



## A new species of Psychodinae (Diptera: Psychodidae) from Argentina

### Una nueva especie de Psychodinae (Diptera: Psychodidae) de Argentina

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**Abstract.** A new species of *Desmioza* Enderlein, 1937 from Argentina is described: *Desmioza biancae* n.sp. Adults were collected with Malaise traps in the Nahuel Huapi National Park, in the Argentinean Patagonia. This is the third species of the genus described in the Andean region, Patagonian subregion. A dichotomous key for the identification of all known species of the genus is included.

Key words: moth fly, *Desmioza*, dichotomous key, taxonomy, Patagonia.

**Resumen.** Se describe una nueva especie de *Desmioza* Enderlein, 1937 de la Argentina: *Desmioza biancae* n.sp. Los adultos fueron colectados con trampas Malaise ubicadas en el Parque Nacional Nahuel Huapi, en la Patagonia argentina. Esta es la tercera especie del género descrita en la región Andina, subregión Patagónica. Se incluye una clave dicotómica para la identificación de todas las especies conocidas del género.

Palabras clave: sicódinos, *Desmioza*, clave dicotómica, taxonomía, Patagonia.

#### Introduction

The genus *Desmioza* was proposed by Enderlein (1937) to include a previously described species by Tonnoir (1929): *Pericoma edwardsi* from Bariloche, Argentina. Subsequently Quate (1963) treated *Desmioza* as a synonym of *Pericoma* Walker and mentioned that some of the unique characters of *Desmioza* species were “of no more than specific rank”. Then, Quate and Brown (2004) re-established *Desmioza* as a valid genus, included *D. edwardsi* (Tonnoir), and transferred to *Desmioza* another species described by Tonnoir (1929): *Pericoma speciosa*; they also described for the first time the male of the latter species. *Desmioza* is distinguished by the following characteristics: head with same coloration above and below eyes, eyes separated, interocular suture present, eye bridge with 3 facet rows, antennae shorter than wing width, flagellomeres fusiform or barrel shaped, simple unbranched ascoids, wing with infusate patterns, costa without second costal node, R<sub>5</sub> ending beyond the wing tip, a spur at the base of R<sub>3</sub>, anterior gonocoxal apodemes expanded, plate like, paramere absent, and aedeagus asymmetrical (Quate & Brown, 2004). The 2 species described before and the one described here have been recorded for the southern part of South America, more specifically from Patagonian Argentina. In this paper

I describe a new species of *Desmioza*, based on male and female characteristics, from Nahuel Huapi National Park, Río Negro province, Argentina.

#### Materials and methods

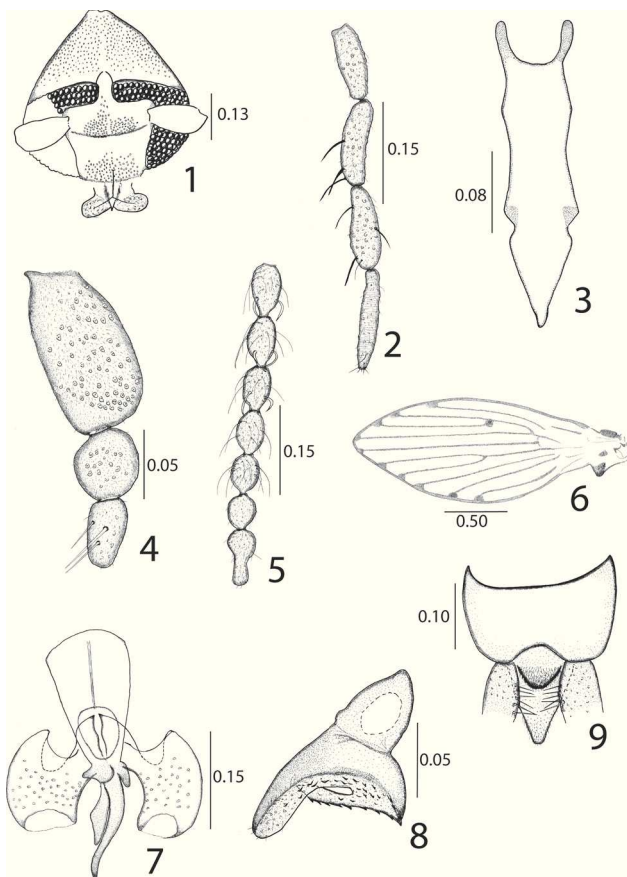
**Sampling sites.** Specimens were captured with Malaise traps located on the west side of the Nahuel Huapi National Park (NHNP). This National Park is one of the biggest in Argentina, with an extension of approximately 709.886 hectares, and extends between the provinces of Río Negro and Neuquén. According to Morrone (2004, 2006) this area is located in the Subandean Patagonia province, Andean region, Patagonian Subregion.

**Specimen preparation.** Specimens were macerated with hot 10% sodium hydroxide, dehydrated, cleared with clove oil, and mounted on a slide in Canada balsam. Specimens were observed using a Leica MZ6 magnifying lens and a Leitz wetzlar Dialux ocular microscope with micrometer. Drawings were made with the aid of a Canon Powershot® A590 camera, and digitally processed with Inkscape 0.48.4. General terminology for Diptera follows that of McAlpine (1981), while specific morphological terminology for Psychodidae follows Quate and Brown (2004) and Moya et al. (2012). Biogeographical regions are in accordance with Morrone (2001, 2004). The holotype and some paratypes were deposited in the collection of Museo de La Plata, La Plata, Argentina (MLPA).

## Description

### *Desmioza biancae* sp. nov. Figs. 1-14

**Male holotype** (Fig. 1-8). Head (Fig. 1). About as long as broad (without considering mouthparts), piriform in frontal view; supra-ocular frontal and vertex area 3.1 times higher than eye-bridge width, with spaced alveoli all over the vertex surface, except for a slightly bare band over the interocular suture. Eyes separated by 2.1 facet diameters; interocular suture V-shaped, but slightly interrupted in center; eye-bridge with 3 facet rows. Front below eyes broad with a broad seta alveoli patch emarginated below, separated in the middle by a band without alveoli. Palpus (Fig. 2) about as long as the head width. Palpal segment proportion: 1.0: 1.3: 1.1: 1.6; mouthparts short, 0.15 times



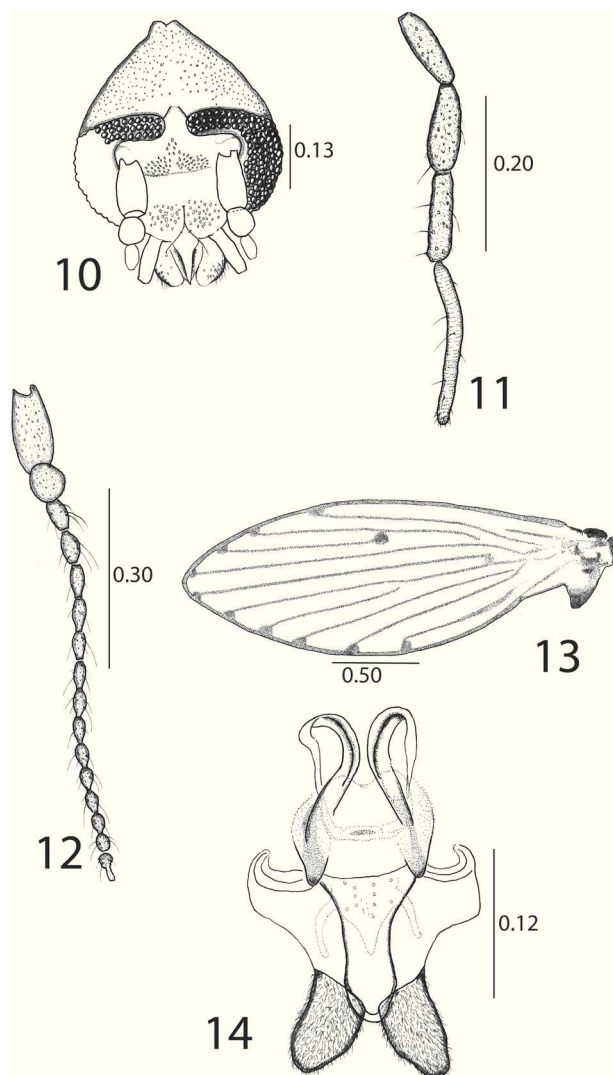
**Figures 1-9.** *Desmioza biancae* Omad, sp. nov., male (holotype). 1, head, frontal view; 2, palpus; 3, cibarium, frontal view; 4, scape, pedicel, and first flagellomere; 5, antenna, last 7 flagellomeres; 6, wing. 7-9, male terminalia; 7, terminalia in part showing the gonocoxites, aedeagus, basiphallus, and anterior gonocoxal apodemes; 8, gonostylus; 9, epandrium. All measurements in mm.

as high as the head. Cibarium as figured (Fig. 3). Labella bulbous, with shorts spiniform pointed setae on the distal margin. Antenna short, 0.3 times as long as the wing. Scape 2.1 times longer than wide, and 3 times longer than the globular pedicel (Fig. 4). Antenna with 14 flagellomeres, flagellomeres 1-8 flask shaped, 9-11 barrel shaped; distal 3 reduced (Fig. 5). Ascoids present, unbranched, very small. Last flagellomere with apiculus as long as node (Fig. 5). **Thorax.** Wing (Fig. 6) 2.6 times longer than broad with infusate pattern, with small, faint spots at vein tips, base of  $R_{2+3}$  and  $R_5$ , and radial and medial forks; radial fork slightly basal to medial fork; base of  $R_5$  well distal of base of  $M_3$ . Sc short ending before the base of  $R_1$ .  $R_5$  ending beyond wing apex.

**Male genitalia** (Fig. 7-8). Aedeagus composed of 2 dark, sclerotized arms; one shorter than the other, reaching about 0.66 its length, wide at middle then tapering to the tip. The other arm slightly sinuous towards the tip. Anterior gonocoxal apodeme plate-like, nearly triangular, without touching at middle. Gonocoxite broad, with the internal margin concave and the external margin rounded, 1.1 times longer than the gonostylus, with seta alveoli all over its surface (Fig. 7). Gonostylus bilobed, with a dorsal lobe that is broad and rounded at the apex, and small bumps like "teeth" on the bottom, extending to the ventral lobe which is smaller, straight and ends in triangular shape as a "peak climber" (Fig. 8). Basiphallus long, 1.6 times longer than gonostylus, broad at base, with a circular foramen. Epandrium naked with anterior margin straight, posterolateral angles rounded, posterior margin slightly cut at middle in a triangular way, leaving the dome rounded tergum 10 visible. Sternum 10 tongue-shaped, longer than broad, with rounded apex. Surtylus long, 1.2 times longer than the basiphallus, with strong spiniform setae on inner margin and some setae alveoli all over its surface (Fig. 9). With 1 apical clavate tenaculum.

**Measurements.** Head height: 0.48, width: 0.47; mouthparts length (from clypeus inferior border to apex of labellum): 0.07; palpus length: 0.46; antenna length: 0.72; wing length: 2.21, width: 0.83; epandrium length: 0.12; surtylus length: 0.22; tenaculum length: 0.04; gonostylus length: 0.12; gonocoxite length: 0.13; aedeagus length (short arm): 0.10, aedeagus length (longer arm): 0.20. All measures are given in mm.

**Female.** (Fig. 10-14) Similar to male except for the following characteristics. Eyes separated by 3 facet diameters (Fig. 10). Palpus longer than the male (Fig. 11), about 1.2 times longer than the head height, fourth segment longer than others and striated. Palpal segment proportion: 1.0: 1.1: 1.2: 2.2. Wing (Fig. 12) and antenna (Fig. 13) as figured. Postabdomen (Fig. 14). Subgenital plate nearly triangular. Anterior margin reinforced, with



**Figures 10-14.** *Desmioza biancae* Omad, sp. nov., female. 10, head frontal view; 11, palpus; 12, antenna complete; 13, wing; 14, postabdomen. All measurements in mm.

micropubescent and setose hypovalve; hypovalve with the external margin nearly straight, leaving an almost triangular space in the middle. Both lobes with rounded apex. Chitinous arch extending beyond the anterior limit of the pubescence hypovalve and ending in a rounded

apex. A small and irregular genital pouch with some clear pores in its surface. Genital ducts with longitudinal and lateral struts well developed (Fig. 14). Cercus long and tapered.

**Measurements.** Head height: 0.46, width: 0.43; mouthparts length (from clypeus inferior border to apex of labellum): 0.11; palpus length: 0.55; antenna length: 0.81; wing length: 2.74, wing width: 0.94; subgenital plate length (from anterior margin to apex of hypovalve): 0.15; cercus length: 0.38. All measures are given in mm.

**Taxonomic summary**

**Material examined.** Holotype: Mallín Los Patos, Nahuel Huapi National Park. 10-20.xii.2006, Malaise trap. Coordinates: 41°15'48.6" S, 71°17'50.3" W. 1 020 m asl. Garré and Montes de Oca Leg. (MLPA). Paratypes 5 ♂, 4 ♀, same data as the holotype (MLPA). Other specimens studied: 16 males and 28 females, same data as the holotype.

**Etymology.** The epithet *biancae* is in honor to the beloved mother of the author Blanca Alegría de Omad.

**Remarks**

*Desmioza biancae* differs from the others known species of *Desmioza* by the unusual shape of the bilobed gonostylus and by the shape of the basiphallus. It has some similarities with *D. edwardsi* in the shape of gonocoxites and in the shape of the aedeagus, composed of 2 arms (one short and one long). However, the shape of the gonostylus in *D. edwardsi* differs from *D. biancae*, as the former presents a strongly curved gonostylus, with a series of small hairs in the most distal part (Quate and Brown, 2004). The female of *D. biancae* differs from other females previously described by the form of the hypovalve and the genital pouch shape. The lateral strout and the genital ducts of *Desmioza biancae* share some similarities with *Desmioza speciosa* (Tonnoir), but differs from it (from *D. speciosa*) by the characters mentioned above. *Desmioza* includes (with the new species herein described), only 3 species, all described for the Andean region of Argentina. Currently, the genus is considered endemic to this region; however, it should be noted that all species have overlapping distributions, and in most collections are found associated to *Nothofagus* forests.

**Key to species of *Desmioza*.**

1. Male with gonostylus single, longer than gonocoxite and C-shaped; female with dark arrow shape in center of membranous plate ..... *D. edwardsi* (Tonnoir)
- Male with gonostylus bifurcate. .... 2
2. Gonostylus with the ventral appendage short and strongly curved, with subapical protusion bearing 5-6 bristles; dorsal appendage black, similar shape as ventral, with spur at distal one third without bristles; female with dark bar between genital ducts. .... *D. speciosa* (Tonnoir)

- Gonostylus with ventral appendage thin, straight, ending in a peak, with posterior edge serrated; dorsal appendage thick, ending in blunt tip, with small projections ventrally; female with a small and irregular genital pouch with some clear pores on its surface. . . . . *D. biancae* sp. nov.

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