Boletín de la Sociedad Zoológica del Uruguay, 2025
Vol. 34(2): e34.2.1
ISSN 2393-6940
https://journal.szu.org.uy
DOI: https://doi.org/10.26462/34.2.1

CHECKLIST OF CERATOPOGONIDAE (INSECTA: DIPTERA) FROM URUGUAY

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Fecha de recepción: 28 de febrero de 2024
Fecha de aceptación: 25 de agosto de 2024

ABSTRACT

We present an annotated check list of Ceratopogonidae species found in Uruguay. Data of identified species was gathered from available literature, captures made by the authors, and observation of specimens deposited in the Entomology Collection of Facultad de Ciencias, Uruguay. Three subfamilies are known in the country: Leptoconopinae, Forcipomyiinae and Ceratopogoninae, with a total of 17 genera and 41 species. The predatory species *Stilobezzia fiebrigi* Kieffer is recorded for the first time in Uruguay.

Key words: *Stilobezzia fiebrigi*, *Culicoides*, *Leptoconops*, *Forcipomyia*.

RESUMEN

Lista de especies de Ceratopogonidae (Insecta: Diptera) de Uruguay. Se presenta la lista de especies de la Familia Ceratopogonidae registradas en Uruguay, en base a especímenes depositados en la Colección Entomológica de la Facultad de Ciencias de Uruguay, colectas realizadas por los autores, y revisión bibliográfica. Se registran 41 especies de Ceratopogonidae pertenecientes a 17 géneros y tres subfamilias: Leptoconopinae, Forcipomyiinae y Ceratopogoninae. La especie depredadora *Stilobezzia fiebrigi* Kieffer se registra por primera vez para el país.

Palabras clave: *Stilobezzia fiebrigi*, *Culicoides*, *Leptoconops*, *Forcipomyia*.

INTRODUCTION

Worldwide, the Family Ceratopogonidae has 6276 described species in 112 genera, and 303 fossil species in 23 fossil genera (Borkent and Dominiak, 2020; Borkent, Dominiak and Díaz, 2022). In the Neotropical region, Borkent and Spinelli (2007) listed 1093 ceratopogonid species in 53 genera (missing one species, *Atrichopogon chilensis* Ingram and Macfie), and subsequently a total of 1301 species in 55 genera are described or recorded in the Neotropical fauna (Spinelli, Ronderos, Ayala and Díaz, 2023). Adults are small or very small, ranging 0.6-7mm in size. The feeding habits of adults are very diverse, and they can be predators, flower feeding on nectar, or hematophagous, as in the case of females of the genera *Culicoides* Latreille, *Leptoconops* Skuse and the subgenus *Lasiohelea* Kieffer of *Forcipomyia* Meigen (Borkent and Spinelli, 2007). Preimaginal states occupy a wide variety of semiaquatic and aquatic habitats, such as phytotelmata, rivers and lakes, and larvae can be predators or detritivores (Borkent and Spinelli, 2007).

The objective of this work is to provide a list of all the ceratopogonid species recorded in Uruguay from year 1929 to date, with additional species records.

MATERIAL AND METHODS

We reviewed literature records, and examined material from the Entomological Collection at Facultad de Ciencias, Uruguay (FCE) and samples collected by the authors. The specimens belonging to the FCE collection are preserved in ethanol 70º, material in authors' collection (BC) are slide mounted according to

Wirth and Marston (1968). Supraspecific taxonomical arrangement within the family follows Borkent and Dominiak (2020). Species geographical distribution is alphabetically ordered in accordance with Borkent and Spinelli (2007).

RESULTS

The Ceratopogonidae fauna recorded in Uruguay presents 41 species, 17 genera and three subfamilies. Distribution by department appears in Table 1. List of Ceratopogonidae species in Uruguay is as follows.

Family Ceratopogonidae
Subfamily Leptoconopinae Noè, 1907: 143.
Genus *Leptoconops* Skuse, 1889: 288.
Subgenus *L.* (*Leptoconops*) Skuse, 1889: 288.

Leptoconops brasiliensis (Lutz, 1913): 66 (*Tersesthes*).
Records in Uruguay. Gezuele and Franca-Rodríguez (1972) (as Gezuelo and Franca-Rodríguez, 1972) as *Tersesthes brasiliensis* Lutz, 1913.
Distribution. Brazil, Uruguay (Río Negro).

Leptoconops casali Cavalieri and Chiossone, 1966: 45.
Records in Uruguay. Chiossone (1969).
Material examined. SAN JOSÉ, Playa Pascual, 03-XII-2015, human baited manual capture, Canneva leg., det., 2♀ , BC117-118. Same locality, 10-XII-2015, human bait, 3♀, BC119-121.
Distribution. Argentina, Uruguay (Colonia, San José).

Subfamily Forcipomyiinae Lenz, 1934: 96.
Tribe Dasyheleini Lenz, 1934: 96.
Genus *Dasyhelea* Kieffer, 1911: 5.

Dasyhelea necrophila Spinelli and Rodríguez, 1999: 59.
Records in Uruguay. Martínez, Canneva and Ronderos (2010) collected eggs in Canelones, Flores, Florida, Maldonado, Montevideo. Martínez, Willat, Guerrero and Emmerich (2016) collected eggs, larvae, pupae, pupal exuviae and/or adults, between the years 1997-2009, in all 19 departments of the country, FCE-Dip 0249-0281.
Distribution. Mexico, Argentina, Uruguay (Artigas, Canelones, Cerro Largo, Colonia, Durazno, Flores, Florida, Lavalleja, Maldonado, Montevideo, Paysandú, Río Negro, Rivera, Rocha, Salto, San José, Soriano, Tacuarembó, Treinta y Tres).

Tribe Forcipomyiini Lenz, 1934: 96.
Genus *Atrichopogon* Kieffer, 1906: 53.
Subgenus *A.* (*Lophomyidium*) Cordero, 1929: 94.

Atrichopogon delpontei Cavalieri and Chiossone, 1972: 121.
Records in Uruguay. Spinelli and Wirth (1993).
Material Examined. Table 2 shows the material recorded in nine departments of the country, FCE-Dip 0282-0306.
Distribution. Argentina, Brazil, Uruguay (Artigas, Durazno, Florida, Montevideo, Río Negro, Rivera, Rocha, Salto, Soriano).

Atrichopogon uruguayensis (Cordero, 1929): 95 (*Lophomyidium*).
Records in Uruguay. Cordero (1929) as *Lophomyidium uruguayense* Cordero. *Atrichopogon uruguayensis* (Cordero) new name according to Wirth (1994).
Material examined. ARTIGAS, Bella Unión, Canneva det., 2♂, BC-137,143.
Distribution. Argentina, Paraguay, Uruguay (Artigas, Tacuarembó).

Genus *Forcipomyia* Meigen, 1818: 73.
Subgenus *F.* (*Forcipomyia*) Meigen, 1818: 73.

Species Group *genualis*
Forcipomyia taragui Marino, Spinelli and Cazorla, 2002: 7.
Records in Uruguay. Marino and Spinelli (1999) as *Forcipomyia guarani* Marino and Spinelli 1999: 448 (preoccupied by *Forcipomyia guarani* Ronderos and Spinelli, 1999: 153) junior synonym of *Forcipomyia taragui* Marino, Spinelli and Cazorla, according to Marino *et al*. (2002).
Distribution. Argentina, Paraguay, Uruguay (Artigas, Tacuarembó).

Species Group *squamitibia*
Forcipomyia pinamarensis Spinelli, 1983: 121.
Records in Uruguay. Marino and Spinelli (2002).
Distribution. Argentina, Brazil, Costa Rica, Panama, Venezuela, Uruguay (Tacuarembó).

Forcipomyia rioplatensis Marino and Spinelli, 2002: 314.
Records in Uruguay. Marino and Spinelli (2002).
Distribution. Argentina, Uruguay (Artigas, Tacuarembó).

Subgenus *F.* (*Lasiohelea*) Kieffer 1921: 54.
Forcipomyia stylifera Lutz 1913: 63 (*Centrorhynchus*)
Records in Uruguay. Canneva (2023).
Distribution. Argentina, Belize, Brazil, Ecuador, Trinidad, Uruguay (Montevideo), Venezuela.

Subgenus *F.* (*Microhelea*) Kieffer, 1917: 364.
Forcipomyia fuliginosa (Meigen, 1818): 86 (*Ceratopogon*).
Records in Uruguay. Wirth (1972).

Table 1. Distribution of Ceratopogonidae species in Uruguay (* indicates presence of species, - indicates absence of records).

	Artigas	Canelones	Cerro Largo	Colonia	Durazno	Flores	Florida	Lavalleja	Maldonado	Montevideo	Paysandú	Río Negro	Rivera	Rocha	Salto	San José	Soriano	Tacuarembó	Treinta y Tres
Alluaudomyia biestroi	*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alluaudomyia guarani	*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alluaudomyia schnacki	*	-	-	-	-	-	-	-	-	-	*	-	-	-	-	-	-	*	-
Amerohelea similis	*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Atrichopogon delpontei	*	-	-	-	*	_	*	-	-	*	-	*	*	*	*	-	*	-	-
Atrichopogon uruguayensis	*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*	-
Bezzia brevicornis	*	-	-	-	-	-	-	*	-	-	-	-	-	-	-	-	-	-	-
Bezzia nobilis	*	-	-	-	-	-	-	-	-	*	*	-	-	-	-	-	-	-	-
Clastrieromyia dycei	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*	-
Clastrieromyia uruguayensis	*	-	-	-	-	-	-	-	-	-	-	-	-	-	*	-	-	-	-
Culicoides biestroi	-	-	-	-	-	-	-	-	-	*	*	-	-	-	-	-	-	-	-
Culicoides carbonelli	-	-	-	-	-	-	-	-	-	-	-	-	-	*	-	-	-	-	-
Culicoides caridei	-	*	-	-	-	-	-	-	-	*	-	-	-	-	-	*	-	-	*
Culicoides chacoensis	*	-	-	-	-	-	-	-	-	-	-	-	-	-	*	-	-	-	-
Culicoides charruus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*	-	-	-
Culicoides debilipalpis	*	*	-	-	-	-	-	-	-	*	-	-	-	-	*	-	-	-	-
Culicoides fernandoi	*	-	-	-	-	-	-	-	-	-	-	*	-	-	-	-	-	-	-
Culicoides flinti	*	-	-	*	-	*	-	-	*	*	-	*	-	-	*	-	*	*	-
Culicoides impusilloides	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*	-
Culicoides insignis	*	-	-	-	-	*	*	-	*	*	-	*	-	*	*	-	*	-	-
Culicoides paraensis	*	-	-	-	-	-	-	-	-	*	*	-	*	-	-	-	-	-	-
Culicoides uruguayensis	-	-	-	-	-	-	-	-	-	-	*	-	-	-	-	-	-	-	-
Culicoides venezuelensis	*	-	-	-	-	*	-	-	-	*	-	*	-	*	*	-	*	-	-
Dasyhelea necrophila	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Downeshelea charrua	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*	-	-	-	-
Forcipomyia fuliginosa	-	-	*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Forcipomyia pinamarensis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*	-
Forcipomyia rioplatensis	*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*	-
Forcipomyia stylifera	-	-	-	-	-	-	-	-	-	*	-	-	-	-	-	-	-	-	-
Forcipomyiataragui	*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*	-
Groganhelea rondoniensis	*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Leptoconops brasiliensis	-	-	-	-	-	-	-	-	-	-	-	*	-	-	-	-	-	-	-
Leptoconops casali	-	-	-	*	-	-	-	-	-	-	-	-	-	-	-	*	-	-	-
Mallochohelea limitrofe	*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mallochohelea termophila	*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Monohelea uruguayensis	*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pachyhelea pachymera	*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Paryphoconus nubifer	-	-	-	-	-	-	-	*	-	-	-	-	-	-	-	-	-	-	-
Stenoxenus pseudofulvus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*	-	-	-	-
Stilobezzia fiebrigi	*	-	-	-	-	-	-	-	-	-	-	-	-	-	*	-	-	-	-
Stilobezzia rabelloi	*	-	-	-	-	-	-	-	-	-	*	-	-	-	-	-	-	*	-

Table 2. Data from *Atrichopogon delpontei* examined in Uruguay. Indicated: Department (Dep.), Locality, Date, Method, Legate (Leg.), Determination (Det.), Male, Female (Fem.), CodeFCE-Dip.
Abbreviations: CM = Canneva, Martínez; FMS = Franca, Martínez, Salvatella; GS = Gustavo Spinelli.

Dep.	Locality	Date	Method	Leg.	Det.	Male	Fem	Code
Artigas	Antigua Ruta 3, km 5770	4-XI-1979	Shannon trap	FMS	CM	1	11	0282
Artigas	Isla Paredón	10-IX-1978	UV light trap	FMS	CM	0	1	0283
Artigas	Isla Rica	10-II-1978	UV light trap	FMS	CM	21	60	0284
Artigas	Isla Rica	05-IV-1982	UV light trap	FMS	CM	181	152	0285
Artigas	Arrocera Conti	08-II-1978	UV light trap	FMS	GS	16	290	0286
Artigas	Arrocera Conti	15-IX-1979	Shannon trap	FMS	GS	16	331	0287
Artigas	Arrocera Conti	05-IV-1982	Shannon trap	FMS	GS	10	149	0288
Artigas	Frente a Isla Paredón	14-XI-1978	Shannon trap	FMS	CM	0	127	0289
Artigas	Frente a Isla Paredón	12-XI-1980	Shannon trap	FMS	CM	29	233	0290
Artigas	Río Uruguay, Calnú	13-XI-1980	Shannon trap	FMS	GS	16	173	0291
Durazno	Represa Baygorria	11-X-1980	UV light trap	FMS	CM	2	11	0292
Durazno	site 43	20-I-2010	Sweep net	Lorier	CM	7	2	0293
Florida	site 25	1-XII-2009	Sweep net	Lorier	CM	0	1	0294
Montevideo	Barrio Carrasco	08-XI-2002	Mosq light trap	Martínez	CM	0	1	0295
Río Negro	Rincón de Ramírez	10-X-1980	UV light trap	FMS	CM	0	14	0296
Rivera	Arroyo Lunarejo	26-VIII-95	Sweep net	Martínez	GS	0	2	0297
Rocha	Boca Sarandí	17-IX-1994UV	light trap	Martínez	GS	0	2	0298
Rocha	Sarandí del Consejo	19-IV-1995	UV light trap	Martínez	GS	0	1	0299
Salto	Arroyo Boycuá	12-I-1981	Shannon trap	FMS	CM	24	30	0300
Salto	El Espinillar	18-III-1980	Shannon trap	FMS	CM	9	40	0301
Salto	Granja San Agustín	02-XI-1979	Shannon trap	FMS	CM	26	52	0302
Salto	Isla Redonda	12-I-1978	UV light trap	FMS	CM	0	21	0303
Salto	Parque José Luis	04-IV-1982	UV light trap	FMS	GS	0	2	0304
Soriano	Parque B. Hidalgo	08-X-1980	UV light trap	FMS	CM	69	152	0305
Soriano	Represa Palmar	09-X-1980	UV light trap	FMS	GS	3	70	0306

Distribution. Widely distributed in the Palearctic, Eastern, Afrotropical, Nearctic and Neotropical regions. In the south of the Neotropic Argentina and Uruguay (Cerro Largo).

Subfamily Ceratopogoninae Newman, 1834: 388.
Tribe Culicoidini Kieffer, 1911: 1.
Genus *Culicoides* Latreille, 1809: 251.

Subgenus *C.* (*Avaritia*) Fox, 1955: 218.
Culicoides impusilloides Spinelli and Wirth, 1984: 178.
Records in Uruguay. Spinelli and Martínez (1991).
Distribution. Brazil, Uruguay (Tacuarembó).

Subgenus *C.* (*Cotocripus*) Brèthes, 1912: 451.
Culicoides caridei (Brèthes, 1912): 451 (*Cotocripus*).
Records in Uruguay. Barbosa (1947), with additional records by Wirth (1960), Spinelli and Wirth (1985). Franca-Rodriguez (1963) mentioned the species *C. bambusicola* Lutz and *C. debilipalpis* Lutz, but according to Spinelli and Martínez (1991) she probably misidentified the specimens of *bambusicola*, which the authors think actually belong to *C. caridei.*
Material examined. SAN JOSÉ, Playa Penino, 12-X-2016, human bait, Canneva leg., det., 1♀, BC242.
Distribution. Argentina, Brazil, Uruguay (Canelones, Montevideo, San José, Treinta y Tres).

Subgenus *C.* (*Drymodesmyia*) Vargas, 1960: 40.
Culicoides chacoensis Spinelli and Wirth, 1984: 174.
Records in Uruguay. Spinelli and Martínez (1991).
Material examined. ARTIGAS, Bella Unión, Canneva det., 1♀, BC216.
Distribution. Argentina, Bolivia, Chile, Paraguay, Uruguay (Artigas, Salto).

Culicoides uruguayensis Ronderos, 1990: 117.
Records in Uruguay. Ronderos (1990).
Distribution. Uruguay (Paysandú).

Subgenus *C.* (*Haematomyidium*) Goeldi, 1905: 137.
Culicoides debilipalpis Lutz, 1913: 60.
Records in Uruguay. Franca-Rodriguez (1963). Spinelli and Ronderos (1991) as *Culicoides lahillei* (Iches, 1906), error, partly junior synonym of *C. debilipalpis* according to Spinelli and Ronderos (1997). Ronderos and Spinelli (1995) as *Culicoides ichesi* Ronderos and Spinelli, 1995: 77, junior synonym of *C. debilipalpis* according to Spinelli and Ronderos (1997).
Distribution. USA to Argentina, Uruguay (Artigas, Canelones, Montevideo, Salto).

Culicoides flinti Wirth, 1982: 251.
Records in Uruguay. Spinelli and Wirth (1984), with additional adult records by Martínez, Spinelli and Franca-Rodríguez (1992).
Material Examined. Table 3 shows material collected in six departments of the country.
Distribution. Argentina, Brazil, Paraguay, Uruguay (Artigas, Colonia, Flores, Maldonado, Montevideo, Río Negro, Salto, Soriano, Tacuarembó).

Culicoides paraensis (Goeldi, 1905): 137 (*Haematomyidium*).
Records in Uruguay. Spinelli and Ronderos (1991), they remark this is the southernmost record of the species.
Material Examined. MONTEVIDEO, Malvín Norte, 01-XII-2016, human bait, Canneva leg., det., 1♀, BC251. PAYSANDÚ, Paysandú city, Canneva det., 1♀, BC241. RIVERA, Gajo del Arroyo Lunarejo, 25-II-1996, sweep net, Martínez leg., Spinelli det., 2♀, FCE-Dip 0345.
Distribution. USA to Argentina, Uruguay (Artigas, Montevideo, Paysandú, Rivera).

Subgenus *C.* (*Hoffmania*) Fox, 1948: 21.
Culicoides biestroi Spinelli and Ronderos, 1991: 86.
Records in Uruguay. Spinelli and Martínez (1991).
Distribution. Argentina, Uruguay (Montevideo).

Culicoides charruus Spinelli and Martínez, 1991: 176 (as *charrua*).
Records in Uruguay. Spinelli and Martínez (1991) as *Culicoides charrua* Spinelli and Martínez, synonym of *C. charruus* according to Borkent and Spinelli (2007).
Distribution. Argentina, Paraguay, Uruguay (San José).

Culicoides fernandoi Tavares and Souza, 1979: 611.
Records in Uruguay. Spinelli and Ronderos (1991).
Material Examined. RIO NEGRO, Esteros de Farrapos, old port 5 km from San Javier, 21-IV-2002, light trap screen, from 7 pm to 8 pm, Martínez leg., Spinelli det., 2♂, 5♀, FCE-Dip 0307.
Distribution. Argentina, Brazil, Colombia, Uruguay (Artigas, Río Negro).

Culicoides insignis Lutz, 1913: 51.
Records in Uruguay. Spinelli and Ronderos (1991), Martínez *et al*. (1992).
Material Examined. Table 4 shows the material collected in eight departments of the country.
Distribution. USA, Mexico, Caribbean, Central America and South America to Argentina, Uruguay (Artigas, Flores, Florida, Maldonado, Montevideo, Río Negro, Rocha, Salto, Soriano, Tacuarembó).

Subgenus *C.* (*Psychophaena*) Philippi, 1865: 628.
Culicoides venezuelensis Ortiz and Mirsa, 1950: 137.
Records in Uruguay. Spinelli and Ronderos (1991), Martínez *et al*. (1992).
Material Examined. Table 5 shows the material collected in six departments of the country.
Distribution. Costa Rica to Argentina, Uruguay (Artigas, Flores, Montevideo, Río Negro, Rocha, Salto, Soriano).

Subgenus unplaced, *eublepharus* species group
Culicoides carbonelli Spinelli, 2021 *in* Spinelli, Ronderos and Díaz (2021): 402.
Records in Uruguay. Spinelli *et al*. (2021).
Distribution. Uruguay (Rocha).

Tribe Ceratopogonini Newman, 1834: 388.

Genus *Alluaudomyia* Kieffer, 1913: 12.

Alluaudomyia catarinensis Spinelli and Wirth, 1984: 681.
Records in Uruguay. Spinelli (1988) as *Alluaudomyia biestroi* Spinelli, 1988: 130, junior synonym of *A. catarinensis* according to Spinelli (2019), with additional records.
Distribution. Argentina, Brazil, Paraguay, Uruguay (Artigas, Salto).

Alluaudomyia guarani Spinelli, 1988: 131.
Records in Uruguay. Spinelli (1988).
Distribution. Argentina, Paraguay, Uruguay (Artigas).

Alluaudomyia schnacki Spinelli, 1983: 403.
Records in Uruguay. Spinelli (1985).
Material examined. ARTIGAS, Bella Unión, Canneva det., 1♀, BC114. PAYSANDÚ, Paysandú city, Canneva det., 2♀, BC235.
Distribution. Argentina, Chile, Uruguay (Artigas, Paysandú, Tacuarembó).

Genus *Downeshelea* Wirth and Grogan, 1988: 50.

Downeshelea charrua Felippe-Bauer and Spinelli, 1994: 161.
Records in Uruguay. Felippe-Bauer and Spinelli (1994).

Table 3. Data from *Culicoides flinti* examined in Uruguay. Indicated: Department (Dep.), Locality, Date, Method, Legate (Leg.), Determination (Det.), Male, Female (Fem.), CodeFCE-Dip. Abbreviations: CM = Canneva, Martínez; FMS = Franca, Martínez, Salvatella.

Dep.	Locality	Date	Method	Leg.	Det.	Male	Fem	Code
Artigas	Arroyo Mandiyú	10-IX-1978	UV light trap	FMS	CM	27	146	0308
Artigas	Isla Paredón	10-IX-1978	UV light trap	FMS	CM	15	79	0309
Artigas	Isla Rica	19-I-1979	Shannon trap	FMS	CM	3	14	0310
Artigas	Frente a Isla Paredón	14-XI-1978	Shannon trap	FMS	CM	1	18	0313
Colonia	Carmelo, Four S. Hotel	14-IV-2002	Mosq light trap	Martínez	CM	0	2	0315
Maldonado	Punta del Este	10-III-2003	Mosq light trap	Martínez	CM	0	26	0317
Maldonado	Sauce de Portezuelo	10-III-2003	Mosq light trap	Martínez	CM	0	29	0318
Montevideo	Barrio Carrasco	23-X-2002	Mosq light trap	Martínez	CM	1	28	0319
Salto	El Espinillar	18-III-1980	Shannon trap	FMS	CM	13	66	0322
Soriano	Parque B. Hidalgo	08-X-1980	UV light trap	FMS	CM	12	7	0325

Table 4. Data from *Culicoides insignis* examined in Uruguay. Indicated: Department (Dep.), Locality, Date, Method, Legate (Leg.), Determination (Det.), Male, Female (Fem.), Code FCE-Dip, except BC, which is the authors personal collection code. Abbreviations: CM = Canneva, Martínez; FMS = Franca, Martínez, Salvatella; GS = Gustavo Spinelli.

Dep.	Locality	Date	Method	Leg.	Det.	Male	Fem	Code
Artigas	Isla Rica	19-I-1979	Shannon trap	FMS	CM	3	3	0329
Artigas	Frente a Isla Paredón	14-XI-1978	Shannon trap	FMS	CM	2	7	0332
Florida	site 37	25-XI-2009	Sweep net	Lorier	CM	2	3	0335
Maldonado	Punta del Este	31-III-2003	Mosq light trap	Martínez	CM	0	192	0336
Montevideo	Carrasco neighborhood	08-XI-2002	Mosq light trap	Martínez	CM	0	51	0337
Río Negro	Esteros de Farrapo	19-V-2002	Light trap	Martínez	CM	1	0	BC213
Rocha	Boca Sarandí	18-IV-1995	Shannon trap	Martínez	GS	1	7	0339
Rocha	Potrero Grande	16-III-1995	Shannon trap	Martínez	GS	86	4	0340
Salto	Salto, Club Remeros	21-V-2002	Mosq light trap	Martínez	CM	0	1865	0341
Salto	El Espinillar	18-III-1980	Shannon trap	FMS	CM	2	8	0342
Salto	Río Daymán, ruta 3	15-IV-2002	Mosq light trap	Martínez	CM	2	908	0343
Soriano	Parque B. Hidalgo	08-X-1980	UV light trap	FMS	CM	6	18	0344

Distribution. Uruguay (Salto).

Genus *Monohelea* Kieffer, 1917: 294.

Monohelea uruguayensis Felippe-Bauer and Spinelli, 1998: 63.
Records in Uruguay. Felippe-Bauer and Spinelli (1998).
Distribution. Uruguay (Artigas).

Genus *Stilobezzia* Kieffer, 1911: 118.
Subgenus *S.* (*Stilobezzia*) Kieffer, 1911: 118.

Stilobezzia fiebrigi Kieffer 1917: 309
First record from Uruguay. ARTIGAS, Bella Unión, Cazorla, Spinelli, Canneva det., 2♂, 5♀, BC128-133. SALTO, Canneva det., 1♀, BC190.
Distribution. Argentina, Brazil, Paraguay, Uruguay (Artigas, Salto).

Stilobezzia rabelloi Lane, 1947: 203.
Records in Uruguay. Cazorla (2016).
Material examined. PAYSANDÚ, Paysandú city, Canneva det., 1♀, BC237.
Distribution. USA to Argentina, Uruguay (Artigas, Paysandú, Tacuarembó).

Tribe Johannsenomyiini Crampton, 1925: 61.
Genus *Groganhelea* Spinelli and Dippolito, 1995 *in* Spinelli *et al*., 1995: 166.

Table 5. Data from *Culicoides venezuelensis* examined in Uruguay. Indicated: Department (Dep.), Locality, Date, Method, Legate (Leg.), Determination (Det.), Male, Female (Fem.), CodeFCE-Dip. Abbreviations: CM = Canneva, Martínez; FMS = Franca, Martínez, Salvatella; GS = Gustavo Spinelli.

Dep.	Locality	Date	Method	Leg.	Det.	Male	Fem	Code
Artigas	Isla Paredón	10-IX-1978	UV light trap	FMS	CM	0	1	0346
Artigas	Isla Rica	19-I-1979	Shannon trap	FMS	CM	4	12	0347
Artigas	Frente a Isla Paredón	14-XI-1978	Shannon trap	FMS	CM	5	11	0350
Montevideo	Carrasco neighborhood	08-XI-2002	Mosq light trap	Martínez	CM	2	53	0352
Montevideo	near Carrasco	14-V-2002	Mosq light trap	Martínez	CM	1	504	0353
Río Negro	Esteros de Farrapos	21-IV-2002	Light trap screen	Martínez	GS	0	1	0354
Rocha	Bocadel Sarandí	18-V-1995	Shannon trap	Martínez	GS	1	9	0355
Salto	El Espinillar	18-III-1980	Shannon trap	FMS	CM	4	17	0356
Salto	Isla Redonda	16-XI-1978	Shannon trap	FMS	CM	3	9	0357
Soriano	Parque B. Hidalgo	08-X-1980	UV light trap	FMS	CM	0	3	0359

Groganhelea rondoniensis Spinelli and Dippolito, 1995 *in* Spinelli *et al*., 1995: 167.
Records in Uruguay. Spinelli (2000).
Distribution. Brazil, Uruguay (Artigas).

Genus *Mallochohelea* Wirth, 1962: 278.

Mallochohelea limitrofe Spinelli and Felippe-Bauer, 1990: 87.
Records in Uruguay. Spinelli and Felippe-Bauer (1990).
Distribution. Argentina, Uruguay (Artigas).

Mallochohelea termophila (Spinelli, 1984): 197 (*Neobezzia*).
Records in Uruguay. Ronderos and Spinelli (2012).
Distribution. Argentina, Brazil, Uruguay (Artigas).

Tribe Palpomyiini Enderlein, 1936: 49.
Genus *Amerohelea* Grogan and Wirth, 1981: 1280.

Amerohelea similis Spinelli, 1989: 27.
Records in Uruguay. Spinelli (1989).
Distribution. Argentina, Uruguay (Artigas).

Genus *Bezzia* Kieffer, 1899: 69.

Bezzia brevicornis (Kieffer, 1917): 328. (*Allobezzia*).
Records in Uruguay. Spinelli and Wirth (1989a).
Distribution. Argentina, Paraguay, Uruguay (Artigas, Lavalleja).

Bezzia nobilis (Winnertz, 1852): 79. (*Ceratopogon*).
Records in Uruguay. Spinelli and Wirth (1989b).
Material examined. PAYSANDÚ, Paysandú city, Canneva det., 1♀1♂, BC236.
Distribution. Palearctic, Nearctic and Neotropical regions to Argentina, Uruguay (Artigas, Montevideo, Paysandú).

Genus *Clastrieromyia* Spinelli and Grogan, 1985: 330.

Clastrieromyia dycei Spinelli and Grogan, 1986: 456.
Records in Uruguay. Spinelli and Grogan (1986).
Distribution. Uruguay (Tacuarembó).

Clastrieromyia uruguayensis Spinelli and Grogan, 1986: 458.
Records in Uruguay. Spinelli and Grogan (1986).
Distribution. Argentina, Uruguay (Artigas, Salto).

Genus *Pachyhelea* Wirth, 1959: 50.

Pachyhelea pachymera (Williston, 1900) (*Ceratopogon*).
Records in Uruguay. Spinelli, Ronderos and Funes (2016).
Distribution. USA, Mexico, Argentina, Brazil, Uruguay (Artigas).

Tribe Stenoxenini Coquillett, 1899: 61.
Genus *Paryphoconus* Enderlein, 1912: 57.

Paryphoconus nubifer Macfie, 1939: 5.
Records in Uruguay. Wirth and Ratanaworabhan (1972).
Distribution. Argentina, Brazil, Bolivia, Paraguay, Uruguay (Lavalleja).

Genus *Stenoxenus* Coquillett, 1899: 61.

Stenoxenus pseudofulvus Spinelli, 1998: 54.
Records in Uruguay. Spinelli (1998).
Distribution. Argentina, Uruguay (Salto).

DISCUSSION AND CONCLUSION

Ceratopogonidae fauna in Uruguay records a total of 41 species in 17 genera, which is small compared to neighboring countries Brazil with 520 species in 31 genera (Santarem and Felippe-Bauer, 2021) and Argentina with 356 species in 35 genera (Spinelli et al., 2023). It is not remarkable that Uruguayan fauna is less than ideally represented, considering it has fewer ecoregions, shows clear differences in territorial size, and dissimilar amount of research in the topic. What is indeed remarkable is that 15 species (more than one third of total) bear significant taxonomic importance, as Uruguayan material has been designated paratype in seven species, one of which was used to describe *Leptoconops casali* mouthparts, and as a holotype in eight more species descriptions, including the type of subgenus *Lophomyidium* in *Atrichopogon*. Coincidentally, this work is the first mention of Ceratopogonidae in Uruguay, written in the year 1929 by Ergasto H. Cordero, who was considered the first Uruguayan zoologist and also made contributions in the area of medical entomology. Other important author is Willis Wagner Wirth, with more than 400 works on Ceratopogonidae systematics in all regions of the world, including species on the medically important genus *Culicoides* inhabiting Uruguay. We shall also mention María E. Franca Rodríguez that contributed to the knowledge of *Culicoides* species in the country, and consolidated the medical entomology topics into the parasitology course program from Faculty of Medicine, University of the Republic.

Species in *Leptoconops*, *Culicoides* and *Forcipomyia (Lasiohelea)* feed on vertebrate blood, some of them being notorious pests (Borkent and Spinelli, 2007), and a group of species transmit disease to humans and animals. Bluetongue is an infectious and non contagious viral disease transmitted predominantly by *Culicoides insignis*, that affects sheep and some wildlife animal species worldwide, with clinical signs that in sheep include facial oedema specially in the tongue and lips, and hyperaemia of the oral cavity (Lager, 2004). Historically the disease was known to be restricted between latitudes 45°N and 35°S, and territories outside the area are considered bluetongue virus free (Lager, 2004). Oropouche fever is an acute febrile disease affecting humans, and the causative virus is transmitted by the bites of *Culicoides paraensis* and also by some species of mosquitoes (Vasconcelos et al., 2011). Borkent and Spinelli (2007) list all vector species and organisms known to be transmitted by Ceratopogonidae in the continent. In contrast to neighboring countries, Uruguay has no records of disease transmitted by ceratopogonids to humans nor animals.

Here it is presented the first species list of the family Ceratopogonidae in Uruguay, put together from unpublished authors' material, observation of specimens in the Entomology Collection of Facultad de Ciencias, and literature records previously scattered in various papers, several of which are not readily accessible. We believe it is a solid starting point for the necessary future research on the taxonomy, bionomics and medical and veterinary importance of the family in Uruguay.

ACKNOWLEDGMENTS

We wish to express our gratitude to all the people and institutions involved in the different samplings, and to the manager and staff of the Entomological Collection at Facultad de Ciencias for allowing access to reviewed material.

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Editor de Sección: Miguel Simó