

## First description of the male of *Diaphanobezzia patagonica* (Diptera: Ceratopogonidae)

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### Primera descripción del macho de *Diaphanobezzia patagonica* (Diptera: Ceratopogonidae)

**RESUMEN.** Se describe e ilustra el macho de *Diaphanobezzia patagonica* Spinelli & Grogan sobre la base de ejemplares capturados en asociación con hembras en la meseta de Somuncura, en la estepa de la Patagonia central. El macho aquí descrito es comparado con los machos de los congéneres *D. pellucida* Ingram & Macfie y *D. spinellii* Wirth & Grogan. Además, se registra a *D. patagonica* del Parque Nacional Laguna Blanca.

**PALABRAS CLAVE.** *Diaphanobezzia patagonica*. Macho. Argentina. Meseta de Somuncura. Parque Nacional Laguna Blanca.

**ABSTRACT.** The male of *Diaphanobezzia patagonica* Spinelli & Grogan is described and photographed from specimens collected in association with females in the Somuncura plateau, in the steppe area of central Patagonia. The male herein described is compared with the congeners *D. pellucida* Ingram & Macfie and *D. spinellii* Wirth & Grogan. Besides, *D. patagonica* is recorded from the Laguna Blanca National Park.

**KEY WORDS.** *Diaphanobezzia patagonica*. Male. Argentina. Somuncura plateau. Laguna Blanca National Park.

### INTRODUCTION

The predaceous midge genus *Diaphanobezzia* was described by Ingram & Macfie (1931), and it consists at present of four extant species inhabiting Argentinean Patagonia: *D. pellucida* Ingram & Macfie, *D. spinellii* Wirth & Grogan and *D. araucaria* Spinelli from the temperate *Nothofagus* forests of northern Patagonia, and *D. patagonica* Spinelli & Grogan from a steppe area in the Valley of the Río Pinturas (Spinelli & Marino, 2009). Of these, only the males of *D. pellucida* and *D. spinellii* are already described.

During a collecting trip recently undertaken in steppes of central Patagonia, males and females of *D. patagonica* were collected together in the Somuncura plateau. The purpose of this paper is to describe for the first time the male

of this species and to compare it with the similar congeners *D. pellucida* and *D. spinellii*. Besides, the species is also recorded from the Laguna Blanca National Park in the Neuquen province, from a female previously collected.

### MATERIALS AND METHODS

All specimens were slide mounted in Canada balsam and examined and measured with a binocular compound microscope. Photographs were taken with a digital camera Micrometrics SE Premiun, through a Nikon Eclipse E200 microscope. Terms of structures follow those used in the Manual of Central America Diptera (Brown *et al.*, 2009). The antennal (AR), palpal (PR) and proboscis/head (P/H) ratios are described by Blanton and Wirth (1979). Specimens examined

are deposited in the collection of the Museo de La Plata, Argentina (MLP).

## RESULTS

### *Diaphanobezzia patagonica* Spinelli & Grogan (Figs. 1-7)

*Diaphanobezzia patagonica* Spinelli & Grogan, 1990: 127 (female; Argentina); Borkent & Wirth 1997: 97 (in World catalogue); Borkent & Spinelli, 2000: 46 (in New World catalogue south of USA); Borkent & Spinelli, 2007: 80 (in Neotropical synopsis); Spinelli & Marino, 2009: 205 (in list, Patagonia).

**Description.** Male. Head (Fig. 1) dark brown. Eyes widely separated by diameter of 6-7 ommatidia, with interommatidial spicules. Clypeus with 6 pairs of setae. Antennal flagellomeres dark brown, plume well-developed, all flagellomeres separate, 1-9 short, 10-13 elongate; AR 0.49-0.53 (0.51,  $n = 3$ ); palpus brown, with 4 segments; third segment slender, elongate, 1.15-1.30 (1.21,  $n = 3$ ) times longer than fourth segment, with two sensilla on inner mesal surface; PR 4.10-5.10 (4.53,  $n = 3$ ).

Thorax (Fig. 2) uniformly dark brown. Scutum with numerous elongate setae; scutellum with 11-12 setae. Anepisternum with one seta. Legs dark brown, tarsi slightly paler; coxae with numerous spine-like bristles, more abundant on foreleg (Fig. 3); femora with 1-2 elongate apical spines; tibiae armed with similar spines, more abundant, stronger on hind leg; hindtibial comb with 8-9 spines, second from spur longest; tarsomere 1 of midleg with 3-4 pairs of widely spaced spines; tarsomere 1 of hind leg constricted just beyond base with double row of palisade setae, armed with strong basal spine and pair of apical spines; tarsomeres 2-3 of foreleg with single apical spines, tarsomeres 2-3 of mid, hind legs with pair of apical spines; prothoracic TR 1.80-2.00 (1.90,  $n = 3$ ), mesothoracic TR 2.00-2.12 (2.07,  $n = 3$ ), metathoracic TR 1.72-1.75 (1.74,  $n = 3$ ); tarsomeres 4 short, subcylindrical; claws equal, small, slightly curved, bifid at tip. Wing (Fig. 4) length 1.26 mm; width 0.37 mm; CR 0.58; anterior margin straight; membrane hyaline, translucent; anterior veins pale, other nearly imperceptible;  $R_3$  with unforked intercalary vein; one short radial cell; costa with fringe along its entire length. Halter (Fig. 5) pale, sac-shaped, lacking a distinct constriction below knob.

Abdomen dark brown. Genitalia (Fig. 6): tergite 9 broad, extending to or just anterior to level of apex of gonocoxites, posterior margin broad, rounded, cerci stout, rounded; sternite 9 with anterior margin slightly convex, 0.40 length of breadth, posterior margin straight or with narrow, very shallow posteromedian excavation; sternite 10 conspicuous, pilose. Gonocoxite stout, slightly longer than greatest (mesal) width, with conspicuous mesal process; gonostylus slender, 1.3 times longer than gonocoxite, slightly curved with pointed tip. Gonocoxal apodemes very slender, heavily sclerotized, directed mesally, both narrowly fused to paramere, latter hyaline, rod-shaped with blunt apex, reaching to level of end of tergite 9. Aedeagus triangular, 1.40 times longer than basal breadth; basal arch low, heavily sclerotized, straight, extending 0.1 of total length; basal arms short, heavily sclerotized, directed anterolaterally; lateral arms heavily sclerotized proximally, contacting mesally at 0.65 of total length; distal portion lightly sclerotized, slender with blunt tip, shortly produced beyond sternite 10.

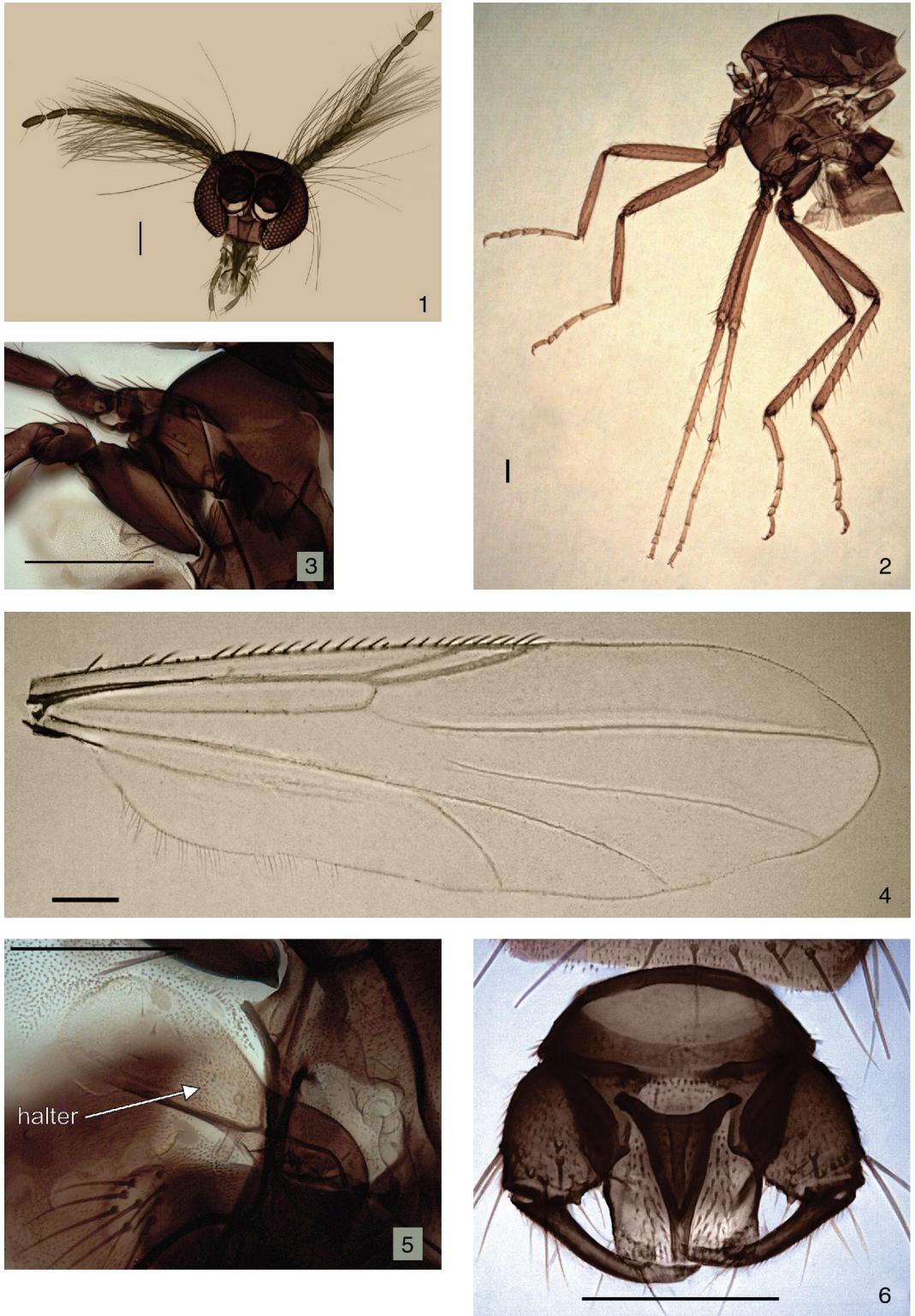
**Distribution.** *Diaphanobezzia patagonica* is the only known species of the genus that inhabits steppes of Argentinean Patagonia, the Valley of the Río Pinturas in Santa Cruz province, the Somuncura plateau in Río Negro province, and the Laguna Blanca National Park in Neuquen province (Fig. 7).

*Diaphanobezzia* is one of the six Patagonian endemic genera, and the only that inhabits just the eastern slope of the Andes.

**Type material.** Holotype ♀, Argentina, Santa Cruz prov., Río Pinturas, 47°09'11.79"S 70°39'24.78"W, 439 m, 15-I-1988, G. Spinelli, sweep net (MLP, examined).

**Other specimens examined.** Argentina, Neuquen prov., Parque Nacional Laguna Blanca, Laguna del Tero, 39°06'51.38"S 70°25'09.87"W, 1390 m, 16-XII-1995, G. Spinelli, 1 ♀, sweep net; Río Negro prov., Somuncura plateau, Rincón de Comi-Co, 41°08'33.7"S 67°27'35.6"W, 938 m, 5/7-XII-2013, G. Spinelli – M. Donato – A. Siri, 3 ♀♀, 3 ♂♂, Malaise trap (MLP).

**Taxonomic Discussion.** The male of *D. patagonica* is very similar to *D. spinelli* and *D. pelucida*. However, in the latter species the inter-



**Figs. 1-6.** *Diaphanobezzia patagonica* Spinelli & Grogan, male. 1, head, in anterior view; 2, thorax, in lateral view; 3, fore coxae and trochanters; 4, wing; 5, halter; 6, genitalia, in ventral view. Scale bars: 0.05 mm.



**Fig. 7.** Distribution map of *Diaphanobezzia patagónica* Spinelli & Grogan. 1, Laguna Blanca National Park, Laguna del Tero; 2, Somuncura plateau, Rincón de Comi-Co; 3, Río Pinturas.

calary vein in cell  $R_3$  is forked, the costal fringe is broadly interrupted mesally, the aedeagus lacks the distal hyaline portion and the tip of the paramere is pointed. *Diaphanobezzia spinellii* differs by the separate parameres, the aedeagus twice longer than basal breadth, with lower basal arch and pointed tip, and by the longer gonostylus.

## ACKNOWLEDGEMENTS

The field work which provides the material herein described was supported by a Grant of the Universidad Nacional de La Plata, Argentina. We thank Nélide Caligaris and Luis Giambelluca for technical assistance.

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