Janeiro, São Paulo

mazaruni Macfie, 1940a: 193. Guyana. Brazil records – Amazonas, Rondônia
coloradensis Wirth, 1952b: 238. USA (California)

megatheca Spinelli & Wirth, 1990: 22. Colombia. Brazil records – Rondônia

nobilis (Winnertz), 1852: 79 (*Ceratopogon*). Germany. Brazil records – Rio Grande do Sul
setulosa (Loew), 1861: 312 (*Ceratopogon*). USA (District of Columbia)
barberi (Coquillett), 1901: 601 (*Ceratopogon*). USA (Maryland)
punctata Lundström, 1910: 42 (as variety of *leucogaster*). Finland
leucosticta Kieffer, 1919b: 124. Russia
cinerella Kieffer, 1919b: 124. Hungary
armaticrus Kieffer, 1919b: 125. Hungary
csikiana Kieffer, 1919b: 126. Russia
chrysocoma Kieffer, 1922: 355. Poland
acanthodes Macfie, 1940a: 192. Guyana
atlantica Wirth & Williams, 1957: 13. Bermuda (Great Britain)
nobiliformis Clastrier, 1962: 74. France

pseudovenustula Spinelli & Wirth, 1991: 8. Brazil (Pará)

pulchripes Kieffer, 1917a: 330. Paraguay. Brazil records – Amazonas, Pará, Rondônia, Mato Grosso

punctipennis (Williston), 1896: 278 (*Ceratopogon*). St. Vincent. Brazil records – Amazonas

schmitzorum Dippolito & Spinelli, in Dippolito et al., 1995: 54. Brazil (Rondônia)

snowi Lane, 1958: 34. Guatemala. Brazil records – Pará

subfusca Macfie, 1939a: 218. Brazil (Santa Catarina). Brazil records – Distrito Federal, Goiás, Santa Catarina

venustula (Williston), 1896: 278. (*Ceratopogon*). St. Vicent. Brazil records – Bahia

concoloripes Macfie, 1940c:31. Guyana

Genus CLASTRIEROMYIA Spinelli & Grogan

CLASTRIEROMYIA Spinelli & Grogan, 1985: 330. Type species: *Clastrieromyia schnacki* Spinelli & Grogan, by original designation.

kremeri Spinelli & Grogan, 1985: 332. Brazil (Amazonas)

Genus PACHYHELEA Wirth

PACHYHELEA Wirth, 1959a: 50. Type species *Ceratopogon magnus* Coquillett (= *Ceratopogon pachymerus* Williston), by original designation.

pachymera (Williston), 1900: 224 (*Ceratopogon*). Mexico. Brazil records – Rondônia, Mato Grosso do Sul, Rio de Janeiro

latifemoris (Ingram & Macfie), 1931: 231 (*Johannsenomyia*). Argentina

Genus PALPOMYIA Meigen

PALPOMYIA Meigen, 1818: 82. Type species: *Ceratopogon flavipes* Meigen, by monotypy. Generic name first published in synonymy with *Ceratopogon* but available under ICZN Code Article 11(e).

APOGON Rondani, 1856: 175 (preoccupied by *Apogon* Lacepede, 1802). Type species: *Ceratopogon hortulanus* Meigen (= *Ceratopogon flavipes* Meigen), by original designation.

ALASION Rondani, 1857: 14. New name for *Apogon* Rondani. Type species: *Ceratopogon hortulanus* Meigen (= *Ceratopogon flavipes* Meigen), automatic.

MIOPALPOMYIA Pierce, 1966: 95. Type species: *Miopalpomyia shilo* Pierce, by original designation.

NEOPALPOMYIA Pierce, 1966: 95. Type species: *Neopalpomyia freyi* Pierce, by original designation.

PARAPALPOMYIA Pierce, 1966: 97. Type species: *Parapalpomyia ryshkoffi* Pierce, by original designation.

GLUHHOVIA Remm, 1976: 174 (as subgenus of *Palpomyia*). Type species: *Palpomyia miki* Goetghebuer, by original designation.

almeidai (Lane), 1946b: 219 (*Sphaeromyias*). Brazil (São Paulo)

amazonensis Feijó, Farias, Alencar & Pessoa, 2017: 119. Brazil (Amazonas)

barrettoi Lane, 1947c: 442. Brazil (Rio de Janeiro)

brasiliensis Macfie, 1939a: 213. Brazil (Santa Catarina). Brazil records – Minas Gerais, São Paulo, Santa Catarina

carioca Lane, 1960: 384. Brazil (Rio de Janeiro)

carrerae (Lane), 1947a: 235 (*Dicrobezzia*, as *carreirai*). Brazil (São Paulo)

castanea Macfie, 1939a: 211. Brazil (Santa Catarina). Brazil records – São Paulo, Santa Catarina

catarinensis Lane, 1960: 385. Brazil (Santa Catarina)

conifera Macfie, 1939a: 214. Brazil (Santa Catarina). Brazil records – Distrito Federal, Goiás, São Paulo, Santa Catarina

crassicus Kieffer, 1917a: 321. Paraguay. Brazil records – São Paulo

guarani Lane, 1946b: 221. Brazil (São Paulo). Brazil records – Espírito Santo, Rio de Janeiro, São Paulo

johannseni (Lane), 1947a: 233 (*Dicrobezzia*). Brazil (São Paulo). Brazil records – Rio de Janeiro, São Paulo

lacustris Lane, Forattini & Rabello, 1955: 83. Brazil (São Paulo)

lanceolata Feijó, Farias, Alencar & Pessoa, 2017: 119. Brazil (Amazonas)

limnochares (Macfie), 1940d: 76 (*Sphaeromias*). Brazil (Pernambuco)

lutzi Lane, 1947c: 440. Brazil (Rio de Janeiro)

mellichroa Macfie, 1939a: 212. Brazil (Santa Catarina)

nigroflava Lane, 1947c: 446. Brazil (São Paulo)

nigroscutellata Lane, 1947c: 444. Brazil (São Paulo). Brazil records – Rio de Janeiro, São Paulo

oliveirai Lane, 1947c: 443. Brazil (Minas Gerais). Brazil records – Rondônia, Minas Gerais

pampana Lane, 1960: 386. Brazil (Rio Grande do Sul)

paraensis Lane, 1960: 387. Brazil (Pará)

paulistensis Lane, 1947c: 445. Brazil (São Paulo). Brazil records – Rio de Janeiro, São Paulo

pseudolacustris Dippolito & Spinelli, *in* Dippolito et al., 1995: 55. Brazil (Rondônia)

spinifemur (Lane), 1947a: 234 (*Dicrobezzia*). Brazil (São Paulo). Brazil records – Rio de Janeiro, São Paulo

spinosa Lutz, 1914: 93. Brazil (Rio de Janeiro).

subfuscata Ingram & Macfie, 1931: 216. Chile. Brazil records – Minas Gerais

tamoioi Lane, 1960: 388. Brazil (Rio de Janeiro)

tanycornis Borkent, *in* Borkent & Wirth, 1997: 134. New name for *longicornis*.
longicornis (Williston), 1896: 280 (*Ceratopogon*, preoccupied by *Ceratopogon longicornis* Waltl, 1837). St. Vincent. Brazil records – Distrito Federal

umbella Macfie, 1939a: 208. Brazil (Santa Catarina). Brazil records – Distrito Federal, Mato Grosso do Sul, Rio de Janeiro, Rio Grande do Sul, Santa Catarina

versicolor Macfie, 1939a: 215. Brazil (Santa Catarina). Brazil records – Rondônia, Santa Catarina

wirthi Lane, Forattini & Rabello, 1955: 82. Brazil (São Paulo)

Genus PHAENOBEZZIA Haeselbarth

PHAENOBEZZIA Haeselbarth, 1965: 297. Type species: *Probezzia pistiae* Ingram & Macfie, by original designation.

ateles (Macfie), 1940d: 78 (*Bezzia*). Brazil (Bahia). Brazil records – Bahia, Distrito Federal

astyla Spinelli & Wirth, 1986: 232. Colombia

maya Spinelli & Wirth, 1986: 234. Belize. Brazil records – Rondônia

TRIBE STENOXENINI COQUILLET, 1899

Genus PARYPHOCONUS Enderlein

PARYPHOCONUS Enderlein, 1912: 57. Type species: *Paryphoconus angustipennis* Enderlein, by original designation.

aemulus Macfie, 1940e: 180. Guyana. Brazil records – Amazonas, Mato Grosso do Sul

amapaensis Lane, 1961a: 450. Brazil (Amapá)

angustipennis Enderlein, 1912: 57. Brazil (Santa Catarina). Brazil records – Goiás, São Paulo, Santa Catarina

anomalicornis Kieffer, 1917a: 333. Colombia and Paraguay. Brazil records – Amazonas

barrettoi Lane, 1946a: 203. Brazil (Goiás) Brazil records – Goiás, São Paulo

batesi Lane, 1961c: 455. Brazil (Distrito Federal)

brunneipennis Spinelli & Wirth, 1984c: 890. Brazil (Amazonas)

enderleini Lane, 1956: 301. Brazil (Mato Grosso do Sul)

fittkai Spinelli & Wirth, 1984c: 892. Brazil (Amazonas)

flavidus (Johannsen), 1943: 761 (*Ceratobezzia*). Guyana. Brazil records – Amazonas, Mato Grosso
lanei Wirth, 1959b: 236. Brazil (Amazonas)

fusciradialis Spinelli & Wirth, 1984c: 895. Brazil (Pará)

fuscus Lane, 1946a: 206. Brazil (Goiás)

goianensis Lane, 1961c: 456. Brazil (Distrito Federal)

grandis Macfie, 1939c: 6. Brazil (Santa Catarina). Brazil records - Pará, Ceará, Mato Grosso do Sul, Santa Catarina

guianae Macfie, 1940e: 180. Guyana. Brazil records – Pará, Mato Grosso do Sul, São Paulo

inesae Díaz, Spinelli & Ronderos, 2021: 85. Brazil (Amazonas)

kiefferi Lane, 1956: 302. Brazil (Goiás)

macfie Lane, 1946a: 203. Brazil (São Paulo). Brazil records – Pará, Mato Grosso, São Paulo

mayeri Wirth, 1959b: 236. Brazil (Amazonas). Brazil records – Amazonas, Rondônia

neotropicalis (Lane), 1947a: 229 (*Macropeza*). Brazil (São Paulo)

nigripes Macfie, 1939c: 8. Argentina. Brazil records – Pará, Rondônia

nubifer Macfie, 1939c: 5. Brazil (Santa Catarina). Brazil records - Amazonas, Goiás, Minas Gerais, Rio de Janeiro, Santa Catarina

oliveirai Lane, 1956: 303. Brazil (Pará). Brazil records – Amazonas, Pará

paulistensis Lane, 1961c: 457. Brazil (São Paulo)

subflavus Macfie, 1940c: 23. Guyana. Brazil records – Amazonas, Pará, Rondônia, Distrito Federal
travassosi Lane, 1956: 304. Brazil (Pará)

telmatophilus (Macfie), 1940d: 77 (*Bezzia*). Brazil (Paraíba). Brazil records – Paraíba, Rio de Janeiro

terminalis (Coquillett), 1904b: 90 (*Ceratopogon*). Nicaragua. Brazil records – Amazonas, Santa Catarina

unimaculatus Macfie, 1940e: 179. Guyana. Brazil records – Pará

wirthi Lane, 1961c: 458. Brazil (Distrito Federal)

wygodzinskyi Lane, 1946a: 208. Brazil (Rio de Janeiro)

Genus STENOXENUS Coquillett

STENOXENUS Coquillett, 1899: 61. Type species: *Stenoxenus johnsoni* Coquillett, by monotypy.

aductus Dippolito & Spinelli, *in* Dippolito et al., 1995: 56. Brazil (Rondônia)

brasiliensis Macfie, 1939a: 140. Brazil (Santa Catarina). Brazil records – Amazonas, Santa Catarina

carrerai Lane, 1956: 305 (as *carreirai*). Brazil (Goiás)

excentricus Lane, 1961c: 453. Brazil (Pará)

niger Lane, 1947a: 230 (as *nigrus*). Brazil (Goiás). Brazil records – Goiás, Rio de Janeiro

paraensis Lane, 1956: 306. Brazil (Pará)

setiger Macfie, 1939a: 138. Brazil (Santa Catarina). Brazil records – São Paulo, Santa Catarina

SUBFAMILY FORCIPOMYIINAE LENZ, 1934

TRIBE DASYHELEINI LENZ, 1934

Genus DASYHELEA Kieffer

- DASYHELEA** Kieffer, 1911b: 5. Type species: *Dasyhelea halophila* Kieffer, by monotypy.
PROKEMPIA Kieffer, 1913b: 163, 179 (as subgenus of *Dasyhelea*). Type species: *Dasyhelea ornaticornis* Kieffer, designation by Wirth, 1973: 358.
PSEUDOCULICOIDES Malloch, 1915b: 309. Type species: *Ceratopogon mutabilis* Coquillett, by original designation.
TETRAHELEA Kieffer, 1925b: 423. Type species: *Culicoides insignicornis* Kieffer, by original designation.
DICRYPTOSCENA Enderlein, 1936: 51. Type species: *Dasyhelea inclusa* Kieffer, by original designation.
SEBESSIA Remm, 1979: 55 (as subgenus of *Dasyhelea*). Type species: *Dasyhelea flavopyga* Zilahi-Sebess, by original designation.
BORKENTIMYIA Yu, Liu, Liu, Liu, Hao, Yan & Zhao, 2006: 321 (as subgenus of *Dasyhelea*). Type species: *Dasyhelea forsteri* Grogan & Wirth, by original designation.
- borgmeieri** Wirth & Waugh, 1976: 225. Trinidad and Tobago. Brazil records – Pará, Bahia, Santa Catarina
- cacaoi** Wirth & Waugh, 1976: 231. Trinidad and Tobago. Brazil records – Pará
- cincta** (Coquillett), 1901: 605 (*Ceratopogon*). USA (Florida). Brazil records – Maranhão, Santa Catarina
albopicta Ingram & Macfie, 1931: 187. Argentina
pentesileae Macfie, 1935a: 55. Brazil (Maranhão)
- eloyi** Díaz & Ronderos *in* Díaz et al., 2013: 86. Brazil (Amazonas)
- filibranchia** (Lutz), 1914: 85 (*Ceratopogon*). Brazil (Rio de Janeiro)
- flavicauda** Macfie, 1939a: 201. Brazil (Santa Catarina)
- hippolytae** Macfie, 1935a: 54. Brazil (Maranhão)
- mineira** Díaz, Felipe-Bauer & Spinelli, 2017: 19. Brazil (Minas Gerais)
- parahybae** Macfie, 1940d: 74. Brazil (Paraíba)
- paulistana** Forattini & Rabello, 1957: 245. Brazil (São Paulo). Brazil records – Amazonas, Minas Gerais, São Paulo
- pseudopollinosa** Díaz & Ronderos *in* Díaz et al., 2014: 716. Brazil (Amazonas)
- pumila** Macfie, 1939a: 202. Brazil (Santa Catarina)
- pusilla** (Lutz), 1913: 65 (*Centrorhynchus*). Brazil (Rio de Janeiro). Brazil records – Rio de Janeiro, São Paulo
- soriai** Wirth & Waugh, 1976: 229. Brazil (Bahia)

thalestris Macfie, 1935a: 55. Brazil (Maranhão)

viridans Forattini & Rabello, 1957: 247. Brazil (Rio de Janeiro)

williamsi Wirth & Waugh, 1976: 228. Trinidad and Tobago. Brazil records – Pará, Bahia

winderi Wirth & Waugh, 1976: 233. Brazil (Bahia). Brazil records – Pará, Bahia, Santa Catarina

TRIBE FORCIPOMYIINI LENZ, 1934

Genus **ATRICHOPOGON** Kieffer

ATRICHOPOGON Kieffer, 1906: 53 (as subgenus of *Ceratopogon*). Type species: *Ceratopogon exilis* Coquillett (= *Ceratopogon levis* Coquillett), designation by Coquillett, 1910: 512.

KEMPIA Kieffer, 1913b: 162, 179 (as subgenus of *Dasyhelea*). Type species: *Dasyhelea calcuttensis* Kieffer, designation by Wirth, 1952b: 117.

GYMNOHELEA Kieffer, 1921b: 115. Type species: *Kempia longiserrus* Kieffer, designation by Wirth, 1973: 348.

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

MELOEHELEA Wirth, 1956: 16 (as subgenus of *Atrichopogon*). Type species: *Atrichopogon meloesugans* Kieffer.

PSAMMOPOGON Remm, 1979: 57 (as subgenus of *Atrichopogon*). Type species: *Atrichopogon trifasciata* Kieffer (= *Atrichopogon flavolineatus* Strobl), by original designation.

ROSTROPOGON Remm, 1979: 57 (as subgenus of *Atrichopogon*). Type species: *Ceratopogon rostratus* Winnertz, by original designation.

IMPENSUKEMPIA Yu, in Liu et al., 2001: 47 (as subgenus of *Atrichopogon*). Type species: *Atrichopogon impensus*, by original designation.

BESSAMYIA Yu, Liu, Liu, Liu, Hao, Yan and Zhao, 2006: 355 (as subgenus of *Atrichopogon*). Type species: *Atrichopogon bessa* Yu and Yan, by original designation.

Subgenus **ATRICHOPOGON** Kieffer

bifidus Ewen, in Ewen & Saunders, 1958: 694. Brazil (Rio de Janeiro)

brasiliensis Macfie, 1939a: 184. Brazil (Santa Catarina)

cavus Felipe-Bauer, in Felipe-Bauer et al., 2012:45. Brazil (Rio de Janeiro)

chilensis Ingram and Macfie, 1931: 175 (Argentina). Brazil records – Santa Catarina

columbianus Kieffer, 1917a: 303. Colombia. Brazil records – Santa Catarina

costalis Macfie, 1939a: 179. Brazil (Santa Catarina)

cryptogamus Macfie, 1939a: 182. Brazil (Santa Catarina)

dactilus Felipe-Bauer, in Felipe-Bauer et al., 2012:40. Brazil (Rio de Janeiro)

depilis Macfie, 1939a: 178. Brazil (Santa Catarina)

eucnemus Macfie, 1939a: 185. Brazil (Santa Catarina)

flavicaudae Macfie, 1939a: 181. Brazil (Santa Catarina)
pilosior Macfie, 1939a: 182 (as variety of *flavicaudae*). Brazil (Santa Catarina)

flavipes Lutz, 1914: 90. Brazil (Rio de Janeiro)

flumineus Macfie, 1935a: 52. Brazil (Maranhão). Brazil records – Maranhão, Santa Catarina

globulifer Macfie, 1939a: 191. Brazil (Santa Catarina)

insignipalpis Macfie, 1940d: 73. Brazil (Northeast). Brazil records – Paraíba, Rio Grande do Norte

janseni Pessoa & Farias, *in* Farias et al., 2021: 277. Brazil (Amazonas)

nebulosus Macfie, 1939a: 192. Brazil (Santa Catarina)

novaetetoniae Macfie, 1939a: 189. Brazil (Santa Catarina)

nukini Felipe-Bauer, 2019: 258. Brazil (Acre)

palpalis Macfie, 1939a: 196. Brazil (Santa Catarina)

remigatus Ewen, *in* Ewen & Saunders, 1958: 687. Brazil (Rio de Janeiro)

riopardensis Farias, Pessoa & Paulino-Rosa, *in* Farias et al., 2021: 280. Brazil (Amazonas)

rusticus Macfie, 1939a: 190. Brazil (Santa Catarina)

sergioluzi Farias, Santos & Pessoa, *in* Farias et al., 2021: 284. Brazil (Amazonas)

shawadaua Felipe-Bauer, 2019: 259. Brazil (Acre)

taeniatus Macfie, 1939a: 186. Brazil (Santa Catarina)

umbratilis Macfie, 1935a: 51. Brazil (Maranhão)

woodfordi Macfie, 1938: 162 (Trinidad). Brazil records – Santa Catarina

Subgenus LOPHOMYIDIUM Cordero

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

delpontei Cavalieri & Chiossone, 1972: 121. Argentina. Brazil records – Rondônia, Piauí

fuscus (Coquillett), 1901: 605 (*Ceratopogon*). USA (New Jersey). Brazil records – Pará, Rio Grande do Sul

polydactylus Nielsen, 1951: 27. Denmark

Subgenus PSILOKEMPIA Enderlein

PSILOKEMPIA Enderlein, 1936: 49. Type species: *Kempia appendiculata* Goetghebuer, by monotypy.

echinodes Macfie, 1939a: 194. Brazil (Santa Catarina)

glaber Macfie, 1935a: 50. Brazil (Maranhão). Brazil records – Pará, Rondônia, Maranhão.

gordoni Macfie, 1938: 164. Trinidad and Tobago. Brazil records – Rondônia, Bahia, Santa Catarina
fimbriatus Macfie, 1939a: 194 (as variety of *gordoni*).

insigniventris Macfie, 1935a: 51. Brazil (Maranhão)

javieri Spinelli, Marino & Huerta, 2015: 35. St. Vicent. Brazil records – Pará

pectinatus Macfie, 1939a: 195. Brazil (Santa Catarina)

Genus **FORCIPOMYIA** Meigen

FORCIPOMYIA Meigen, 1818: 73,75. Type species: *Tipula bipunctata* Linnaeus, designation by Westwood, 1840: 126. Generic name first published in synonymy with *Ceratopogon* but available under ICZN Code Article 11(e).

LABIDOMYIA Stephens, 1829: 52 (1829: 239) (unnecessary new name for *Forcipomyia* Meigen, as *Forcipomyia* Megerle). Type species: *Tipula bipunctata* Linnaeus, designation by Westwood, 1840: 126.

TETRAPHORA Philippi, 1865: 630. Type species: *Tetraphora fusca* Philippi, by monotypy.

PROHELEA Kieffer, 1911c: 319 (as subgenus of *Forcipomyia*). Type species: *Ceratopogon decipiens* Kieffer, designation by Brunetti, 1920: 48.

Subgenus **CALOFORCIPOMYIA** Saunders

CALOFORCIPOMYIA Saunders, 1957: 680 (as subgenus of *Forcipomyia*). Type species: *Forcipomyia caerulea* Saunders, by original designation.

caerulea Saunders, 1957: 681. Brazil (Rio de Janeiro). Brazil records – Pará, Rio de Janeiro

eukosma Macfie, 1939a: 148. Brazil (Santa Catarina). Brazil records – Pará, Rio de Janeiro, São Paulo, Santa Catarina

furcifera Macfie, 1940f: 920. Brazil (Santa Catarina)

glauca Macfie, 1934: 144. Great Britain. Brazil records – Southern

monilis Goetghebuer, 1934b: 287. Russia

diversipes Goetghebuer, 1936: 319. Belgium

splendida Wirth, 1951: 315. USA (Virginia)

hermosa Utmar & Wirth, 1976: 117. Brazil (Pará). Brazil records – Amazonas, Pará

nigrescens Macfie, 1939a: 156. Brazil (Santa Catarina). Brazil records – Rio de Janeiro, São Paulo, Santa Catarina

remigera Utmar & Wirth, 1976: 121. Colombia. Brazil records – Pará

sabalitensis Utmar & Wirth, 1976: 127. Costa Rica. Brazil records – Rio de Janeiro, São Paulo, Paraná, Santa Catarina

varicolor Saunders, 1957: 683. Brazil (Rio de Janeiro)

Subgenus EUPROJOANNISIA Brèthes

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

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

CRYPTOSCENA Enderlein, 1936: 51. Type species: *Ceratopogon palustris* Meigen, by monotypy.

PROFORCIPOMYIA Saunders, 1957: 662 (as subgenus of *Forcipomyia*). Type species: *Forcipomyia wirthi* Saunders, by original designation.

blantoni Soria & Bystrak, 1975: 3. Brazil (Bahia). Brazil records – Pará, Bahia

bromeliae Saunders, 1957: 665. Brazil (Rio de Janeiro). Brazil records – Pará, Rio de Janeiro

longispina Saunders, 1957: 669. Brazil (Rio de Janeiro)

quasiingrami Macfie, 1939a: 164. Brazil (Santa Catarina). Brazil records – Bahia, Santa Catarina

spatulifera Saunders, 1957: 667. Brazil (São Paulo). Brazil records – Pará, Bahia, São Paulo

Subgenus FORCIPOMYIA Meigen

argenteola Macfie, 1939a: 146. Brazil (Santa Catarina). Brazil records – Mato Grosso do Sul, Rio de Janeiro, Santa Catarina

calathea Wirth, 1982b: 573. Dominica. Brazil records – Bahia, Santa Catarina

catarinensis Marino & Spinelli, 2002: 309. Brazil (Santa Catarina)

genualis (Loew), 1866: 128 (*Ceratopogon*). Cuba. Brazil records – Amazonas, Bahia, Rio de Janeiro, Santa Catarina

propinqua (Williston), 1896: 279 (*Ceratopogon*). St. Vincent

raleighi Macfie, 1938: 160. Trinidad and Tobago

harpegonata Wirth & Soria, 1975: 19. Puerto Rico (USA). Brazil records – Amazonas, Pará, Bahia

ornatipennis Macfie, 1939a: 151. Brazil (Santa Catarina). Brazil records – Mato Grosso do Sul, Santa Catarina

pictoni Macfie, 1938: 161. Trinidad and Tobago. Brazil records – Amazonas, Pará, Bahia, São Paulo

pinamarensis Spinelli, 1983: 121. Argentina. Brazil records – Pará, Bahia, Rio de Janeiro

poulaineae Ingram & Macfie, 1931: 227. Argentina. Brazil records – Bahia, Santa Catarina

quatei Wirth, 1952b: 142. USA (California). Brazil records – Bahia, Santa Catarina

squamitibia Lutz, 1914: 88. Brazil (Santa Catarina). Brazil records – Bahia, Mato Grosso do Sul, Rio de Janeiro, São Paulo, Santa Catarina

soriai Wirth, 1991: 168. Brazil (Bahia).

Subgenus LASIOHELEA Kieffer

CENTRORHYNCHUS Lutz, 1913: 62 (preoccupied by *Centrorhynchus* Steven or Fisher Waldheim, 1829). Type species: *Centrorhynchus stylifer* Lutz, by original designation.

LASIOHELEA Kieffer, 1921b: 115. Type species: *Atrichopogon pilosipennis* Kieffer (= *Ceratopogon velox* Winnertz), by original designation.

PARAPTEROBOSCA Harant, Huttel and Huttel, 1951: 468. Type species: *Parapterobosca anthropophila* Harant, Huttel and Huttel, by original designation.

DACNOFORCIPOMYIA Chan and Saunders, 1965: 527 (as subgenus of *Forcipomyia*). Type species: *Forcipomyia anabaenae* Chan and Saunders, by original designation.

anitae Huerta & Ibañez-Bernal, 1996: 350. Mexico. Brazil records – Bahia

cornuta Saunders, 1964: 464. Costa Rica. Brazil records – São Paulo

insigniforceps Macfie, 1939a: 165. Brazil (Santa Catarina)

multidentata Ronderos & Spinelli, 1999: 153. Brazil (Bahia)

stylifer (Lutz), 1913: 63 (*Centrorhynchus*). Brazil (Minas Gerais). Brazil records – Pará, Bahia, Goiás, Minas Gerais, Rio de Janeiro, São Paulo, Santa Catarina

Subgenus LEPIDOHELEA Kieffer

LEPIDOHELEA Kieffer, 1917a: 364. Type species: *Ceratopogon chrysolophus* Kieffer, by original designation.

annulatipes Macfie, 1939a: 154. Brazil (Santa Catarina). Brazil records – Pará, Bahia, Santa Catarina

bahiensis Wirth & Spinelli, 1993: 113. Brazil (Bahia)

bicolor Lutz, 1914: 89. Brazil (Rio de Janeiro). Brazil records – Rio de Janeiro, Santa Catarina
discoloripes Macfie, 1939a: 159. Brazil (Santa Catarina)

brasiliensis Macfie, 1939a: 153. Brazil (Santa Catarina)

dubia Macfie, 1939a: 162. Brazil (Santa Catarina)

kuanoskeles Macfie, 1939a: 150. Brazil (Santa Catarina)

lacrimatorii Macfie, 1939a: 161. Brazil (Santa Catarina)

luteigenua Wirth & Spinelli, 1992: 353. Costa Rica. Brazil records – Bahia

seminole Wirth, 1976: 81. USA (Florida). Brazil records – Rio de Janeiro

winderi Wirth, 1991: 171. Brazil (Bahia)

Subgenus METAFORCIPOMYIA Saunders

METAFORCIPOMYIA Saunders, 1957: 685 (as subgenus of *Forcipomyia*). Type species: *Forcipomyia cerifera* Saunders, by original designation.

cerifera Saunders, 1957: 685. Brazil (Rio de Janeiro)

Subgenus MICROHELEA Kieffer

MICROHELEA Kieffer, 1917a: 364. Type species: *Atrichopogon microtomus* Kieffer, designation by Kieffer, 1921a: 7, with explanatory notation on erroneous previous type designation).

PHASMIDOHELEA Mayer, 1937: 233. Type species: *Phasmidohelea crudelis* Mayer (= *Forcipomyia mayeri* Forattini & Lane), by original designation.

amazonica Wirth, 1971: 241. Brazil (Amazonas)

belemensis Clastrier & Wirth, 1995: 140. Brazil (Pará)

castneri Clastrier & Wirth, 1995: 111. Peru. Brazil records (Pará)

catarina Clastrier & Wirth, 1995: 131. Brazil (Santa Catarina)

cristata Clastrier & Wirth, 1995: 135. Brazil (Santa Catarina)

desutterae Clastrier & Wirth, 1995: 100. French Guiana. Brazil records – Pará

eriophora (Williston), 1896: 279 (*Ceratopogon*). St. Vincent. Brazil records – Bahia

fuliginosa (Meigen), 1818: 86 (*Ceratopogon*). Germany. Brazil records – Pará, Bahia, Rio de Janeiro, São Paulo, Santa Catarina

villosa (Zetterstedt), 1850: 3645 (*Ceratopogon*). Sweden

crudelis (Karsch), 1886: 18 (*Ceratopogon*). Germany

hirtipes (de Meijere), 1907: 209 (*Ceratopogon*). Indonesia

brevimana Lundström, 1910: 32. Finland

inornatipennis (Austen), 1912: 107 (*Ceratopogon*). Nigeria

erucicida Knab, 1914: 65. USA (Florida)

crudelis Knab, 1914: 66 (preoccupied by *Forcipomyia crudelis* (Karsch), 1886). Mexico

coquilletti (Kieffer), 1917a: 297 (*Ceratopogon*). USA (New York)

tropica (Kieffer), 1917a: 297 (*Ceratopogon*). Costa Rica

obscura Santos Abreu, 1918: 276 (as variety of *bipunctata*, preoccupied by *Forcipomyia*

obscura (Walker), 1848). Canary Islands (Spain)

alboclavata (Kieffer), 1919b: 12 (*Ceratopogon*, also as *asticta*). Slovak Republic

canaliculata (Goetghebuer), 1920: 110 (*Ceratopogon*). Belgium

nilotheres Macfie, 1924: 62. Egypt

ornaticrus Ingram & Macfie, 1924: 577 (as variety of *inornatipennis*; preoccupied by

Forcipomyia ornaticrus Kieffer, 1912). Ghana

atripennis Goetghebuer, 1935: 149. Democratic Republic of the Congo

auripila Goetghebuer, 1935: 150. Democratic Republic of the Congo

curtimana Goetghebuer, 1935: 151. Democratic Republic of the Congo

grisescens Goetghebuer, 1935: 154. Democratic Republic of the Congo

vicina Goetghebuer, 1935: 161. Democratic Republic of the Congo

longiradialis Tokunaga, 1940: 66. Japan

takagii Tokunaga, 1941: 90. China

wansoni (Harant & Baur), 1946: 141 (*Lasiohelea*, preoccupied by *Forcipomyia wansoni* de

Meillon, 1939). Democratic Republic of the Congo

brookmani Wirth, 1952b: 140. USA (California)

santosi Remm, 1981: 32. New name for *obscura*
insignipalpis Macfie, 1949: 109. Mexico. Brazil records – Pará
luteisquamosa Wirth, 1972: 575. Brazil (Santa Catarina)
microtoma (Kieffer), 1917a: 299. Paraguay. Brazil records – Amazonas, Bahia, Rio de Janeiro, Santa Catarina.
minisquamosa Wirth, 1972: 570. Belize. Brazil records – Amazonas, Pará
moorei Clastrier & Wirth, 1995: 133. Brazil (Santa Catarina)
novaeteutoniae Clastrier & Wirth, 1995: 107. Brazil (Santa Catarina)
obesa Costa Lima, 1928: 85. Brazil (Amazonas). Brazil records – Amazonas, Pará
paulista Falaschi, Albertoni & Fusari, 2014: 381. Brazil (São Paulo)
penultimata Wirth, 1972: 573. Brazil (Santa Catarina)
plaumanni Clastrier & Wirth, 1995: 127. Brazil (Santa Catarina)
squamosa Lutz, 1914: 87. Brazil (Rio de Janeiro). Brazil records – Amazonas, Bahia, Rio de Janeiro, São Paulo, Santa Catarina
thomasi Clastrier & Wirth, 1995: 115. Brazil (Pará)
wagneri (Séguy), 1941: 85 (*Phasmidohelea*). Brazil (Rio de Janeiro)
willistoni Wirth, 1971: 242. Puerto Rico (USA). Brazil records – Santa Catarina

Subgenus PEDILOHELEA de Meillon & Wirth

PEDILOHELEA de Meillon & Wirth, 1980: 9 (as subgenus of *Forcipomyia*). Type species: *Forcipomyia clastrieri* Dessart, by original designation.
aitkeni de Meillon & Wirth, 1980: 12. Brazil (Pará)
archboldi de Meillon & Wirth, 1980: 13. Dominica. Brazil records – Pará
spilmani de Meillon & Wirth, 1980: 22. Dominica. Brazil records – Santa Catarina

Subgenus PHYTOHELEA Remm

PHYTOHELEA Remm, 1971: 189 (as subgenus of *Forcipomyia*). Type species: *Ceratopogon bromelicola* Lutz, by original designation.
bromelicola (Lutz), 1914: 84 (*Ceratopogon*). Brazil (Rio de Janeiro)
edwardsi (Saunders), 1925: 260 (*Apelma*). Brazil (Rio de Janeiro). Brazil records – Pernambuco, Rio de Janeiro
keilini (Saunders), 1925: 265 (*Apelma*). Brazil (Pernambuco)
magna (Saunders), 1925: 266 (*Apelma*). Brazil (Pernambuco)

musae Clastrier & Delécolle, 1994: 51. French Guiana. Brazil records – Amazonas

Subgenus PTEROBOSCA Macfie

PTEROBOSCA Macfie, 1932b: 266. Unavailable name; proposed after 1930 without type species designation.

PTEROBOSCA Macfie, 1940b: 16. Type species: *Ceratopogon aeshnosuga* de Meijere, by original designation.

fusicornis (Coquillett), 1905: 63 (*Ceratopogon*). USA (Florida). Brazil records – Rio de Janeiro
fur (Johnson), 1913: 444 (*Ceratopogon*). Bermuda (Great Britain)
macfiei (Costa Lima), 1937b: 616 (*Pterobosca*). Brazil (Rio de Janeiro)
floridana (Johannsen), 1950: 143 (*Pterobosca*). USA (Florida)

incubans (Macfie), 1937: 111. Belize. Brazil records – Minas Gerais

Subgenus RHYNCHOFORCIPOMYIA Wirth and Dow

RHYNCHOFORCIPOMYIA Wirth & Dow, 1972: 863 (as subgenus of *Forcipomyia*). Type species: *Forcipomyia messersmithi* Wirth & Dow, by original designation.

brachyrhyncha Wirth & Dow, 1972: 867. Colombia. Brazil records – Bahia

guamai Wirth & Dow, 1972: 869. Brazil (Pará)

Subgenus SALIOHELEA Wirth & Ratanaworabhan

SALIOHELEA Wirth & Ratanaworabhan, 1978: 494 (as subgenus of *Forcipomyia*). Type species: *Forcipomyia leei* Wirth & Ratanaworabhan, by original designation.

leei Wirth & Ratanaworabhan, 1978: 498. Colombia. Brazil records – Amazonas, Pará, Bahia, Rio de Janeiro, Santa Catarina

Subgenus SCHIZOFORCIPOMYIA Chan & LeRoux

SCHIZOFORCIPOMYIA Chan & LeRoux, 1971: 271 (as subgenus of *Forcipomyia*). Type species: *Forcipomyia petersoni* Chan & LeRoux (= *Forcipomyia borbonica* Clastrier), by original designation.

cinctipes (Coquillett), 1905: 64 (*Ceratopogon*). USA (Florida). Brazil records – Pará, Bahia

Subgenus SYNTHYRIDOMYIA Saunders

SYNTHYRIDOMYIA Saunders, 1957: 688 (as subgenus of *Forcipomyia*). Type species: *Lasiohelea acidicola* Tokunaga, by original designation.

tenuiforceps Macfie, 1939a: 167. Brazil (Santa Catarina)

Subgenus THYRIDOMYIA Saunders

THYRIDOMYIA Saunders, 1925: 268. Type species: *Thyridomyia palustris* Saunders (= *Ceratopogon monilicornis* (Coquillett), by original designation.

nana (Macfie), 1939a: 171 (*Lasiohelea*). Brazil (Santa Catarina)

univesicula Macfie, 1939a: 170. Brazil (Santa Catarina)

Subgenus TRICHOHELEA Goetghebuer

APELMA Kieffer, 1919b: 64 (preoccupied by Billberg, 1820). Type species: *Apelma auronitens* Kieffer (= *Trichohelea tonnoiri* Goetghebuer), designation by Macfie, 1940b: 16.

TRICHOHELEA Goetghebuer, 1920: 39. Type species: *Trichohelea tonnoiri* Goetghebuer, by original designation.

NEOFORCIPOMYIA Tokunaga, in Tokunaga and Murachi, 1959: 200 (as subgenus of *Forcipomyia*). Type species: *Ceratopogon pectinunguis* de Meijere, by original designation.

aeronautica Macfie, 1935b: 265. Guyana. Brazil records – Pará

opilionivora (Lane), 1947d: 159 (*Lasiohelea*). Brazil (São Paulo)

Subgenus WARMKEA Saunders

WARMKEA Saunders, 1957: 671 (as subgenus of *Forcipomyia*). Type species: *Forcipomyia bicolor* Saunders (= *Forcipomyia lesliei* Wirth), by original designation.

galindoi Wirth & Soria, 1980: 146. Panama. Brazil records – Pará

louriei (Macfie), 1935a: 49 (*Lasiohelea*). Brazil (Maranhão). Brazil records – Pará, Maranhão, Santa Catarina

narthekophora Macfie, 1939a: 166. Brazil (Santa Catarina)

spinosa Saunders, 1957: 676. Puerto Rico (USA). Brazil records – Pará, Bahia, Rio de Janeiro

tuberculata Saunders, 1957: 677. Trinidad and Tobago. Brazil records – Amazonas, Pará

SUBFAMILY LEPTOCONOPINAE NOÈ, 1907

Genus LEPTOCONOPS Skuse

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

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

MYCTEROTYPUS Noè, 1905: 114. Type species: *Mycterotypus bezzii* Noè, designation by Carter, 1921: 3.

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

SCHIZOCONOPS Kieffer, 1918: 135. Type species: *Schizoconops indicus* Kieffer, by monotypy.

Subgenus HOLOCONOPS Kieffer

HOLOCONOPS Kieffer, 1918: 135. Type species: *Leptoconops kerteszi* Kieffer, by original designation.

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

knowltoni Clastrier & Wirth, 1978: 26. USA (California). Brazil records – Santa Catarina

Subgenus LEPTOCONOPS Skuse

brasiliensis (Lutz), 1913: 66 (*Tersesthes*). Brazil (Amazonas). Brazil records – Acre, Amazonas, Pará

REFERENCES

- Almeida, J.F., E.S. Farias, R.B. Alencar and F.A.C. Pessoa. 2017. Description of two new species of *Palpomyia* Meigen (Diptera: Ceratopogonidae) from the Brazilian Amazon. *EntomoBrasilis* 10(2):118-122.
- Austen, E.E. 1912. Notes on African blood-sucking midges (Family Chironomidae, subfamily Ceratopogoninae), with descriptions of new species. *Bulletin of Entomological Research* 3:99-108, pl. 1.
- Barbosa, F.A.S. 1943. Descrição de "*Culicoides recifensis*" n. sp. e do macho de "*Culicoides reticulatus*" Lutz (Diptera, Chironomidae). *Revista Brasileira de Biologia* 3:261-264.
- 1947. *Culicoides* (Diptera: Heleidae) da região neotropical. *Anais da Sociedade de Biologia de Pernambuco* 7:3-30. (Nov.).
- 1951. A change of specific name in the genus *Culicoides* (Diptera, Heleidae). *Proceedings of the Entomological Society of Washington* 53:163.
- 1952. Novos subsídios para o conhecimento dos *Culicoides* neotropicals (Diptera: Heleidae). Thesis, Universidade do Recife, Recife: Imprensa Industrial, 21 pp.
- 1953. Novos subsídios para o conhecimento dos *Culicoides* neotropicals (Diptera: Heleidae). *Publicações Avulsas do Instituto Aggeu Magalhães* 2:11-41.

- Barretto, M.P. 1944. Sobre o género *Culicoides* Latreille, 1809, com a descrição de três novas espécies (Diptera, Ceratopogonidae). *Annais da Faculdade de Medicina (da Universidade) de Sao Paulo* 20:89-105, pls. 1-4.
- Beck, E.C. 1957. Two new species of *Culicoides* from Florida (Diptera: Heleidae). *Florida Entomologist* 40:103-105.
- Boorman, J. and R.P. Lane. 1979. A new genus and species of Ceratopogonidae (Diptera) closely related to *Culicoides* from West Africa. *Journal of Natural History* 13:327-332.
- Borkent, A. 1991. The Ceratopogonidae (Diptera) of the Galápagos Islands, Ecuador with a discussion of their phylogenetic relationships and zoogeographic origins. *Insect Systematics & Evolution* 22(1):97-122.
- 2015a. World Ceratopogonidae fauna. Available in <http://wwx.inhs.illinois.edu/files/1114/2384/5200/CeratopogonidaeCatalog.pdf>
 - 2015b. The Subgeneric Classification of Species of *Culicoides* - thoughts and a warning. Available in <http://wwx.inhs.illinois.edu/files/8514/2385/5053/CulicoidesSubgenera.pdf>
- Borkent, A. and G.R. Spinelli. 2000. Catalog of the new world biting midges south of the United States of America (Diptera: Ceratopogonidae). *Contribution on Entomology, International* 4(1):1-107.
- 2007. Neotropical Ceratopogonidae. *In* Aidis, J., J.R. Arias, G. Rueda-Delgado and K.M. Wantzen (eds.). *Aquatica Biodiversity in Latin America*. Pensoft, Moscow, volume 4, 198pp.
- Borkent, A. and W.W. Wirth. 1997. World species of biting midges (Diptera: Ceratopogonidae). *Bulletin of the American Museum of Natural History* 233, 257 pp.
- Brèthes, J. 1912. Descripción de un nuevo género y especie nueva de Chironomidae (Dipt). *Anales del Museo Nacional de Buenos Aires* 15:451-453.
- 1914. Descripción de six Cécidomyiidae (Dipt.) de Buenos Aires. *Ibid.* 26:151-156.
- Browne, J.E. 1980. New species of biting midges of the genus *Culicoides* from Colombia and the first description of the male of *C. florenciae* (Diptera: Ceratopogonidae). *Journal of Medical Entomology* 17:533-544.
- Brunetti, E. 1920. Catalogue of Oriental and south asiatic Nematocera. *Records of the Indian Museum* 17:1-300.
- Carter, H.F. 1921. A revision of the genus *Leptoconops*, Skuse. *Bulletin of Entomological Research* 12:1-28. (June).
- Carter, H.F., A. Ingram and J.W.S. Macfie. 1921. Observations on the ceratopogonine midges of the Gold Coast with descriptions of new species Part III. *Ibid.*:309-331.
- Castellón, E.G. and M.L. Felipe-Bauer. 2015. Classificação e Distribuição das espécies de *Culicoides* (Diptera: Ceratopogonidae) na Amazônia Brasileira ou Amazônia Legal. *In*

- Castellón, E.G. and R.S. Veras (eds.). *Maruins (Culicoides: Ceratopogonidae) na Amazônia Brasileira*, Manaus, Editora INPA, 144pp.
- Cavalieri, F. 1966. Notas sobre Ceratopogonidae (Diptera, Nematocera) V. Descripción de una nueva especie de Venezuela: *Culicoides (Oecacta) birabeni* sp. n. *Physis* 26:59-63.
- Cavalieri, F. and I.F. Chiossone. 1972. Notas sobre el género *Atrichopogon* Kieffer, 1906, de la Argentina (Diptera, Ceratopogonidae). I. Consideraciones generales y descripción de *Atrichopogon delpontei* sp. nov. *Revista de la Sociedad Entomologica Argentina* 34:119-129.
- Cazorla, C.G. and G.R. Spinelli. 2016. Two new species of the subgenus *Acanthohelea* of *Stilobezzia* from Brazilian Amazonia (Diptera: Ceratopogonidae). *Zootaxa* 4066(2): 189-193.
- Cazorla, C.G., E.A. Cardoso and M.L. Felipe-Bauer. 2017. Contributions to the knowledge of predaceous midges of the subgenus *Eukraiohelea* Ingram & Macfie of *Stilobezzia* Kieffer (Diptera: Ceratopogonidae), from Brazil. *Ibid.* 4324(3):557-570.
- Cazorla, C.G., M.M. Ronderos, G.R. Spinelli, S.R.S. Torreias and R.L. Ferreira Keppler. 2012. A new species of *Stilobezzia* Kieffer from Neotropical Region (Diptera, Ceratopogonidae). *Revista Brasileira de Entomologia* 56(4):399-404.
- Chan, K.L. and E.J. LeRoux. 1971. A new subgenus and species of midge (Diptera: Ceratopogonidae) from Singapore. *Canadian Entomologist* 103:271-276.
- Chan, K.L. and L.G. Saunders. 1965. *Forcipomyia (Dacnoforcipomyia) anabaenae*, a new blood-sucking midge from Singapore, described in all stages (Diptera: Ceratopogonidae). *Canadian Journal of Zoology* 43:527-540.
- Clastrier, J. 1962. Notes sur les Cératopogonidés. XVI. Espèces du genre *Bezzia* Kieffer ou apparentées de la région Paléarctique. *Archives de l'Institut Pasteur Algérie* 40:53-125.
- 1968. Deux Ceratopogonides nouveaux de la Guyane Française. *Archives de l'Institut Pasteur de la Guyane Française et de L'Inini* 21:85-92.
- 1971. Deux nouveaux *Culicoides* (Diptera, Ceratopogonidae) de la Guyane Française. *Annales de Parasitologie* 46:285-294.
- 1979. Un nouvel *Atrichopogon* de la Guyane Française (Diptera: Ceratopogonidae). *Revue Française d'Entomologie* 1:30-32.
- 1984. *Schizonyxhelea guyana* n. g., n. sp. de la Guyane Française (Diptera, Ceratopogonidae). *Revue Française d'Entomologie* 6:1-4.
- Clastrier, J. and J.C. Dellécole. 1994. Description de *Forcipomyia (Phytohelea) musae* n. sp. de la Guyane française (Diptera, Ceratopogonidae). *Revue Française d'Entomologie* 16:51-56.
- Clastrier, J. and W.W. Wirth. 1978. The *Leptoconops kerteszi* complex in North America (Diptera: Ceratopogonidae). United States Department of Agriculture Technical Bulletin Number 1573:58 pp.

– 1995. Révision des *Forcipomyia* du sous-genre *Microhelea* de la région Néotropicale, parasites de phasmes (Diptera: Ceratopogonidae). Annales de la Societe Entomologique de France 31:97-150.

Coquillett, D.W. 1899. A new dipterous family related to the Chironomidae. Entomological News 10:60-61.

– 1901. New Diptera in the U.S. National Museum. Proceedings of the United States National Museum 23:593-618.

– 1904a. A new Ceratopogon from Brazil. Journal of the New York Entomological Society 12:35-36.

– 1904b. New Diptera from Central America. Proceedings of the Entomological Society of Washington 6:90-98.

– 1905. New nematoceros Diptera from North America. Journal of the New York Entomological Society 13:56-69.

– 1910. The type-species of the North American genera of Diptera. Proceedings of the United States National Museum 37:499-647.

Cordero, E.H. 1929. Contribución al estudio de los Dipteros del Uruguay, I. *Lophomyidium uruguayense* n. gen., n. sp. nueva Ceratopogonina hematófaga. Anales del Museo de Historia Natural de Montevideo 3:93-108.

Costa Lima, A. da. 1928. Ceratopogonineos ectoparasitos de phasmideos. Memorias do Instituto Oswaldo Cruz, Suppl. 3:84-85, 2 pls.

– 1937a. Chave das especies de *Culicoides* da regio neotropica (Diptera: Ceratopogonidae). Ibid. 32:411-422.

– 1937b. Primeira especie americana do genero *Pterobosca* (Diptera: Ceratopogonidae). Ibid.:615-616, pls. 1-2.

Crampton, G.C. 1925. A phylogenetic study of the thoracic sclerites of the non-tipuloid Nematoceros Diptera. Annals of the Entomological Society of America 18:49-69, pls. 3-7.

De Meijere, J.C.H. 1907. Studien über Südostasiatische Dipteren. I. Tijdschrift voor Entomologie 50:196-264.

De Meillon, B. and W.W. Wirth. 1980. A new subgenus of *Forcipomyia*, with descriptions of eight new species (Diptera: Ceratopogonidae). Proceedings of the Entomological Society of Washington 82:9-24.

Díaz, F., M.L. Felipe-Bauer, G.R. Spinelli. 2017. Two new Neotropical species of the *Dasyhelea mutabilis* group (Culicomorpha: Ceratopogonidae). Papéis avulsos de Zoologia 57(2): 17-22.

Díaz, F., M.M. Ronderos, G.R. Spinelli, R.L. Ferreira-Keppler and S.R.S. Torreias. 2013. A new species of *Dasyhelea* Kieffer (Diptera: Ceratopogonidae) from Brazilian Amazonia. Zootaxa 3686(1):85-93.

- Díaz, F., S.R.S. Torreias, G.R. Spinelli and M.M. Ronderos. 2014. A new species of *Dasyhelea* from Brazilian Amazonas and the description of the male of *D. paulistana* (Diptera: Ceratopogonidae). *Acta Entomologica Musei Nationalis Pragae* 54(2):715-728.
- Díaz, F., G.R. Spinelli, R. Ferreira-Keppler, M. Donato and M.M. Ronderos. 2021. First description of larvae of *Paryphoconus* Enderlein with a new species from Brazilian Amazonia and phylogenetic placement of the genus based on immature stages (Diptera: Ceratopogonidae). *Zoologischer Anzeiger* 291:79-102.
- Dippolito, A., G.R. Spinelli and W.W. Wirth. 1995. A report on a collection of Ceratopogonidae (Diptera) from Rondonia (Brazil) and Iquitos (Peru) 1. Tribes Palpomyiini and Stenoxenini. *Insecta Mundi* 9:53-60.
- Dow, M.I. and E.C. Turner. 1976. A revision of the Nearctic species of the genus *Bezzia* (Diptera: Ceratopogonidae). *Occasional Papers from the Department of Entomology, Virginia*.
- Duret, J.P. and J. Lane. 1955. Novas *Heteromyia* da Argentina (Diptera. Ceratopogonidae). *Dusenica* 6:35-40.
- Edwards, F.W. 1922. On some Malayan and other species of *Culicoides*, with a note on the genus *Lasiohelea*. *Bulletin of Entomological Research* 13:161-167.
- 1929. Philippine nematoceros Diptera II. *Notulae Entomologicae* 9:1-14.
- Enderlein, G. 1912. *Paryphoconus*, eine neue Chironomiden-gattung aus Brasilien. *Stettiner entomologische Zeitung* 73:57-60.
- 1936. Ordnung: Zweiflügler, Diptera. Abt. 16, 259 pp. In P. Brohmer, P. Ehrmann and G. Ulmer (eds.), *Die Tierwelt Mitteleuropas* 6: Insekten III Teil. Leipzig.
- Ewen, A.B. and L.G. Saunders. 1958. Contributions toward a revision of the genus *Atrichopogon* based on characters of all stages (Diptera, Heleidae). *Canadian Journal of Zoology* 36:671-724.
- Falaschi, R., F.F. Albertoni and L. Fusari. 2014. A new species of *Forcipomyia* (Microhelea) Meigen (Insecta: Diptera: Ceratopogonidae) from the Neotropical Region. *Zootaxa* 3878(4):379-389.
- Farias, E.S., A.M. Pereira Júnior, M.L. Felipe-Bauer, F.A.C. Pessoa, J.F. Medeiros and M.C.A. Santarém. 2016. *Culicoides hildebrandoi*, a new species of the *reticulatus* species group from the Brazilian Amazon Region (Diptera, Ceratopogonidae). *Zookeys* 571: 105-111.
- Farias, E.S., S.S. Santos, J.M.S. Paulino-Rosa and F.A.C. Pessoa. 2021. Description of three new species of biting midge of the genus *Atrichopogon* Kieffer (Diptera: Ceratopogonidae) from Brazilian Amazon. *Zootaxa* 4952(2): 275-290.
- Felippe-Bauer, M.L. 1987. A new Neotropical *Culicoides* from Minas Gerais (Diptera: Ceratopogonidae). *Memorias do Instituto Oswaldo Cruz* 82:147-148.
- 2019. Two new species of *Atrichopogon* Kieffer from Acre State, Brazil (Diptera: Ceratopogonidae). *Zootaxa* 4532(2): 257-265.

- Felippe-Bauer, M.L. and R. Lourenco-de-Oliveira. 1987. A new Neotropical biting midge of the *Culicoides debilipalpis* group (Diptera: Ceratopogonidae). *Ibid.* 82:149-150.
- Felippe-Bauer, M.L. and A.R. Quintelas. 1993a. *Downshelea bicornis*, a new Neotropical predaceous midge from Brazil (Diptera: Ceratopogonidae). *Ibid.*: 185-187.
- 1993b. Two new Brazilian predaceous midges of the genus *Downshelea* Wirth and Grogan (Diptera: Ceratopogonidae). *Ibid.* 88:33-38.
 - 1994. *Culicoides lobatoi*, a new Brazilian biting midge of the Limai group (Diptera: Ceratopogonidae). *Ibid.* 89:25-27.
- Felippe-Bauer, M.L. and C.S. Silva. 2008. *Downshelea* (sic) *oliveirai*, a new neotropical predaceous midge from northern Brazil (Diptera: Ceratopogonidae). *Iheringia, série Zoológica* 98:400-403.
- Felippe-Bauer, M.L. and G.R. Spinelli. 1991. New Brazilian predaceous midges of the genus *Monohelea* Kieffer and redescription of *M. guaimiesi* (Diptera: Ceratopogonidae). *Memorias do Instituto Oswaldo Cruz* 86:201-207.
- 2015. New species and new records of the predaceous midge genus *Parabezzia* Malloch (Diptera: Ceratopogonidae) from Brazil. *Zootaxa* 3915 (3):390-402.
- Felippe-Bauer, M.L. and W.W. Wirth. 1987. A new *Culicoides* of the Stigmalis group (Diptera: Ceratopogonidae). *Memorias do Instituto Oswaldo Cruz* 82:415-419.
- 1988. *Culicoides tavaresi*, a new species from the state of Rio de Janeiro, Brazil (Diptera: Ceratopogonidae). *Ibid.* 83:261-263.
- Felippe-Bauer, M.L., E.A. Cardoso and R.L. Trindade. 2017. New species and new records of *Monohelea* Kieffer from eastern Amazon, Brazil (Diptera: Ceratopogonidae). *Zootaxa* 4358 (1):142-160.
- Felippe-Bauer, M.L., A.G. Cáceres, C. S. Silva, W. Valderrama-Bazan and A. Gonzales-Perez. 2003. Two new *Culicoides* of the *paraensis* species group (Diptera: Ceratopogonidae) from the Amazonian region of Peru. *Memorias do Instituto Oswaldo Cruz* 98:1051-1058.
- Felippe-Bauer, M.L., A.G. Cáceres, C. S. Silva, W. Valderrama-Bazan, A. Gonzales-Perez, and J.M. Costa. 2008. Description of *Culicoides pseudoheliconiae* sp. n. from Peruvian Amazon and revalidation of *Culicoides contubernalis* Ortíz & Leon (Diptera: Ceratopogonidae). *Memorias do Instituto Oswaldo Cruz* 103:259-262.
- Felippe-Bauer, M.L., C.P. Damasceno, V. Py-Daniel, and G.R. Spinelli. 2009. *Culicoides baniwa* sp.nov. from the Brazilian Amazon Region with a synopsis of the hylas species group (Diptera: Ceratopogonidae). *Ibid.* 104:851-857.
- Felippe-Bauer, M.L., C.P. Damasceno, R.L. and V. Py-Daniel. 2010. A new *Culicoides* (Diptera: Ceratopogonidae) of the Reticulatus species group from Brazilian Amazon Region. *Ibid.* 105: 863-865.

- Felippe-Bauer, M.L., T.N. da Silva, E.S. Ribeiro and A. Borkent. 2011. A new species of *Downshelea* Wirth & Grogan and a redescription of the male of *Downshelea cebacoi* (Lane & Wirth) (Diptera: Ceratopogonidae). *Zootaxa* 2780:20-28.
- Felippe-Bauer, M.L., T.N. da Silva, and J.R.C. Alves. 2012. Two new species of *Atrichopogon* Kieffer from Rio de Janeiro, Brazil (Diptera: Ceratopogonidae). *Ibid.* 3566:39–50.
- Felippe-Bauer, M.L., T.N. da Silva, R.L. Trindade. 2013. New *Culicoides* Latreille of the subgenus *Mataemyia* Vargas from Pará, Brazil (Diptera: Ceratopogonidae). *Memorias do Instituto Oswaldo Cruz* 108:54-58.
- Felippe-Bauer, M.L., R.S. Veras, E.G. Castellon and N.A. Moreira. 2000. A new *Culicoides* from the Amazonian Region, Brazil (Diptera: Ceratopogonidae). *Ibid.* 95:35-37.
- Floch, H. and E. Abonnenc. 1942a. Cératopogonidés hématophages de la Guyane Française - II. Publication de l'Institut Pasteur de la Guyane et du Territory de L'Inini 49:1-5.
- 1942b. Cératopogonides hématophages de la Guyane Française. *Ibid.* 37:1-10.
- Forattini, O.P. 1954a. Nova espécie de *Culicoides* (Diptera, Ceratopogonidae) do Brasil Central. *Arquivos da Faculdade de Higiene e Saude Publica da Universidade de Sao Paulo* 8:189-192.
- 1954b. Nova espécie de *Culicoides* (Diptera, Ceratopogonidae) do estado de Goiaz, Brasil. *Folia Clinica et Biologica* 21:315-320.
- 1956a. A new *Culicoides* from Panama (Diptera, Ceratopogonidae). *Proceedings of the Entomological Society of Washington* 58:35-36.
- 1956b. Nova espécie de *Culicoides* (Diptera, Ceratopogonidae) de Sao Vicente, estado de Sao Paulo, Brasil. *Arquivos da Faculdade de Higiene e Saude Publica da Universidade de Sao Paulo* 10:81-84.
- 1957. *Culicoides* da Regiao Neotropical (Diptera, Ceratopogonidae). *Ibid.* 11:159-526.
- Forattini, O.P. and E.X. Rabello. 1957. Dados sobre *Dasyhelea* Kieffer, 1911 do Brasil (Diptera, Ceratopogonidae). *Revista Brasileira de Entomologia* 7:241-250.
- Fox, I. 1946. A review of the species of biting midges or *Culicoides* from the Caribbean Region (Diptera: Ceratopogonidae). *Annals of the Entomological Society of America* 39:248-258.
- 1947. Two new Central American biting midges or *Culicoides* (Diptera: Ceratopogonidae). *Kuba* 3:90-91. (June).
- 1948. *Hoffmania*, a new subgenus in *Culicoides* (Diptera: Ceratopogonidae). *Proceedings of the Biological Society of Washington* 61:21-28.
- 1952. Six new Neotropical species of *Culicoides* (Diptera: Ceratopogonidae). *Annals of the Entomological Society of America* 45:364-368.
- 1955. A catalogue of the bloodsucking midges of the Americas (*Culicoides*, *Leptoconops* and *Lasiohelea*) with keys to the subgenera and Nearctic species, a geographic index and bibliography. *Journal of Agriculture of the University of Puerto Rico* 39:214-285.

- Fox, I. and W.A. Hoffman. 1944. New Neotropical biting sand flies of the genus *Culicoides* (Diptera: Ceratopogonidae). Puerto Rico Journal of Public Health and Tropical Medicine 20:108-111.
- Garrett, C.B.D. 1925. Seventy new Diptera. Cranbrook, British Columbia, 16 pp.
- Gerry, B.I. 1933. Four new species of Chironomidae from the Greater Antilles. Psyche 40:94-97.
- Goeldi, E. 1905. Os mosquitos no Pará. Reunião de quatro trabalhos sobre os mosquitos indigenas, principalmente as especies que molestam o homem. Memorias do Museu Goeldi (Museu Paraense) de Historia Natural e Ethnographie 4:1-154, 5 pls.
- Goetghebuer, M. 1920. Ceratopogoninae de Belgique. Mémoires du Musée Royal d'Histoire Naturelle de Belgique 8(3): 1-116.
- 1934a. 13a. Heleidae (Ceratopogonidae). In E. Lindner (ed.), Die Fliegen der palaearktischen Region 3: 49-94, 129-133, pls. 7-12 (= Lfg. 78). Stuttgart.
 - 1934b. Ceratopogonidae et Chironomidae nouveaux ou peu connus d'Europe (Cinquieme Note). Bulletin & Annales de la Société Entomologique de Belgique 74: 287-294. (Aug.).
 - 1935. Cératopogonides récoltés par le Dr. De Wulf au Congo Belge. Revue de Zoologie et de Botanique Africaines 27:145-181.
 - 1936. Nouvelle contribution a la Connaissance des Cératopogonides et des Chironomides de Belgique. Bulletin & Annales de la Société Entomologique de Belgique 76:319-326.
- Grogan, W.L. and W.W. Wirth. 1981. A new American genus of predaceous midges related to *Palpomyia* and *Bezzia* (Diptera: Ceratopogonidae). Proceedings of the Biological Society of Washington 94:1279-1305.
- Haeselbarth, E. 1965. *Phaenobezzia*, a new genus of biting midges (Diptera: Ceratopogonidae), with a review of the African species. Zeitschrift für Angewandte Zoologie 52:297-324.
- Hall, D.G. 1932. A new biting *Culicoides* from saltmarshes in the southeastern states. Proceedings of the Entomological Society of Washington 34:88-89.
- Harant, H. and O. Baur. 1946. *Lasiohelea wansonii* n. sp. Cératopogonide du Congo belge. Archives de l'Institut Pasteur Algérie 24:141-142.
- Harant, H., W. Huttel and N. Huttel. 1951. *Parapterobosca anthropophila* nov. gen., n. sp. Cératopogonide de la Cote d'Ivoire vulnérant pour l'homme. Annales de Parasitologie Humaine et Comparée 26:468-472.
- Hoffman, W.A. 1925. A review of the species of *Culicoides* of North and Central America and the West Indies. American Journal of Hygiene 5:274-301.
- 1939. *Culicoides filariferus*, new species. Puerto Rico Journal of Public Health and Tropical Medicine 15:172-176.

- Huerta, H. and S. Ibanez-Bernal. 1996. Especie nueva de *Forcipomyia* (Lasiohelea) de Chiapas, Mexico (Diptera: Ceratopogonidae). *Anales del Instituto de Biología Universidad Nacional Autónoma de México, Serie Zoología* 67:349-355.
- Ibanez-Bernal, S., W.W. Wirth, and H. Huerta-Jiménez. 1996. 36 Ceratopogonidae. pp. 67-577 *In* Biodiversidad, taxonomía y biogeografía de artrópodos de México: hacia una síntesis de su conocimiento. J.L. Bousquets, A.N. García Aldrete and E. González Soriano (eds). Universidad Nacional Autónoma de México (Mexico City).
- Iches, L. 1906. Sobre cinco Dipteros nuevos del Chaco Austral. *Boletín de Ministerio de Agricultura y Ganadería, Argentina* 6:262-273.
- Ingram, A. and J.W.S. Macfie. 1921. West African Ceratopogoninae. *Annals of Tropical Medicine and Parasitology* 15:313-376.
- 1922. West African Ceratopogoninae II. *Ibid.* 16:243-282.
 - 1924. Notes on some African Ceratopogoninae - species of the genus *Forcipomyia*. *Ibid.*: 533-593.
 - 1931. Ceratopogonidae. *In* Diptera of Patagonia and South Chile. Part II. Fasc. 4:155-232.
- Johannsen, O.A. 1907. Some new species of Kansas Chironomidae. *In* E. S. Tucker, Some results of desultory collecting of insects in Kansas and Colorado, pp. 109-112. *Bulletin of the University of Kansas, Science Bulletin* 4:51-112.
- 1938. New species of Nemocera from Puerto Rico. *Journal of Agriculture of the University of Puerto Rico* 22:219-225.
 - 1943. Two new species of American Ceratopogonidae (Diptera). *Annals of the Entomological Society of America* 36:761-762.
 - 1950. A new *Pterobosca* from Florida with a key to the American species. *Florida Entomologist* 33:141-144.
- Johnson, C.W. 1913. The Diptera fauna of Bermuda. *Annals of the Entomological Society of America* 6:443-452.
- Karsch, F. 1886. Ein neues märkisches Dipteron (*Ceratopogon crudelis* n. sp.). *Berliner Entomologische Zeitschrift* 30:xvii-xviii.
- Kieffer, J.J. 1899. Description d'un nouveau genre et tableau des genres européens de la famille des Chironomides (Dipt.). *Bulletin de la Société Entomologique de France* 1899:66-70.
- 1906. Diptera. Fam. Chironomidae. *In* P. Wytsman (ed.), *Genera Insectorum*: Fasc. 42, 78 pp., 4 pls. Bruxelles.
 - 1911a. Description de nouveaux chironomides de l'Indian Museum de Calcutta. *Records of the Indian Museum* 6:113-177, pls. 6-7.
 - 1911b. Nouvelles descriptions de chironomides obtenus d'éclosion. *Bulletin de la Société d'Histoire Naturelle de Metz* 27:1-60. (Nov. 1).

- 1911c. Les chironomides de (Tendipedidae) de l'Himalaya et d'Assam. Records of the Indian Museum 6: 319-349. (Dec.).
- 1913a. Chironomidae et Cecidomyiidae. In C. A. Alluaud and R. Jeannel (eds.), Voyage de Ch. Alluaud et R. Jeannel en Afrique orientale (1911-1912). Resultats scientifiques. Diptera (= Vol. 5): 1-43, Paris, 351 pp.
- 1913b. Nouvelle etude sur les chironomides de l'Indian Museum de Calcutta. Records of the Indian Museum 9:119-197, pls. 11-12.
- 1917a. Chironomides d'Amérique conservés au Musée National Hongrois de Budapest. Annales Historico-Naturales Musei Nationalis Hungarici 15: 292-364.
- 1917b. Chironomides d'Australie conservés au Musée National Hongrois de Budapest. Ibid.:175-228.
- 1918. Chironomides d'Afrique et d'Asie conservés au Museum National Hongrois de Budapest. Ibid. 16:31-136.
- 1919a. Observations sur les chironomides (Dipt.) décrits par J. R. Malloch. Bulletin de la Société Entomologique de France 1919:191-194.
- 1919b. Chironomides d'Europe conservés au Musée National Hongrois de Budapest. Ibid. 17:1-160. (Dec. 29).
- 1921a. Chironomides de l'Afrique Équatoriale. Annales de la Société Entomologique de France 90:1-56.
- 1921b. Sur quelques Diptères piqueurs de la tribu des Ceratopogoninae. Archives de l'Institut Pasteur de l'Afrique du Nord 1:107-115. (March).
- 1922. Nouveaux Chironomides à larves aquatiques. Annales de la Société Scientifique de Bruxelles 41:355-367.
- 1923. Chironomides piqueurs de Java. Ibid. 43:134-143. (Dec. 12).
- 1925a. 16. Chironomiden der Hochmoore Nordeuropas und des östlichen Mitteleuropas. Beitrage zur Kunde Estlands 10:145-163.
- 1925b. Nouveaux genres et nouvelles espèces de chironomides piqueurs. Archives de l'Institut Pasteur Algérie 3:405-430.
- 1925c. Diptères (Nématocères piqueurs): Chironomidae Ceratopogoninae. Faune de France 11:1-139.

Knab, F. 1914. Ceratopogoninae sucking the blood of caterpillars. Proceedings of the Entomological Society of Washington 16:63-66.

Lane, J. 1944. As Espécies Neotropicas do Genero *Clinohoelea* Kieffer, 1917. (Diptera, Ceratopogonidae). Revista de Entomologia 15:249-261.

- 1946a. New Neotropical Ceratopogonidae (Heleidae). (Diptera, Nemocera). Ibid. 17:202-215.

- 1946b. Duas espécies novas de Ceratopogonídeos Brasileiros (Diptera Ceratopogonidae) (Heleidae). Livro de Homenagem a R.F. d'Almeida 22:219-225.
 - 1947a. Novas Ceratopogonídeos do Brasil (Diptera, Ceratopogonidae) (Heleidae). Ibid.: 225-239, Figs 1-8.
 - 1947b. Espécies Brasileiras de *Stilobezzia* (Dipt. Ceratopogonidae) e *Zygoneura stonoi* nov. nom (Dipt. Mycetophilidae). Revista de Entomologia 18:197-214.
 - 1947c. Novas espécies de *Palpomyia* do Brasil (Diptera, Ceratopogonidae). Ibid.: 438-447.
 - 1947d. A biologia e taxonomia de algumas espécies dos grupos *Forcipomyia* e *Culicoides* (Diptera, Ceratopogonidae) (Heleidae). Arquivos da Faculdade de Higiene e Saude Publica da Universidade de Sao Paulo 1:159-170
 - 1956. On "*Paryphoconus*" and *Stenoxenus* (Diptera, Ceratopogonidae). Revista Brasileira de Biologia 16:299-308.
 - 1958. On Neotropical *Bezzia*. Revista Brasileira de Entomologia 8:25-36.
 - 1960. Additional data on "*Palpomyia*" (Diptera, Ceratopogonidae). Revista Brasileira de Biologia 20:381-389.
 - 1961a. Insecta Amapaensia, Diptera: Ceratopogonidae and Anisopodidae. Studia Entomologica 4:449-452.
 - 1961b. Further notes on Neotropical Ceratopogonidae (Diptera). Revista Brasileira de Biologia 21:37-44.
 - 1961c. The genera *Stenoxenus* and *Paryphoconus* in the Neotropics (Diptera: Ceratopogonidae). Studia Entomologica 4: 452-458.
- Lane, J. and J.P. Duret. 1954. *Clinohelea* da Argentina e do Brasil (Diptera, Ceratopogonidae). Dusenía 5:247-253.
- Lane, J. and O.P. Forattini. 1956. Neotropical *Stilobezzia* Kieffer, 1911 I. Nine new Panamanian species. (Diptera, Nematocera, Ceratopogonidae). Revista Brasileira de Malariologia e Doenças Tropicais 8:207-226.
- 1958. Neotropical *Stilobezzia* II. Fourteen new species, chiefly from Panama (Diptera, Ceratopogonidae). Revista Brasileira de Entomologia 8:203-224.
 - 1961. Neotropical *Stilobezzia*, 1911 III. Key for the the adults of this genus and description of one new species (Diptera, Ceratopogonidae). Ibid. 10:83-94.
- Lane, J., O.P. Forattini and E.X. Rabello. 1955. Biologia e espécies novas de *Palpomyia* e *Stilobezzia* (Diptera, Nematocera, Ceratopogonidae). Dusenía 6:81-88.
- Lane, J. and W.W. Wirth. 1964. The biting midge genus *Monohalea* Kieffer in the Neotropical region (Diptera, Ceratopogonidae). Studia Entomologica 7:209-236.

- Latreille, P.A. 1809. Genera crustaceorum et insectorum secundum ordinem naturalem in familias disposita, iconibus exemplisque plurimis explicata. Vol. 4. Paris and Strasbourg, 399 pp., 4 pls.
- Lenz, F. 1934. 13a. Heleidae (Ceratopogonidae). In E. Lindner (ed.), Die Fliegen der palaearktischen Region 3:95-133 (Lfg. 78). Stuttgart.
- Liu, J.-H., G. Yan, G.-P. Liu, B.-S. Hao, Z.-J. Liu and Y.-X. Yu. 2001. Forcipomyiinae of China (Diptera: Ceratopogonidae) I. General introduction and the genus *Atrichopogon* Kieffer. Fauna of China 2:5-160.
- Loew, H. 1861. Diptera Americae septentrionalis indigena. Berliner Entomologische Zeitschrift 5:307-359.
- 1866. Diptera Americae septentrionalis indigena. Zeitschrift für die Gesamten Naturwissenschaften 9:127-186
- Lundström, C. 1910. Beiträge zur Kenntnis der Dipteren Finlands VI. Chironomidae. Acta Societatis pro Fauna et Flora Fennica 33(10): 1-46.
- Lutz, A. 1913. Contribuicao para o estudo das Ceratopogoninas hematofagas do Brazil. Memorias do Instituto Oswaldo Cruz 5:45-73, pls. 6-8.
- 1914. Contribuicao para o conhecimento das Ceratopogoninas do Brasil. Ibid. 6:81-99, pls. 8-9
- Macfie, J.W.S. 1924. On some Egyptian Ceratopogonidae. Bulletin of Entomological Research 15:61-67.
- 1932a. Some new or little-known Ceratopogonidae. Annals and Magazine of Natural History Ser. 10, 9:485-499.
- 1932b. Ceratopogonidae from the wings of dragonflies. Tijdschrift voor Entomologie 75:265-283.
- 1934. A new British *Forcipomyia* (Diptera, Ceratopogonidae). Entomologist's Monthly Magazine 70:144-145. (June).
- 1935a. Ceratopogonidae (Dipt.) from the river Amazon. Stylops 4:49-56.
- 1935b. A new ceratopogonid (Dipt.) from British Guiana. Ibid.: 265.
- 1937. Notes on Ceratopogonidae (Diptera). Proceedings of the Royal Entomological Society of London (B) 6:111-118.
- 1938. Notes on Ceratopogonidae (Diptera). Ibid. 7:157-166.
- 1939a. A report on a collection of Brazilian Ceratopogonidae. Revista de Entomologia 10:137-219.
- 1939b. 5. Ceratopogonidae. In Ruwenzori Expedition 1934-5 (British Museum of Natural History) 1(5): 81-102, pls. 25, 26.

- 1939c. A key to the species of Ceratopogonidae akin to *Macropeza* Mg. (Diptera). Transactions of the Royal Entomological Society of London 89:1-12, pl. 1.
- 1940a. Ceratopogonidae (Diptera) from British Guiana and Trinidad. Part 2. Proceedings of the Royal Entomological Society of London (B) 9:187-195.
- 1940b. The genera of Ceratopogonidae. Annals of Tropical Medicine and Parasitology 34:13-30.
- 1940c. A report on a collection of Ceratopogonidae (Diptera) from British Guiana. Entomologist's Monthly Magazine 76:23-32.
- 1940d. Ceratopogonidae (Diptera) from north-eastern Brazil. Proceedings of the Royal Entomological Society of London (B) 9:73-79.
- 1940e. Ceratopogonidae (Diptera) from British Guiana and Trinidad. Part 1. Ibid.: 179-186.
- 1940f. *Forcipomyia furcifera*, sp. n. (Dipt. Ceratopogonidae). Revista de Entomologia 11:920-922.
- 1948. Some species of *Culicoides* (Diptera, Ceratopogonidae) from the state of Chiapas, Mexico. Ibid. 42:67-87.
- 1949. Notes on Ceratopogonidae. Proceedings of the Royal Entomological Society of London (B) 18:109-115.

Maes, J.M. and W.W. Wirth. 1990. Catalogo de los Diptera de Nicaragua. 6. Ceratopogonidae (Nematocera). Revista nicaraguense de entomologia 14:1-17.

Malloch, J.R. 1915a. Some additional records of Chironomidae for Illinois and notes on other Illinois Diptera. Bulletin of the Illinois State Laboratory of Natural History 11:305-363, pls. 80-84.

- 1915b. The Chironomidae, or midges, of Illinois, with particular reference to the species occurring in the Illinois River. Ibid. 10:275-543, 24 pls.

Marino, P.I. and G.R. Spinelli. 2002. A revision of the *Forcipomyia squamitibia* group in the Neotropics with the description of three new species (Diptera: Ceratopogonidae). Insect Science and its Application, Nairobi, 22:307-319.

Mayer, K. 1937. Beitrag zur Kenntnis der deutschen Ceratopogoniden. (Dipt.) IX. Stettiner entomologische Zeitung 98:301-304.

Meigen, J.W. 1818. Systematische Beschreibung der bekannten europäischen zweiflügeligen Insekten. Vol. 1, xxxvi + 333 pp., pls. 1-11. Aachen.

Mendez-Andrade, A. and S. Ibañez-Bernal. 2023. An updated catalogue of biting midges of the genus *Culicoides* Latreille, 1809 (Diptera, Ceratopogonidae) of Mexico and their known distribution by state. Zookeys 1167: 1-47.

Meunier, F. 1920. Quelques insectes de l'Aquitaine de Rott, Sept-Monts (Presse rhénane) [part]. Verslagen der Zittingen van de Wis- en Natuurkundige Afdeeling der Koninklijke Akademie

van Wetenschappen van (II) 28:645-655. (Also published 1920, Proceedings, Koninklijke Akademie van Wetenschappen te Amsterdam 22:727-737).

Morrone, J.J. 2014. Biogeographical regionalisation of the Neotropical region. *Zootaxa* 3782:1-110.

Mosquera, J.D., S. Zapata, G. Spinelli, M. Gualapuro, R. León and D. Augot. 2022. An updated list of the *Culicoides* (Diptera, Ceratopogonidae) fauna from Ecuador. *Parasite* 29(63):1-13.

Newman, E. 1834. Attempted division of British insects into natural orders. *Entomological Magazine* 2:379-431.

Nielsen, A. 1951. Contributions to the metamorphosis and biology of the genus *Atrichogon* Kieffer (Diptera, Ceratopogonidae) with remarks on the evolution and taxonomy of the genus. Det Kongelige Danske Videnskabernes Selskab, *Biologiske Skrifter* 6(6): 1-95, pls. 1-2.

Noè, G. 1905. Un nuovo genere appartenente alla famiglia Chironomidae. *Rendiconti, Accademia Nazionale dei Lincei* 14:114-120.

– 1907. Due nuove specie di ditteri appartenenti ad un genere nuovo. *Archivio Zoologico Italiano: Pubblicato Sotto gli Auspicii Della Unione Zoologica* 3:101-163, 2 pls.

Ortíz, I. 1950a. Estudios en *Culicoides* V. Informes sobre una nueva especie y lista de los machos cuyas genitalias son conocidas. *Revista de Sanidad y Asistencia Social* 15: 461-465.

– 1950b. Estudios en *Culicoides* IV. Revisión de las especies americanas del sub-género *Hoffmania* Fox 1948, con la descripción de dos nuevas especies. *Ibid.*: 437-460.

– 1950c. Estudios en *Culicoides* II. Diptera, Ceratopogonidae. *Culicoides lanei* n. sp. de Panama. *Ibid.*:431-433.

– 1951a. Estudios en *Culicoides* (Diptera, Ceratopogonidae). IX. Sobre los caracteres diferenciales entre *Culicoides paraensis* (Goeldi, 1905), *C. stellifer* (Coquillett, 1901), y *C. lanei* (Ortíz, 1950). Descripción de cuatro nuevas especies con la redescipción de algunas otras poco conocidas. *Ibid.* 16:573-591.

– 1951b. Estudios en *Culicoides* (Diptera, Ceratopogonidae). 6. *Culicoides bricenoi* n. sp. *Boletin del Laboratorio de la Clinica "Luis Razetti"* 11:442-448.

– 1953. Nueva contribución al conocimiento de los caracteres morfológicos externos de las hembras americanas del género *Culicoides* LTR. (Diptera, Ceratopogonidae) con una espermateca. Descripción de dos nuevas especies de Venezuela: *Culicoides transferrans* (*C. oublepharus* [sic] Ortíz, 1952) y *Culicoides mirsae*. *Revista de Sanidad y Asistencia Social* 18:797-806.

– 1954. Sobre dos nuevos dipteros hematofagos del genero *Culicoides* (Nematocera, Ceratopogonidae). *Archivos Venezolanos de Patologia Tropical y Parasitologia Médica* 2:221-226.

– 1956. Sobre un pequeño diptero de la region del Auyantepuy. *Boletin Venezolano de Laboratorio Clinico* 1:93-96.

- 1961. Descripción de una nueva especie de *Culicoides* (*C. forattinii* sp. n.) del subgénero *Oecacta* Poey, 1851, de Venezuela. *Revista Brasileira de Entomologia* 10:211-215.
- Ortíz, I. and L.A. León. 1955. Los *Culicoides* (Diptera: Ceratopogonidae) de la República del Ecuador. *Boletín de Informaciones Científicas Nacionales* 67:564-594. (January - February).
- Ortíz, I. and M. Mirsa. 1950. Estudios en *Culicoides* (Diptera, Ceratopogonidae) VIII.- Sobre una nueva especie del grupo haematopodus: *Culicoides venezuelensis* n. sp. *Archivos Venezolanos de Patología Tropical y Parasitología Médica* 2:137-143.
- 1951. Estudios en *Culicoides*. Descripción de dos nuevas especies: *Culicoides avilaensis* y *C. discrepans*, y del macho de *C. leopoldoi* Ortíz, 1951. Redescrpción de *C. limai* Barretto, 1944, *C. baueri* Hoffman 1925, *C. lichyi* Floch & Abonnenc, 1949, y *C. pusillus* Lutz, 1913. *Revista de Sanidad y Asistencia Social* 16:593-605.
- 1952. Sobre las especies Americanas del género "*Culicoides*" Latr., (Diptera, Ceratopogonidae) con una espermateca. *Acta Científica Venezolana* 2:125-128.
- Philippi, R.A. 1865. Aufzählung der chilenischen Dipteren. *Verhandlungen der Kaiserlich-Königlichen Zoologisch-Botanischen Gesellschaft in Wien* 15:595-782.
- Pierce, W.D. 1966. Fossil arthropods of California. 29. Silicified Miocene pupae of ceratopogonid flies. *Bulletin of the Southern California Academy of Sciences* 65(2): 81-98.
- Poey, F. 1853. Memorias sobre la historia natural de la Isla de Cuba, acompañadas de sumarios latinos y extractos en frances. Vol. 1 (part 4), pp. 201-280, Habana.
- Rafinesque, C.S. 1815. *Analyse de la nature ou tableau de l'univers et des corps organisés. Le nature est mon guide, et Linnéus mon maitre*. Palermo: Privately published. 224 pp.
- Remm, H. 1971. On the fauna of Ceratopogonidae of South Primorye (Ussuri Land) [in Russian, English summary]. In *Living Nature of the Far East*: pp. 182-220,. Akademiia nauk Estonskoi SSR, 240 pp.
- 1974. A review of species of the genus *Bezzia* Kieffer (Diptera, Ceratopogonidae) from the fauna of the USSR. I [in Russian, English summary]. *Entomologicheskoe Obozrenie* 53:429-442. Translation in *Entomological Review* 53(1): 136-145.
- 1976. A synopsis of the *Palpomyia* of the USSR (Diptera, Ceratopogonidae). *Loodusuurijate Seltsi Aastaraamat* 64:172-197.
- 1979. Eesti NSV habesääsklaste (Diptera, Ceratopogonidae) fauna kataloog [in Estonian, with Russian and English summary]. In *Dipteroloogilisi Uurimusi* (Tartu), pp. 40-60. Eesti NSV Teaduste Akadeemia Eesti Looduseuurijate selts.
- 1981. New synonyms and new names of the Palaearctic Ceratopogonidae (Diptera). *Eesti NSV Teaduste Akadeemia Toimetised* 30:27-32.
- Rondani, C. 1856. *Dipterologiae Italicae prodromus*. Volume 1. Genera Italica ordinis Dipterorum ordinatim disposita et distincta et in familias et stirpes aggregata. Parmae [= Parma], 228 pp.

- 1857. Ibid. Volume 2. Species Italicae ordinis Dipteriorum in genera characteribus definita, ordinatim collectae, methodo analitica distinctae, et novis vel minus cognitis descriptis. Pars prima. Oestridae: Syrphidae: Conopidae. A. Stocche, Parmae [= Parma], 264 pp.
- Ronderos, M.M. and G.R. Spinelli. 1995. Redescription de *Culicoides lahillei* y descripción de *Culicoides ichesi*, n. sp. de la Argentina, Paraguay y Uruguay (Diptera: Ceratopogonidae). *Neotropica* 41:77-81.
- 1999. On the subgenus *Forcipomyia* (*Lasiohelea*) in the Neotropical Region (Diptera: Ceratopogonidae). *Transactions of the American Entomological Society* 125:151-161. (June).
- Santarém, M.C.A., A. Borkent, M.L. Felipe-Bauer. 2020. Taxonomic Revision of Neotropical *Downshelea* Wirth and Grogan predaceous midges (Diptera: Ceratopogonidae). *Insects* 11(9): 1-94.
- Santarém, M.C.A., A. Borkent, G. Spinelli, M.L. Felipe-Bauer. 2018. New Neotropical species of *Downshelea* Wirth and Grogan and redescription of *D. multilineata* (Lutz) (Diptera: Ceratopogonidae). *Journal of Natural History* 52(9-10):509-540.
- Santarém, M.C.A., E.A. Cardoso, I.S. Pinto, M.L. Felipe-Bauer. 2022. New species and new records of *Monohelea* Kieffer (Diptera, Ceratopogonidae) from Brazil. *Zookeys* 1136: 175-185.
- Santarém, M.C.A., E.S. Farias, M.L. Felipe-Bauer. 2015. *Culicoides castelloni* sp. nov. from the Brazilian Amazon Region with a revision of the *reticulatus* species group (Diptera, Ceratopogonidae). *Anais da Academia Brasileira de Ciências* 87(2):955-972.
- Santarém, M.C.A., R.L. Trindade, T.N. Silva, E.G. Castellón, C.A. Mello-Patiu and M.L. Felipe-Bauer. 2014. New Neotropical *Culicoides* and redescription of *Culicoides reticulatus* Lutz (Diptera: Ceratopogonidae). *Zootaxa*: 3795: 255-274.
- Santos Abreu, E. 1918. Ensayo de una Monografía de los Tendipedidos de las Islas Canarias. *Memorias de la Real Academia de Ciencias y Artes de Barcelona* 14(2):159-326, 1 pl.
- Saunders, L.G. 1925. On the life history, morphology and systematic position of *Apelma* Kieff and *Thyridomyia* n. g. (Diptera, Nemat. Ceratopogoninae). *Parasitology* 17:252-277.
- 1957. Revision of the genus *Forcipomyia* based on characters of all stages (Diptera, Ceratopogonidae). *Canadian Journal of Zoology* 34:657-705 [1956].
- 1964. New species of *Forcipomyia* in the *Lasiohelea* complex described in all stages (Diptera, Ceratopogonidae). *Ibid.* 42:463-482.
- Say, T. 1825. American entomology, or descriptions of the insects of North America. Vol. 2, 121 pp., pls. 19-36. Philadelphia.
- Séguy, E. 1941. Quelques Cératopogonides vulnérants parasites des insectes. *Revue Française d'Entomologie* 8:82-88.
- Shevchenko, A.K. 1977. Bloodsucking midges [in Russian]. *Fauna Ukraini* 13: 1-251.

- Skuse, F. A.A. 1889. Diptera of Australia. Part VI. - The Chironomidae. Proceedings of the Linnean Society of New South Wales 4:215-311, pls. 11-14.
- Soria, S. and P.G. Bystrak. 1975. A new species of *Forcipomyia* (Diptera, Ceratopogonidae) described in all stages, with an account of its role as a cacao pollinator. Revista Theobroma (Brasil) 5(2): 3-11.
- Spinelli, G.R. 1983. Notas sobre Ceratopogonidae de la Republica Argentina (Diptera, Nematocera) II. Nuevos aportes al conocimiento del genero *Forcipomyia* Meigen. Neotropica 29:121-129.
- 1984. Notas sobre Ceratopogonidae (Diptera: Nematocera) de la Republica Argentina. IV. Descripcion de adulto y pupa de *Neobezzia termophila* sp. nov. Ibid. 30:197-200.
- 1990. The genus *Brachypogon* in Argentina, with a key to the Neotropical species (Diptera, Ceratopogonidae). Revista Brasileira de Entomologia 34:743-755.
- Spinelli, G.R. and A. Borkent. 2004. New species of Central American *Culicoides* Latreille (Diptera: Ceratopogonidae) with a synopsis of species from Costa Rica. Proceedings of Entomological Society of Washington 106(2):361-395.
- Spinelli, G.R. and W.L. Grogan. 1985. *Clastrieromyia*, a new Neotropical genus of predaceous midges related to *Palpomyia* and *Bezzia* (Diptera: Ceratopogonidae). Proceedings of Entomological Society of Washington 87:329-334.
- 1987. A revision of the Neotropical species of *Parabezzia* (Diptera: Ceratopogonidae). Biologia Acuatica 11:1-45.
- 1998. A revision of the Neotropical predaceous midges of *Brachypogon* (*Brachypogon*) Kieffer (Diptera: Ceratopogonidae). Insecta Mundi 12:59-79.
- Spinelli, G.R. and W.W. Wirth. 1984a. The Neotropical predaceous midges of the genus *Alluaudomyia* (Diptera: Ceratopogonidae). Proceedings of the Entomological Society of Washington 86:673-702.
- 1984b. Ocho especies nuevas del genero *Culicoides* Latreille de la region Neotropical. Primera descripcion del macho de *C. flinti* Wirth, y de la hembra de *C. lenti* Tavares y Luna Dias (Diptera: Ceratopogonidae). Revista de la Sociedad Entomologica Argentina 43:171-185.
- 1984c. A review of the Neotropical predaceous midge genus *Paryphoconus* (Diptera: Ceratopogonidae). Proceedings of the Biological Society of Washington 97:882-908.
- 1986. The Neotropical species of *Phaenobezzia* (Diptera: Ceratopogonidae). Florida Entomologist 69:231-236.
- 1989. The Neotropical predaceous midges of the genus *Bezzia* (Diptera Ceratopogonidae) Part I. The glabra and brevicornis groups. Limnobiology 2:762-778.
- 1990. Neotropical predaceous midges of the genus *Bezzia* (Diptera: Ceratopogonidae) Part III. The gibbera group of species. Insecta Mundi 4:11-32.

- 1991. The Neotropical predaceous midges of the genus *Bezzia* (Diptera: Ceratopogonidae) Part IV. The dentifemur and venustula groups. *Ibid.* 5:1-17.
- Spinelli, G.R., A. Dippolito and W.W. Wirth. 1995. A report on a collection of Ceratopogonidae (Diptera) from Rondonia, Brazil. 2. Tribes Heteromuini [sic] and Sphaeromiini. *Ibid.* 9:165-169.
- Spinelli, G.R., E.C. Greiner and W.W. Wirth. 1993. The Neotropical bloodsucking midges of the *Culicoides guttatus* group of the subgenus *Hoffmania* (Diptera: Ceratopogonidae). *Contributions of the American Entomological Institute* 27(3): 1-91.
- Spinelli, G.R., E. Santamaría, O.L. Cabrera, M.M. Ronderos and M.F. Suárez. 2009. Five new species of *Culicoides* Latreille described from Colombia, yielding a new species list and country records (Diptera: Ceratopogonidae). *Memórias do Instituto Oswaldo Cruz* 104(1):81-92.
- Spinelli, G.R., P.I. Marino and H. Huerta. 2015. Revision of the Neotropical species of the subgenus *Atrichopogon* (Psilokempia) (Diptera: Ceratopogonidae). *Zootaxa* 4003(1):1-64.
- Spinelli, G.R., M.M. Ronderos, M.M. Ayala, F. Diaz. 2023. Catalog of the biting midges of Argentina (Diptera: Ceratopogonidae). *Zootaxa* 5261(1): 001-083.
- Spinelli, G.R., M.M. Ronderos, F. Diaz and P.I. Marino. 2005. The bloodsucking biting midges of Argentina (Diptera: Ceratopogonidae). *Memorias Do Instituto Oswaldo Cruz* 100:137-150.
- Spinelli, G.R., M.M. Ronderos, P.I. Marino, D.S. Carrasco, and R. L. Menezes Ferreira. 2007. Description of *Culicoides (Mataemyia) felippebaueri* sp. n., *Forcipomyia musae* immatures, and occurrence of *F. genualis*, breeding in banana stems in Brazilian Amazonia (Diptera: Ceratopogonidae). *Ibid.* 102:659-669.
- Stephens, J.F. 1829. The nomenclature of British insects; being a compendious list of such species as are contained in the Systematic Catalogue of British Insects and forming a guide to their classification, &c.&c. London: Baldwin & Cradock, (2) + 68 pp. (June 1)
- Tavares, O. and A.J. Silva Pereira. 1978. Duas espécies novas do genero *Monohelea* Kieffer, 1917, do Estado do Rio de Janeiro, Brasil (Diptera, Ceratopogonidae). *Revista Brasileira de Biologia* 38:157-160.
- Tavares, O. and A.P. Luna Dias. 1980. Quatro novas espécies do genero *Culicoides* Latreille, 1809, do Estado do Rio de Janeiro, Brasil (Diptera, Ceratopogonidae). *Revista Brasileira de Biologia* 40:393-399.
- Tavares, O. and R.A. Ruiz. 1980. Sobre duas espécies novas do genero *Culicoides* Latreille, 1809, do Brasil (Diptera, Ceratopogonidae). *Memorias do Instituto Oswaldo Cruz* 75:27-32.
- Tavares, O. and M.A. de Souza. 1978. Sobre tres espécies novas do genero *Culicoides* Latreille, 1809 do Brasil (Diptera, Ceratopogonidae). *Ibid.* 38:619-624.
- 1979. Sobre algumas espécies do genero *Culicoides* Latreille, 1809 do Estado do Rio de Janeiro, Brasil (Diptera, Ceratopogonidae). *Ibid.* 39:611-613.

- 1980. Duas espécies novas do genero *Monohelea* Kieffer, 1917, do Estado do Rio de Janeiro, Brasil (Diptera, Ceratopogonidae). *Ibid.* 40:95-100.
- Tokunaga, M. 1940. Biting midges from Japan and neighbouring countries, including Micronesian Islands, Manchuria, North China and Mongolia (Diptera, Ceratopogonidae). *Tenthredo* 3:58-100. (May 31).
- 1941. Biting midges from Manchuria (Ceratopogonidae, Diptera). *Insecta Matsumurana* 15:89-102, pl. 1.
- Tokunaga, M. and E.K. Murachi. 1959. Insects of Micronesia. Diptera: Ceratopogonidae. *Insects of Micronesia* 12(3): 103-434. (Nov. 6).
- Townsend, C.H.T. 1893. An interesting blood-sucking gnat of the family Chironomidae. *Psyche* 6:369-371.
- Trindade, R.L. da and M.L. Felipe-Bauer. 2011a. Two new biting midges from Para, Brazil (Diptera: Ceratopogonidae). *Memorias do Instituto Oswaldo Cruz* 106:61-64.
- 2011b. *Culicoides parauapebensis*, a new species of the subgenus *Hoffmania* Fox from northern Brazil (Diptera: Ceratopogonidae). *Zootaxa* 2999:42-44.
- Utmar, J.A. and W.W. Wirth. 1976. A revision of the new world species of *Forcipomyia*, subgenus *Caloforcipomyia* (Diptera: Ceratopogonidae). *Florida Entomologist* 59:109-133.
- Vargas, L. 1954. Dos nuevas especies de *Culicoides* Mexicanos (Diptera, Heleidae). *Revista del Instituto de Salubridad y Enfermedades Tropicales* 14:25-32.
- 1960. The subgenera of *Culicoides* of the Americas (Diptera, Ceratopogonidae). *Revista de Biologia Tropical* 8:35-47.
- Walker, F. 1856. Vol. 1. Diptera. pp. 415-474, *In: Insecta Saundersiana: or characters of undescribed insects in the collection of William Wilson Saunders, Esq., F.R.S., F.L.S., &c. Van Voorst, London, 474 pp.*
- Westwood, J.O. 1840. Order XIII. Diptera Aristotle (Antliata Fabricius. Halteriptera Clairv.). *In his An introduction to the modern classification of insects; founded on the natural habits and corresponding organisation of the different families: 125-154. Synopsis of the genera of British insects, London, 158 pp.*
- Williston, S.W. 1896. On the Diptera of St. Vincent (West Indies). *Transactions of the Entomological Society of London* 1896:253-446, pls. 8-14.
- 1900. Supplement (Part), in F. D. Godman and O. Salvin (eds), *Biologia Centrali-Americana. Zoologia-Insecta-Diptera: 217-248, Vol. 1. London: 378 pp., 6 pls.*
- Winnertz, J. 1852. Beitrag zur Kenntniss der Gattung Ceratopogon Meigen. *Linnaea Entomologica* 6:1-80.
- Wirth, W.W. 1951. New species and records of Virginia Heleidae (Diptera). *Proceedings of the Entomological Society of Washington* 53: 313-326.

- 1952a. Los Insectos de las islãs Juan Fernandez. 7. Heleidae and Tendipedidae (Diptera). *Revista chilena de entomología* 2: 87-104.
- 1952b. The Heleidae of California. *University of California Publications in Entomology* 9:95-266.
- 1953a. American biting midges of the heleid genus *Monohelea*. *Proceedings of the United States National Museum* 103: 135-154.
- 1953b. Biting midges of the heleid genus *Stilobezzia* in North America. *Ibid.*:57-85.
- 1956. The biting midges ectoparasitic on blister beetles (Diptera, Heleidae). *Proceedings of the Entomological Society of Washington* 58:15-23.
- 1959a. *Pachyhelea*, a new genus of American Ceratopogonidae related to *Palpomyia* (Diptera). *Bulletin of the Brooklyn Entomological Society* 54:50-52.
- 1959b. New species and records of Heleidae from Brazil (Diptera). *Deutsche Entomologische Zeitschrift* 6:234-237.
- 1962. A reclassification of the *Palpomyia- Bezzia-Macropeza* groups and a revision of the North American Sphaeromiini (Diptera, Ceratopogonidae). *Annals of the Entomological Society of America* 55:272-287.
- 1965a. A revision of the genus *Parabezzia* Malloch. *Proceedings of the Entomological Society of Washington* 67:215-230.
- 1965b. A new *Johannsenomyia* from Brazil (Diptera: Ceratopogonidae). *Proceedings of the Entomological Society of Washington* 67:4.
- 1971. A review of the "Stick-ticks", Neotropical biting midges of the *Forcipomyia* subgenus *Microhelea* parasitic on walking stick insects (Diptera: Ceratopogonidae). *Entomological News* 82:229-245.
- 1972. The Neotropical *Forcipomyia (Microhelea)* species related to the caterpillar parasite *F. fuliginosa* (Diptera: Ceratopogonidae). *Annals of the Entomological Society of America* 65:564-577.
- 1973. Family Ceratopogonidae. *In A Catalog of the Oriental Region: 346-388. Vol. 1. Suborder Nematocera. Honolulu: University of Hawaii, 618 pp.*
- 1974. A catalogue of the Diptera of Americas south of the United States. 14. Family Ceratopogonidae. *Museu de Zoologia, São Paulo, Brasil, 89pp.*
- 1976. *Forcipomyia pictoni* Macfie and descriptions of two new related species from Florida (Diptera: Ceratopogonidae). *Florida Entomologist* 59:77-84.
- 1982a. New species of Neotropical *Culicoides* (Diptera: Ceratopogonidae). *Florida Entomologist* 65:248-253.
- 1982b. The cacao-pollinating midges of the *Forcipomyia argenteola* group (Diptera: Ceratopogonidae). *Proceedings of the Entomological Society of Washington* 84:568-585.

- 1991. New and little-known species of *Forcipomyia* (Diptera: Ceratopogonidae) associated with cocoa pollination in Brazil. *Ibid.* 93:163-175.
 - 1992. A new genus of Ceratopogonini (Diptera: Ceratopogonidae) from Brazil. *Ibid.* 94:276-281.
 - 1994. The western hemisphere species of the predaceous midge genus *Echinohelea*, with descriptions of six new species (Diptera: Ceratopogonidae). *Insecta Mundi* 8:227-242.
- Wirth, W.W. and P. Barreto. 1978. New species of *Culicoides* biting midges (Diptera: Ceratopogonidae) from Colombia. *Journal of Medical Entomology* 14:553-564.
- Wirth, W.W. and F.S. Blanton. 1953a. Studies in Panama *Culicoides* (Diptera: Heleidae): I, Descriptions of six new species. *Journal of the Washington Academy of Sciences* 43:69-77.
- 1953b. Studies in Panama *Culicoides* (Diptera, Heleidae). II. Descriptions of six additional new species. *Journal of Parasitology* 39:229-236.
 - 1955a. Studies in Panama *Culicoides* (Diptera, Heleidae) IV. Descriptions of three new species. *Bulletin of the Brooklyn Entomological Society* 50:100-106. (October).
 - 1955b. Studies in Panama *Culicoides* (Diptera, Heleidae) V. Descriptions of three new species of the subgenus *Oecacta* Poey. *Ibid.*: 121-127.
 - 1956. Studies in Panama *Culicoides* (Diptera, Heleidae). IX. Two new species related to *leoni* Barbosa and *reevesi* Wirth. *Ibid.* 51:45-52.
 - 1959. Biting midges of the genus *Culicoides* from Panama (Diptera: Heleidae). *Proceedings of the United States National Museum* 109:237-482.
 - 1968a. A revision of the Neotropical biting midges of the *hylas* group of *Culicoides* (Diptera: Ceratopogonidae). *Florida Entomologist* 51:201-215.
 - 1968b. A new *Culicoides* from Guyana (Diptera: Ceratopogonidae). *Ibid.*: 251-252.
 - 1970a. Notes on *Brachypogon* Kieffer (Diptera, Ceratopogonidae), a new species and two new Neotropical genera of the tribe Ceratopogonini. *Ibid.*: 93-104.
 - 1970b. New genera of Neotropical Ceratopogonidae (Diptera). *Ibid.* 53:7-14.
 - 1971. New Neotropical sandflies of the *Culicoides debilipalpis* group (Diptera: Ceratopogonidae). *Proceedings of the Entomological Society of Washington* 73:34-43.
 - 1973. A review of the maruins or biting midges of the genus *Culicoides* (Diptera: Ceratopogonidae) in the Amazon Basin. *Amazoniana* 4:405-470.
- Wirth, W.W. and M.I. Dow. 1972. Studies on the genus *Forcipomyia* 4. *Rhynchoforcipomyia*, a new Neotropical subgenus in the *Trichohelea* complex (Diptera: Ceratopogonidae). *Annals of the Entomological Society of America* 65:862-872.
- Wirth, W.W. and W.L. Grogan. 1988. The predaceous midges of the world (Diptera: Ceratopogonidae; Tribe Ceratopogonini). *Flora and Fauna Handbook* 4. E. J. Brill, xv + 160 pp.

- Wirth, W.W. and N.C. Ratanaworabhan. 1972. *Neobezzia*, a new Neotropical biting midge genus of the tribe Sphaeromiini (Diptera: Ceratopogonidae). *Journal of the Kansas Entomological Society* 45:476-490.
- 1978. Studies on the genus *Forcipomyia*. V. Key to subgenera and description of a new subgenus related to *Euprojoannisia* Brethes (Diptera: Ceratopogonidae). *Proceedings of the Entomological Society of Washington* 80:493-507.
- Wirth, W.W. and S.J. Soria. 1975. A new Neotropical *Forcipomyia* midge closely related to *F. (F.) genualis* (Loew) (Diptera: Ceratopogonidae). *Revista Theobroma* 5:19-27.
- 1980. Studies on the genus *Forcipomyia* VI. The Neotropical species of the subgenus *Warmkea* (Diptera: Ceratopogonidae). *Ibid.* 9:137-161.
- Wirth, W.W. and G.R. Spinelli. 1992. Immature stages of *Forcipomyia seminole* Wirth and a related new Neotropical species (Diptera: Ceratopogonidae). *Florida Entomologist* 75:349-356.
- 1993. The American species of the *annulatipes* group of the subgenus *Lepidohelea*, genus *Forcipomyia* (Diptera: Ceratopogonidae). *Insecta Mundi* 6:109-125. (1992)
- Wirth, W.W. and W.T. Waugh. 1976. Five new Neotropical *Dasyhelea* midges (Diptera: Ceratopogonidae) associated with culture of Cocoa. *Studia Entomologica* 19:223-236.
- Wirth, W.W. and R.W. Williams. 1957. The biting midges of the Bermuda Islands, with descriptions of five new species. *Proceedings of the Entomological Society of Washington* 59:5-14.
- Yu, Y.-X., J.-H. Liu, G.-P. Liu, Z.-J. Liu, B.-S. Hao, G. Yan and T.-S. Zhao. 2006. Ceratopogonidae of China, Insecta, Diptera [in Chinese]. Volumes 1-2. 1699 pp., Military Medical Science Press, Beijing.
- Zetterstedt, J.W. 1850. *Diptera Scandinaviae. Disposita et descripta* 9:3367-3710. Lundae (= Lund).
- Zilahi-Sebess, G. 1940. Magyarorszag Heleidai. *Folia Entomologica Hungarica* 5:10-133, 3 pls.