

Diversity of Ceratopogonidae (Diptera: Culicomorpha) from the Reserva Natural Integral Punta Lara (Buenos Aires, Argentina)

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RESUMEN. Se presenta el primer relevamiento de Ceratopogonidae de la Reserva Natural Integral Punta Lara, en la provincia de Buenos Aires. Este área protegida representa uno de los relictos más australes de la selva en galería, donde el conocimiento de la fauna de insectos es aún limitado. Las capturas se realizaron en ambientes de pastizal y selva en galería, con trampas Malaise y trampas de luz, tipo CDC y embudo. Un total de 4.195 especímenes pertenecientes a nueve géneros y 39 especies de Ceratopogonidae fueron identificados. Se brinda un listado de las especies presentes en el área, y se proveen datos de su distribución geográfica. Veintitrés especies se citan en la Reserva por primera vez, mientras que *Dasyhelea mediomunda* Minaya, *Forcipomyia (Forcipomyia) taragui* Marino, Spinelli & Cazorla, *Forcipomyia (Microhelea) fuliginosa* (Meigen), *Stilobezzia (Eukraiohelea) elegantula* (Johannsen) y *Stilobezzia (Stilobezzia) punctulata* Lane se registran por primera vez en la provincia de Buenos Aires.

PALABRAS CLAVE. Área protegida. Jejenes. Pastizal. Primer registro. Selva en galería.

ABSTRACT. We present the results of the first survey on the Ceratopogonidae from the "Reserva Natural Integral Punta Lara", in Buenos Aires province. This protected area represents the southernmost relict of gallery forest where the knowledge of the insect fauna is still limited. Catches were conducted in areas of grassland and marginal forest with Malaise traps, CDC light traps and funnel light traps. A total of 4,195 specimens belonging to nine genera and 39 species of Ceratopogonidae were identified. A list of the species present in the protected area is provided, along with their distributional data. Twenty-three species are recorded from the reserve for the first time, while *Dasyhelea mediomunda* Minaya, *Forcipomyia (Forcipomyia) taragui* Marino, Spinelli & Cazorla, *Forcipomyia (Microhelea) fuliginosa* (Meigen), *Stilobezzia (Eukraiohelea) elegantula* (Johannsen) and *Stilobezzia (Stilobezzia) punctulata* Lane are recorded for the first time in Buenos Aires province.

KEYWORDS. Biting midges. First record. Gallery forest. Grassland. Protected area.

INTRODUCTION

The Ceratopogonidae or biting and predaceous midges, commonly known in Argentina as "jejenes", are

a large and diverse family of small flies. They are common inhabitants of fresh and saline lentic and lotic ecosystems on all continents except Antarctica (Borkent & Wirth, 1997). There are more than 1,100 known

MATERIAL AND METHODS

species in the Neotropical region, while in Argentina at least 255 species belonging to 32 genera have been recorded, 47 of which were found in the province of Buenos Aires (Borkent & Spinelli, 2007; Spinelli et al., 2010; Marino et al., 2011; Ronderos et al., 2011, 2017; Borkent, 2016; Cazorla, 2016).

From a biogeographical point of view, Argentina spans over both the Andean and Neotropical regions, including part of the South American transition zone (Morrone, 2014). In the Neotropical region, the Chacoan sub-region includes among others the Chacoan dominion, which is divided in Argentina into two provinces: Chaco and Pampean provinces. The Reserva Natural Integral Punta Lara (RNIPL) is located in the Pampean province. Moreover, from an ecological point of view the RNIPL occupies two ecoregions: Delta e Islas del Paraná and Pampa (Dinerstein et al., 1995). The RNIPL was declared main area of the Biosphere Reserve "Pereyra Iraola" (UNESCO, 2017) and it is a protected natural area within a system of protected areas of the province. It was created in 1949 and its main roles are the conservation of the biodiversity of the southernmost relict of the gallery forest, the environmental education and interpretation, and the scientific research.

Despite being the most diverse animal group, arthropods have been and remain minimally represented in biodiversity inventories; insects, as the most species-rich and ecologically varied and complex components of animal biodiversity, cannot be disregarded in assessing impacts of the environmental changes (New, 2012). Knowledge about the insect fauna of the RNIPL is limited. Most systematic and ecological studies date back to the year 2000, such as the ones concerning the orders Coleoptera (e.g.: Fernández, 1995; Von Ellenrieder & Fernández, 2000), Odonata (e.g.: Rodrigues Capítulo, 1988, 1996; Rodrigues Capítulo & Muzón, 1990; Von Ellenrieder, 2000), and Heteroptera (e.g.: Schnack et al., 1986, 1989; Von Ellenrieder & Perez Goodwyn, 2000). As regards to the Diptera, only three families have been briefly studied in this area: Ceratopogonidae (Spinelli et al., 1989), Chironomidae (Donato & Paggi, 2005; Siri et al., 2008; Mauad et al., 2013) and Culicidae (e.g.: García et al., 1994, 1995; Maciá et al., 1995, 1997; Campos & Zavortink, 2010). In order to manage and evaluate the effectiveness of protected areas to preserve biodiversity, it is important to have a comprehensive knowledge of the species under protection (Vieira et al., 2013). This study presents an updated list of species of Ceratopogonidae from the Reserva Natural Integral Punta Lara, in the province of Buenos Aires, Argentina.

Study site

The Reserva Natural Integral Punta Lara (34° 47' 18" S; 58° 00' 01" W) has an extension of 6,000 ha in northeast of Buenos Aires province (Fig. 1), on the coast of the estuary of the Río de La Plata within the localities of Ensenada and Berazategui. The plant communities that make up the Reserve are forest, wetlands and grasslands. The forest extends along streams and river banks, which earned it the name of marginal forest. The wetlands are composed of riverside scrubland, lagoons, streams, clipper grassland, lilygrass and channels. The grassland occupies much of the Reserve with a marked heterogeneity of environments determined by geomorphological and edaphic differences (Herrera & Torres Robles, 2012).

Data collection

Catches of adult Ceratopogonidae were conducted between July 2014 and February 2017 with CDC light traps, funnel light traps, and Malaise traps. Traps were installed in different points within the marginal forest and in the neighboring open grassland. CDC light traps were installed in the marginal forest and worked for fifteen continuous hours from sunset, once a month during one year (September 2014 to October 2015); Malaise and funnel traps were installed in the marginal forest as well as in the grassland, and worked during two continuous weeks in each point, every month along one year (February 2016 to March 2017), although collector cup removal was carried out every seven days. In the laboratory, specimens were separated by genus with the aid of a stereo microscope. To identify them, at least one male and one female of each species were mounted on slides with Canada balsam according to Borkent & Spinelli (2007), and identified based on diagnostic keys and original descriptions. The remaining specimens were preserved in ethyl alcohol 70%. For the recorded species the citation of the original description is presented, followed by the previous records from Buenos Aires province. The known distribution of the species refers to the political division of Argentina into provinces where the species have been recorded in the literature (Table I), plus the detailed localities in the case of Buenos Aires province. The order of taxa follows the Neotropical catalog of Ceratopogonidae (Borkent & Spinelli, 2007). Studied specimens are deposited in the Entomological collection of the Museo de La Plata, Buenos Aires, Argentina (MLP).

RESULTS

We list all taxa determined to species level, belonging to subfamilies Forcipomyiinae, Dasyheleinae and Ceratopogoninae.

Family Ceratopogonidae

Subfamily Forcipomyiinae Lenz, 1934

Genus *Atrichopogon* Kieffer

***Atrichopogon (Atrichopogon) albinensis* Ingram & Macfie, 1931**

Atrichopogon albinensis Ingram & Macfie, 1931: 228 (male, female; Argentina); Ronderos et al., 2011: 1186.

Known distribution: Argentina: Buenos Aires: Bahía Blanca, Isla Martín García and RNIPL (new record).

Material examined: 2♀, marginal forest, 10-11/XII/2014, CDC light trap; 1♀, marginal forest, 22/II-1/III/2017, funnel light trap; 3♀ 1♂, same data except 7-14/VIII/2016, Malaise trap; 2♀, grassland, 22-29/VI/2016, Malaise trap; 1♀, same data except 27/VII-3/VIII/2016; 1♂, same data except 17-24/X/2016; 4♀, same data except 24-31/VIII/2016; 1♀, same data except 2-9/III/2016, funnel light trap. Cazorla, C. G. & Campos, R. E. cols.

***Atrichopogon (Atrichopogon) balseiroi* Spinelli, 1982**

Atrichopogon balseiroi Spinelli, 1982: 206 (male, female; Argentina).

Known distribution: Argentina: Buenos Aires: Berisso and RNIPL (new record).

Material examined: 1♂, marginal forest, 3-4/II/2015, CDC light trap; 2♀ 1♂, marginal forest, 15/V-6/VI-2015, funnel light trap, 11♀ 1♂, same data except 22/II-1/III/2017. Cazorla, C. G. & Campos, R. E. cols.

***Atrichopogon (Atrichopogon) comechingon* Spinelli & Marino, 2006**

Atrichopogon (Atrichopogon) comechingon Spinelli & Marino, in Spinelli et al., 2006: 306 (male, female; Argentina); Marino et al., 2011: 200.

Known distribution: Argentina: Buenos Aires: RNIPL (new record) and Sierra de la Ventana; Córdoba, La Pampa, La Rioja, San Luis and Río Negro.

Material examined: 2♀, marginal forest, 9-11/IX/2014, CDC light trap; 1♀, same data except 6-7/IX/2014; 1♂, same data except 12-13/III/2015; 1♀, marginal forest, 12-18/II/2016, Malaise trap. Cazorla, C. G. & Campos, R. E. cols.

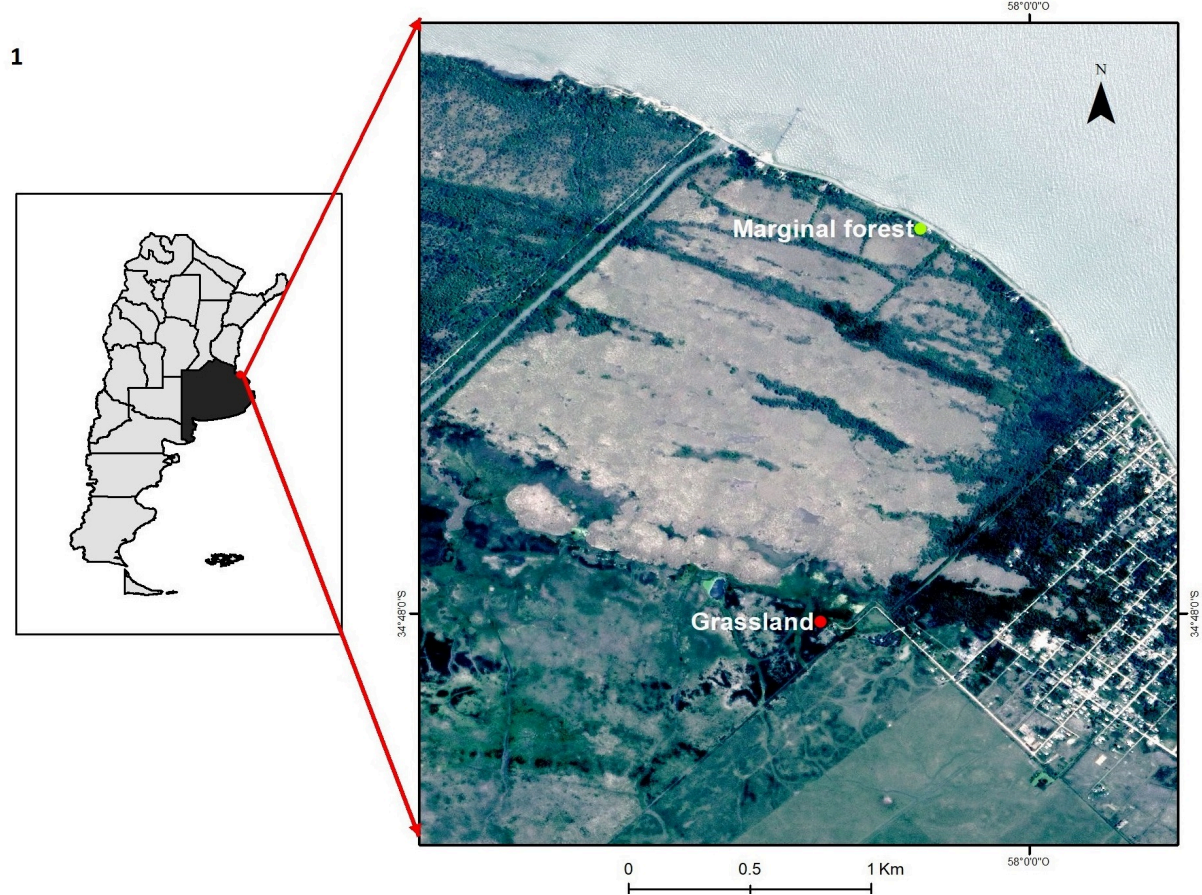


Fig. 1. Geographical location of Reserva Natural Integral Punta Lara and sampling sites in Buenos Aires province, Argentina.

***Atrichopogon (Atrichopogon) homofacies* Spinelli, 1989**

Atrichopogon homofacies Spinelli, in Spinelli et al., 1989: 734 (male, female; Argentina); Ronderos et al., 2011: 1186.

Known distribution: Argentina: Buenos Aires: Isla Martín García and RNIPL.

Material examined: 2♀ 2♂, marginal forest, 9-10/IX/2014, CDC light trap; 2♀ 1♂, same data except 3-10/VIII/2016, Malaise trap; 1♀ 2♂, same data except 10-17/VIII/2016; 10♀ 9♂, grassland, 12-19/X/2016, Malaise trap; 2♂, same data except 8-15/II/2017. Cazorla, C. G. & Campos, R. E. cols.

***Atrichopogon (Atrichopogon) pseudoobfuscatus* Spinelli, 1982**

Atrichopogon pseudoobfuscatus Spinelli, 1982: 208 (male, female; Argentina).

Known distribution: Argentina: Buenos Aires: Berisso and RNIPL (new record).

Material examined: 2♂, marginal forest, 9-10/X/2014, CDC light trap; 1♀, same data except 6-7/X/2014; 1♀ 1♂, same data except 10-11/XII/2014; 1♂, grassland, 7-14 XII/2016, Malaise trap; 1♂, marginal forest, 23-30/XI/2016, funnel light trap. Cazorla, C. G. & Campos, R. E. cols.

***Atrichopogon (Atrichopogon) talarum* Spinelli, 1982**

Atrichopogon talarum Spinelli, 1982: 204 (male, female; Argentina).

Known distribution: Argentina: Buenos Aires: Berisso and RNIPL.

Material examined: 3♀ 1♂, marginal forest, 10-11/XI/2014, CDC light trap; 1♂, same data except 9-10/XII/2014; 1♂, same data except 12-13/III/2015; 1♀ 1♂, same data except, 23-30/XI/2016, funnel light trap; 2♀ 3♂, same data except 30/X-7/XI/2016; 8♀ 9♂, same data except 22/II-1/III/2017, Malaise trap; 1♀, grassland, 7-14/XII/2016, Malaise trap; 1♀ 1♂, same data except 11-18/I/2017, funnel light trap. Cazorla, C. G. & Campos, R. E. cols.

Atrichopogon (Atrichopogon) sp. nov. A

Material examined: 2♀, marginal forest 6-7/X/2014, CDC light trap; 38♀ 20♂, same data except 10-11/XI/2014; 8♀ 2♂, same data except 7-8/I/2015; 3♂, same data except 3-4/2015, 1♀, grassland, 4-12/V/2016, Malaise trap; 2♀, same data except 12-19/X/2016; 1♀ 1♂, marginal forest, 23-30/XI/2016, funnel light trap. Cazorla, C. G. & Campos, R. E. cols.

***Atrichopogon (Lophomyidium) delpontei* Cavalieri & Chiossone, 1972**

Atrichopogon delpontei Cavalieri & Chiossone, 1972: 121 (male, female; Argentina); Spinelli & Balseiro, 1982: 226.

Atrichopogon (Lophomyidium) delpontei: Marino et al., 2017: 2082.

Known distribution: Argentina: Buenos Aires: Berisso and RNIPL (new record), Formosa, Chaco and Santa Fe. Brazil

Material examined: 1♀ 1♂, marginal forest 9-10/IX/2014, CDC light trap; 1♀ 1♂, same data except 10-11/XII/2014; 1♀, marginal forest, 18-25/II/2017, funnel light trap; 1♀, same data except 25/I-1/II/2017; 1♀, grassland, 14-21/XII/2016, funnel light trap; 2♀ 3♂, marginal forest, 30/XI-7/XII/2016, funnel light trap. Cazorla, C. G. & Campos, R. E. cols.

***Atrichopogon (Psilokempia) domizii* Spinelli, 1982**

Atrichopogon domizii Spinelli, 1982: 206 (male, female; Argentina).

Atrichopogon (Psilokempia) domizii: Spinelli et al., 2015: 18.

Known distribution: Argentina: Buenos Aires: Berisso, Campana and RNIPL (new record).

Material examined: 1♂, marginal forest, 10-11/XII/2014, CDC light trap. Cazorla, C. G. & Campos, R. E. cols.

Genus *Forcipomyia* Meigen

***Forcipomyia (Euprojoannisia) platensis* (Brèthes, 1914)**

Euprojoannisia platensis Brèthes, 1914: 156 (female; Argentina).

Forcipomyia (Euprojoannisia) platensis Brèthes: Wirth & Cavalieri, 1975: 125 (combination); Spinelli, 1983a: 127.

Known distribution: Argentina: Buenos Aires: Berisso, Escobar, General Urquiza, RNIPL (new record) and Tigre.

Material examined: 1♀, marginal forest, 12-13/III/2015, CDC light trap; 1♀, same data except 7-8/V/2015; 4♀, grassland, 4-21/XII/2016, Malaise trap; 2♀, same data except 16-23/XI/2016. Cazorla, C. G. & Campos, R. E. cols.

***Forcipomyia (Forcipomyia) pictoni* Macfie, 1938**

Forcipomyia pictoni Macfie, 1938: 161 (male; Trinidad).

Forcipomyia (Forcipomyia) pictoni: Wirth, 1974: 6; Ronderos et al., 2011: 1186.

Known distribution: Argentina: Buenos Aires: Isla Martín García and RNIPL (new record), Corrientes, Formosa, La Rioja and Misiones. Belize, Brazil, Honduras, Costa Rica, Jamaica, Mexico, Panama, Trinidad, United States of America and Venezuela.

Material examined: 1♀, marginal forest, 22/II-1/III/2017, funnel light trap. Cazorla, C. G. & Campos, R. E. cols.

***Forcipomyia (Forcipomyia) pinamarensis* Spinelli, 1983**

Forcipomyia (Forcipomyia) pinamarensis Spinelli, 1983a: 121 (male, female; Argentina).

Known distribution: Argentina: Buenos Aires: Campana, Pinamar and RNIPL (new record). Brazil, Costa Rica, Panama, Uruguay and Venezuela.

Material examined: 16♀ 4♂, marginal forest 9-10/IX/2014, CDC light trap; 2♀, same data except 6-7/X/2014; 4♂, same data except 10-11/XII/2014; 1♀ 1♂, same data except 13-20/IV/2016, Malaise trap; 7♀, same data except funnel light trap; 33♀ 8♂, grassland, 9-16/2016, Malaise trap; 10♀ 8♂, same data except 27/IV-4/V/2016; 9♀ 34♂, marginal forest, 22/II-1/III/2017, funnel light trap; 1♂, same data except Malaise trap. Cazorla, C. G. & Campos, R. E. cols.

***Forcipomyia (Forcipomyia) poulaineae* Ingram & Macfie, 1931**

Forcipomyia poulaineae Ingram & Macfie, 1931: 227 (male; Argentina).

Forcipomyia (Forcipomyia) poulaineae: Spinelli & Balseiro, 1982: 226; Spinelli 1983a: 124; Ronderos et al., 2011: 1187; Marino et al., 2011: 202.

Known distribution: Argentina: Buenos Aires: Buenos Aires city, Berisso, Isla Martín García, RNIPL and Sierra de la Ventana; Entre Ríos. Brazil.

Material examined: 2♀, grassland, 27/III-4/V/2016, Malaise trap; 3♀ 3♂, same data except 24-31/VIII/2016; 1♂, marginal forest, 13-20/VII/2016, funnel light trap; 1♀, same data except 3-10/VIII/2016, Malaise trap. Cazorla, C. G. & Campos, R. E. cols.

***Forcipomyia (Forcipomyia) rioplatensis* Marino & Spinelli, 2002**

Forcipomyia squamitibia Lutz: Spinelli, 1983a: 128 (female, male; Argentina).

Forcipomyia (Forcipomyia) rioplatensis Marino & Spinelli, 2002: 314 (male, female; Argentina); Spinelli et al., 2005: 109; Ronderos et al., 2011: 1187; Marino et al., 2011: 202.

Known distribution: Argentina: Buenos Aires: Berisso, Isla Martín García, RNIPL, San Vicente, Sierra de la Ventana, and Córdoba. Uruguay.

Material examined: 4♀ 1♂, grassland, 12-19/X/2016, Malaise trap; 1♀ 3♂, same data except 1-8/II/2017. Cazorla, C. G. & Campos, R. E. cols.

***Forcipomyia (Forcipomyia) taragui* Marino, Spinelli & Cazorla, 2002**

Forcipomyia (Forcipomyia) taragui Marino et al, 2002: 17 (new name for guarani).

Forcipomyia (Forcipomyia) guarani Marino & Spinelli,

1999a: 448 (male, female; Argentina).

Known distribution: Argentina: Buenos Aires: RNIPL (new record), Corrientes and Misiones. Paraguay and Uruguay.

First record in Buenos Aires province.

Material examined: 1♀, marginal forest, 10-11/XI/2014, CDC light trap; 1♀, same data except 3-4/II/2015; 5♀ 1♂, same data except 12-13/III/2015; 1♀, marginal forest, 13-20/2016, Malaise trap; 1♀ 3♂, marginal forest, 22-II-1/III/2017, funnel light trap. Cazorla, C. G. & Campos, R. E. cols.

***Forcipomyia (Lepidohelea) edmistoni* Wirth & Spinelli, 1993**

Forcipomyia (Lepidohelea) edmistoni Wirth & Spinelli, 1993: 624 (larva, pupa, male, female; USA); Spinelli & Marino, 1998: 39 (Argentina record).

Known distribution: Argentina: Buenos Aires: RNIPL. United States of America.

Material examined: 1♂, marginal forest, 9-1/IX/2014, CDC light trap; 1♀, same data except 10-11/XI/2014; 1♀, same data except 10-11/XII/2014; 1♀, same data except 7-14/2016, Malaise trap; 2♀ 1♂, same data except 30/XI-7/XII/2016. Cazorla, C. G. & Campos, R. E. cols.

***Forcipomyia (Metaforcipomyia) williamsi* Marino & Spinelli, 1999**

Forcipomyia (Metaforcipomyia) williamsi Marino & Spinelli, 1999b: 5 (female, male; Argentina).

Known distribution: Argentina: Buenos Aires: Berisso, Isla Martín García and RNIPL.

Material examined: 5♀, marginal forest, 6-7/X/2014, CDC light trap. Cazorla, C. G. & Campos, R. E. cols.

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

Ceratopogon fuliginosus Meigen, 1818: 86 (female; Germany).

Forcipomyia fuliginosa Goetghebuer, 1933: 130 (combination).

Forcipomyia (Microhelea) fuliginosa (Meigen): Wirth, 1972: 567.

Forcipomyia crudelis Knab, 1914: 66.

Ceratopogon tropica (Kieffer), 1917: 297.

Known distribution: Argentina: Buenos Aires: RNIPL (new record) and Misiones. Brazil, Colombia, Costa Rica, Trinidad, Uruguay and United States of America. Widespread in Palearctic, Oriental and Afrotropical regions.

First record in Buenos Aires province.

Material examined: 2♀, marginal forest, 10-11/XI/2014, CDC light trap; 3♀, same data except 10-11/XII/2014; 1♀, same data except 7-8/I/2015; 1♀, same data except 3-4/II/2015; 1♂, same data except 12-13/III/2015. Cazorla, C. G. & Campos, R. E. cols.

***Forcipomyia (Saliohelea) leei* Wirth & Ratanaworabhan, 1978**

Forcipomyia (Saliohelea) leei Wirth & Ratanaworabhan, 1978: 498 (male, female, pupa; Colombia); Marino et al., 2011: 202.

Known distribution: Argentina: Buenos Aires: RNIPL (new record) and Sierra de la Ventana. Brazil, Colombia, Costa Rica, Puerto Rico and United States of America.

Material examined: 1♀, marginal forest, 8-9/VI/2015, CDC light trap. Cazorla, C.G. & Campos, R.E. cols.

***Forcipomyia (Thyridomyia) nana* (Macfie, 1939)**

Lasiohelea nana Macfie, 1939: 171 (female; Brazil).

Forcipomyia (Thyridomyia) nana (Macfie): Wirth, 1956: 247 (combination); Spinelli et al., 2010: 130.

Known distribution: Argentina: Buenos Aires: RNIPL. Brazil, Colombia, Costa Rica, Dominica, Ecuador, Guatemala, Jamaica, Mexico, Panama, Trinidad and Virgin Islands.

Material examined: 1♂, marginal forest, 3-4/III/2015, CDC light trap. Cazorla, C. G. & Campos, R. E. cols.

Subfamily Dasyheleinae Lenz, 1934

Genus *Dasyhelea* Kieffer

***Dasyhelea mediomunda* Minaya, 1978**

Dasyhelea mediomunda Minaya, 1978: 79 (male, female, pupa; Peru).

Known distribution: Argentina: Buenos Aires: RNIPL (new record), Chubut, Neuquén and Río Negro. Chile.

First record in Buenos Aires province

Material examined: 1♂, grassland, 9-16/III/2016, Malaise trap. Cazorla, C. G. & Campos, R. E. cols.

***Dasyhelea necrophila* Spinelli & Rodríguez, 1999**

Dasyhelea necrophila Spinelli & Rodríguez, 1999: 59 (male, female, pupa, larva; Argentina); Ronderos et al., 2011: 1187; Marino et al., 2011: 203.

Known distribution: Argentina: Buenos Aires: Bahía Blanca, Berisso, La Plata (Gonnet), Isla Martín García, RNIPL (new record) and Sierra de la Ventana.

Material examined: 1♂, grassland, 9-16/III/2016, Malaise trap. Cazorla, C. G. & Campos, R. E. cols.

***Dasyhelea serrana* Díaz & Spinelli, 2014**

Dasyhelea serrana Díaz & Spinelli, in Díaz et al., 2014: 2153 (male, female, pupa; Argentina).

Known distribution: Argentina: Buenos Aires: RNIPL (new record) and Sierra de la Ventana; Río Negro.

Material examined: 1♂, marginal forest, 10-11/XIII/2014, CDC light trap. 1♂, grassland, 27/III-4/IV/2016, Malaise trap; 5♂, same data except 7-14/XIII/2016; 1♀1♂, same data except 1-8/III/2017, Malaise trap. Cazorla, C. G. & Campos, R. E. cols.

***Dasyhelea suarezi* Spinelli & Ronderos, 1987**

Dasyhelea suarezi Spinelli & Ronderos, 1987: 11 (male, female; Argentina).

Known distribution: Argentina: Buenos Aires: Berisso and RNIPL (new record).

Material examined: 1♂, marginal forest, 7-8/II/2015, CDC light trap. Cazorla, C. G. & Campos, R. E. cols.

Subfamily Ceratopogoninae Newman, 1834

Tribe Culicoidini Kieffer, 1911

Genus *Culicoides* Latreille

***Culicoides (Cotocripus) caridei* (Brèthes, 1912)**

Cotocripus caridei Brèthes, 1912: 451 (female; Argentina).

Culicoides caridei (Brèthes): Lane, 1945: 366; Spinelli et al., 1989: 735; Ronderos & Spinelli, 1990: 83; Ronderos et al., 2011: 1187.

Centrorrhynchus setifer Lutz, 1913: 64.

Dasyhelea caridei Lane & Ortíz, 1950: 460.

Known distribution: Argentina: Buenos Aires: Berisso, Coronel Pringles, La Plata (Gonnet), Isla Martín García, Magdalena and RNIPL; Jujuy. Uruguay.

Material examined: 60♀ 72♂, marginal forest, 30/XI-7/XIII/2016, funnel light trap; 67♀, 4♂, grassland, 7-14/XII/2016, funnel light trap; 5♀, same data except 14-21/XIII/2016; 1♀, same data except 26/V-6/VI/2016. Cazorla, C. G. & Campos, R. E. cols.

***Culicoides (Haematomydium) debilipalpis* Lutz, 1913**

Culicoides debilipalpis Lutz 1913: 60 (female, Brazil); Ronderos et al., 2011: 1188.

Culicoides ichesi Ronderos & Spinelli, 1995: 77.

Culicoides khalafi Beck, 1957: 104.

Culicoides lahillei Spinelli & Wirth, 1986: 62.

Known distribution: Argentina: Buenos Aires: Berisso, Isla Martín García and RNIPL; Corrientes, Entre Ríos, Jujuy, Misiones, Salta and Tucumán. Belize, Brazil, Colombia, Costa Rica, Honduras, Guatemala, Panama, Peru, Trinidad, Uruguay, Venezuela and United States of America.

Material examined: 6♀ 1♂, marginal forest, 30/XI-7/XII/2016, Malaise trap. Cazorla, C. G. & Campos, R. E. cols.

***Culicoides (Hoffmania) insignis* Lutz, 1913**

Culicoides insignis Lutz 1913: 51 (male, female, pupa; Brazil); Spinelli & Balseiro, 1982: 226; Spinelli et al., 1989: 735; Ronderos et al., 2011: 1188.

Culicoides inamollae Fox & Hoffman, 1944: 110.

Culicoides painteri Fox, 1946: 257.

Known distribution: Argentina: Buenos Aires: Berisso, Isla Martín García and RNIPL; Chaco, Corrientes, Entre Ríos, Formosa, Misiones, Jujuy, Salta and Tucumán.

Brasil, Cayman Islands, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, French Guiana, Guadeloupe, Haiti, Honduras, Jamaica, Mexico, Panama, Paraguay, Puerto Rico, St. Lucía, Trinidad, Venezuela, United States of America and Uruguay.

Material examined: 1♀, marginal forest, 10-11/XI/2014, CDC light trap; 6♀ 1♂, same data except 10-11/XII/2014; 1♀, same data except 3-4/II/2015; 1♀, same data except 12-13/III/2015; 1♀, same data except 6-7/V/2015; 1♂, marginal forest, 12-18/II/2016, funnel light trap; 1♀, grassland, 26/V-6/VI/2016, Malaise trap; 1♂, same data except, 14-21/XII/2016, funnel light trap. Cazorla, C. G. & Campos, R. E. cols.

***Culicoides (Psychophaena) venezuelensis* Ortiz & Mirsa, 1950**

Psychophaena pictipennis (Philippi), 1865: 628 (female; Chile).

Culicoides venezuelensis Ortiz & Mirsa, 1950: 137 (male, female; Venezuela); Wirth, 1955: 234 (= *pictipennis* Philippi 1865, non Steager, 1839; = *ortizi* Fox); Spinelli & Balseiro 1982: 226; Spinelli & Wirth, 1986: 64; Spinelli et al., 1989: 735; Ronderos et al., 2011: 1189; Marino et al., 2011: 203.

Culicoides ortizi Fox, 1952: 366.

Known distribution: Argentina: Buenos Aires: Berisso, Isla Martín García, RNIPL and Sierra de la Ventana; Catamarca, Chaco, Córdoba, Corrientes, Entre Ríos, Formosa, Jujuy, Mendoza, Misiones, Río Negro, Salta, Santiago del Estero and Tucumán. Brazil, Bolivia, Chile, Colombia, Costa Rica, Ecuador, Panamá, Paraguay, Uruguay and Venezuela.

Material examined: 1♀, marginal forest, 10-11/XI/2014, CDC light trap; 15♀ 13♂, same data except 10-11/XII/2014; 2♂, same data except 7-8/I/2015; 23♀ 2♂, same data except 3-4/II/2015; 1♀ 2♂, same data except 12-13/III/2015; 2♀ 1♂, same data except 6-7/V/2015; 5♀ 7♂, same data except, 22/II-1/III/2017, funnel light trap; 27 ♀ 1♂, same data except 23-30/XI/2016; 18♀ 1♂, same data except 30/XI-7/XII/2016; 2♀; same data except 28/XII-4/VI/2017; 5♀ 7♂, same data except 22/II-1/III/2017; 1♀, grassland, 9-16/III/2016, Malaise trap; 1♀, same data except 14-21/XII/2016, funnel light trap; 1♂, same data except 8-15/II/2016, Malaise trap. Cazorla, C. G. & Campos, R. E. cols.

Tribe Ceratopogonini

Genus *Alluaudomyia* Kieffer

***Alluaudomyia schnacki* Spinelli, 1983**

Alluaudomyia schnacki Spinelli, 1983b: 403 (larva, pupa, male, female; Argentina); Spinelli et al., 1989; Marino et al., 2011: 203; Díaz et al., 2015: 89.

Known distribution: Argentina: Buenos Aires: Sierra de la Ventana, Berisso, Escobar and RNIPL; Chubut, Corrientes, Entre Ríos, Formosa. Chile and Uruguay.

Material examined: 5♀ 1♂, marginal forest, 10-11/XII/2014, CDC light trap; 3♀, same data except 22/II-1/III/2017, funnel light trap; 5♀, 3♂, 29/I-5/II/2016, grassland, Malaise trap; 1♂, same data except 19-26/XII/2016, funnel light trap; 1♀, same data except Malaise trap. Cazorla, C. G. & Campos, R. E. cols.

Genus *Stilobezzia* Kieffer

***Stilobezzia (Eukraiohelea) elegantula* (Johannsen, 1907)**

Bezzia elegantula Johannsen, 1907: 109 (female; United States of America).

Probezzia elegantula: Malloch, 1914a: 137.

Parabezzia elegantula Malloch, 1915: 359.

Parabezzia (Eukraiohelea) elegantula Johannsen, 1934: 345.

Eukraiohelea elegantula Johannsen, 1943: 781.

Stilobezzia (Eukraiohelea) elegantula Wirth, 1953: 62.

Stilobezzia (Eukraiohelea) maculitibia Lane & Forattini, 1956: 207.

Stilobezzia subsessilis Kieffer, 1917: 311.

Known distribution: Argentina: Buenos Aires: RNIPL (new record), Chaco and Misiones. Brazil, Mexico, Panama, Paraguay, (?) Puerto Rico and United States of America.

First record in Buenos Aires province.

Material examined: 1♀, marginal forest, 10-11/XII/2014, CDC light trap. Cazorla, C. G. & Campos, R. E. cols.

***Stilobezzia (Stilobezzia) bicolor* Lane, 1947**

Stilobezzia (Stilobezzia) bicolor Lane, 1947: 208 (male, Brazil); Spinelli, 1983b: 410.

Known distribution: Argentina: Buenos Aires: Berisso and RNIPL (new record). Brazil and Panama.

Material examined: 1♀, marginal forest, 12-13/III/2015, CDC light trap. Cazorla, C. G. & Campos, R. E. cols.

***Stilobezzia (Stilobezzia) fiebrigi* Kieffer, 1917**

Stilobezzia fiebrigi Kieffer, 1917: 309 (female, Paraguay).

Stilobezzia (Stilobezzia) fiebrigi Forattini & Rabello, 1956: 45; Spinelli & Balseiro, 1982: 226; Spinelli, 1983b: 410.

Known distribution: Argentina: Buenos Aires: Berisso, RNIPL and Tigre, Corrientes, Entre Ríos and Santiago del Estero. Brazil and Paraguay.

Material examined: 1♀ 1♂, marginal forest, 10-11/XI/2014, CDC light trap; 1♀ 6♂, same data except 10-11/XII/2014; 1♀ 2♂, same data except 7-8/I/2015; 1♂, same data except 12-13/III/2015; 1♀, same data except 6-7/IV/2015; 1♀, same data except 30/XI-7/XII/2016, funnel light trap; 1♀, same data except 12-18/II/2016; 1♀ 1♂, same data except 22/II-1/III/2017; 1♀, same data except 30/XI-7/XII/2016. Cazorla, C. G. & Campos, R. E. cols.

***Stilobezzia (Stilobezzia) glauca* Macfie, 1939**

Stilobezzia glauca Macfie, 1939: 204 (male; Brazil).

Stilobezzia fluminensis Lane, 1947: 210.

Stilobezzia (Stilobezzia) glauca Wirth & Grogan, 1981: 81; Cazorla, 2016: 188.

Known distribution: Argentina: Buenos Aires: RNIPL, and Misiones. Brazil, Colombia, Mexico, Peru and United States of America.

Material examined: 1♀, marginal forest, 7-8/II/2015, CDC light trap; 1♀ 1♂, same data except 3-4/II/2015. Cazorla, C. G. & Campos, R. E. cols.

***Stilobezzia (Stilobezzia) kiefferi* Lane 1947**

Stilobezzia kiefferi Lane, 1947: 205 (female; Brazil).

Stilobezzia (Stilobezzia) punctipes Wirth, 1953: 79.

Stilobezzia (Stilobezzia) kiefferi Lane & Forattini, 1961: 85; Cazorla, 2016: 188.

Known distribution: Argentina: Buenos Aires: RNIPL. Brazil, Jamaica, Mexico, Panama and United States of America.

Material examined: 1♂, 10/XI/2014, CDC light trap; 2♀, same data except 10/XII/2014. Cazorla, C. G. & Campos, R. E. cols.

***Stilobezzia (Stilobezzia) punctulata* Lane, 1947**

Stilobezzia punctulata Lane, 1947: 204 (female; Brazil).

Stilobezzia (Stilobezzia) punctulata Lane & Forattini, 1958: 220.

Known distribution: Argentina: Buenos Aires: RNIPL (new record), Chaco and Corrientes. Brazil, Mexico, Panama and Peru.

First record in Buenos Aires province.

Material examined: 1♂ 1♀, marginal forest, 10-11/XII/2014, CDC light trap. Cazorla, C. G. & Campos, R. E. cols.

Tribu Heteromyiini Wirth, 1962

Genus *Clinohelea* Kieffer

***Clinohelea townsendi* Lane, 1944**

Clinohelea townsendi Lane, 1944: 256 (female; Brazil); Spinelli & Duret, 1993: 48.

Clinohelea townesi Lane, 1944: 254.

Known distribution: Argentina: Buenos Aires: RNIPL (new record) and Tigre; Corrientes. Brazil, Colombia, Ecuador, French Guiana, Panama, Paraguay and Peru.

Material examined: 3♀, marginal forest, 12-18/II/2016, Malaise trap. Cazorla, C. G. & Campos, R. E. cols.

Tribu Palpomyiini Enderlein, 1936

Genus *Bezzia* Kieffer

***Bezzia (Bezzia) nobilis* (Winnertz, 1852)**

Ceratopogon nobilis Winnertz, 1852: 79 (female;

Germany).

Bezzia nobilis (Winnertz): Kieffer, 1901: 153 (combination; in key).

Bezzia (Bezzia) nobilis: Wirth, 1983: 673 (review of New World *nobilis* group); Spinelli & Wirth, 1989: 112.

Bezzia acanthodes Macfie, 1940: 192.

Known distribution: Argentina: Buenos Aires: Berisso, Magdalena and RNIPL (new record); Río Negro. Bahamas, Bermuda, Brazil, British Guiana, Canada, Chile, Cuba, Haiti, El Salvador, Honduras, Jamaica, Mexico, United States of America, Uruguay, Virgin Islands and Palearctic Region.

Material examined: 1♂, marginal forest, 10-11/XII/2014, CDC light trap; 1♀, same data except, 25/I-1/II/2017, funnel light trap; 2♂, same data except, 30/I-7/II/2016; 4♀ 1♂, 28/XII- 4/II/2017; 11♂, same data except 22/II-1/III/2017. Cazorla, C. G. & Campos, R. E. cols.

***Bezzia punctipennis* (Williston, 1896)**

Ceratopogon punctipennis Williston, 1896: 278 (female; St. Vicent).

Bezzia punctipennis (Williston): Kieffer, 1906: 58 (combination); Spinelli & Wirth, 1989: 119.

Known distribution: Argentina: Buenos Aires: Berisso, Magdalena and RNIPL (new record). Brazil, Dominica, El Salvador, Haiti, Honduras, Jamaica, Mexico, St. Vincent and United States of America.

Material examined: 1♀, marginal forest, 10-11/XII/2014, CDC light trap; 1♀, same data except 12-13/III/2015; 1♂, same data except 28/XII-4/I/2017, funnel light trap; 1♀, same data except 30/XI-7/XII/2016, Malaise trap; 1♀, same data except 25/I- 1/II/2017, funnel light trap; 1♀, same data except 22/II-1/III/2017, funnel light trap; 1♀, grassland, Malaise trap. Cazorla, C. G. & Campos, R. E. cols.

Genus *Palpomyia* Meigen

***Palpomyia subaspera* (Coquillett, 1901)**

Ceratopogon subasper Coquillett, 1901: 606 (female; USA).

Palpomyia subasper Malloch, 1914b: 22 (combination).

Palpomyia subaspera (Coquillett): Grogan & Wirth, 1975: 10 (lectotype designation; redescr.).

Palpomyia essigi Wirth, 1952: 225 (male, female; USA).

Palpomyia maculicrus Ingram & Macfie, 1931: 230 (female; Argentina).

Known distribution: Argentina: Buenos Aires: RNIPL (new record) and San Isidro; Chubut and Río Negro. Canada, Chile, Cuba, Haiti, Mexico, Paraguay and United States of America.

Material examined: 2♀, marginal forest, 12-18/II/2016, Malaise trap. Cazorla, C. G. & Campos, R. E. cols.

DISCUSSION

The last study of the family Ceratopogonidae carried out in the Reserva Natural Integral Punta Lara dates back almost thirty years and listed ten known species and seven undetermined species (Spinelli et al., 1989). In the present study, we present an updated list where the number of named species for this protected area of

the province of Buenos Aires is increased to 39. Twenty-three of these species are recorded in the RNIPL for the first time, while five species are recorded for the first time in Buenos Aires province: *Dasyhelea mediomunda*, *Forcipomyia (F.) taragui*, *Forcipomyia (M.) fuliginosa*, *Stilobezzia (E.) elegantula* and *Stilobezzia (S.) punctulata*. Most of these species have a Neotropical distribution; therefore, their presence in this area

Species	Province																							
	Buenos Aires	Catamarca	Chaco	Chubut	Córdoba	Corrientes	Entre Ríos	Formosa	Jujuy	La Pampa	La Rioja	Mendoza	Misiones	Neuquén	Río Negro	Salta	San Juan	San Luis	Santa Cruz	Santa Fe	Santiago del Estero	Tierra del Fuego	Tucumán	
<i>Atrichopogon (A.) albinensis</i>	①																							
<i>Atrichopogon (A.) balseiroi</i>	①																							
<i>Atrichopogon (A.) comechingon</i>	①				•					•	•				•				•					
<i>Atrichopogon (A.) homofacies</i>	•																							
<i>Atrichopogon (A.) talarum</i>	•																							
<i>Atrichopogon (A.) pseudoobfuscatus</i>	①																							
<i>Atrichopogon (A.)</i> sp. n. A	•																							
<i>Atrichopogon (L.) delpontei</i>	①		•						•												•			
<i>Atrichopogon (P.) domizii</i>	①																							
<i>Forcipomyia (E.) platensis</i>	①																							
<i>Forcipomyia (F.) pictoni</i>	①					•		•			•		•											
<i>Forcipomyia (F.) pinamarensis</i>	•																							
<i>Forcipomyia (F.) poulaineae</i>	①						•																	
<i>Forcipomyia (F.) rioplatensis</i>	•				•																			
<i>Forcipomyia (F.) taragui</i>	②					•							•											
<i>Forcipomyia (L.) edmistoni</i>	•																							
<i>Forcipomyia (M.) williamsi</i>	•																							
<i>Forcipomyia (M.) fuliginosa</i>	②												•											
<i>Forcipomyia (S.) leei</i>	①																							
<i>Forcipomyia (T.) nana</i>	•																							
<i>Dasyhelea mediomunda</i>	②			•										•	•									
<i>Dasyhelea necrophila</i>	①																							
<i>Dasyhelea serrana</i>	①															•								
<i>Dasyhelea suarezi</i>	①																							
<i>Culicoides (C.) caridei</i>	•								•															
<i>Culicoides (H.) debilpalpis</i>	•					•	•		•				•				•							•
<i>Culicoides (H.) insignis</i>	•	•			•	•	•	•	•				•				•							•
<i>Culicoides (P.) venezuelensis</i>	•	•			•	•	•	•	•				•		•	•								•
<i>Alluaudomyia schmacki</i>	•		•		•	•	•	•																
<i>Stilobezzia (E.) elegantula</i>	②		•										•											
<i>Stilobezzia (S.) bicolor</i>	①																							
<i>Stilobezzia (S.) fiebrigi</i>	•					•	•															•		
<i>Stilobezzia (S.) glauca</i>	•												•											
<i>Stilobezzia (S.) kiefferi</i>	•																							
<i>Stilobezzia (S.) punctulata</i>	②		•			•																		
<i>Climohelea townsendi</i>	①					•																		
<i>Bezzia nobilis</i>	①														•									
<i>Bezzia punctipennis</i>	①																							
<i>Palpomyia subaspera</i>	①			•											•									

Table I. Distribution of Ceratopogonidae species collected in the Reserva Natural Integral Punta Lara, by province.

①: First record in Reserva Natural Integral Punta Lara, ②: First record in Buenos Aires province.

represents the southernmost limit of their distribution, while *Dasyhelea mediomunda* presents Andean distribution, so this new record represents the easternmost limit of its distribution. Besides, it is noted that the previously published first records of *Stilobezzia* (S.) *glauca* and *Stilobezzia* (S.) *kiefferi* from Buenos Aires province (Cazorla, 2016) were made based on material from the same series of samples.

Forcipomyia and *Atrichopogon* were the genera with higher number of species, 11 and 9 respectively. Regarding the genera *Culicoides*, *Monohelea* Kieffer, *Forcipomyia* (subgenera *Caloforcipomyia*, *Forcipomyia*, *Synthyridomyia* and *Trichohelea*) and *Palpomyia*, some material remains undetermined and is being studied, as they could be new taxa. In addition, an undetermined species of *Atrichopogon* has resulted to be a new one, which was previously found by Cazorla, Marino and Díaz in Sierra de la Ventana, province of Buenos Aires, and it is currently under description.

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