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A new species and records of *Alepia* Enderlein (Diptera, Psychodidae, Psychodinae) from Argentina

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Abstract

A new species of Neotropical Psychodidae, *Alepia claritae* **sp. nov.**, is described from Argentina. Specimens were collected in a Malaise trap located in Misiones Province. Based on material from the same locality, we include a re-description of the adult male of *Alepia copelata* Quate (1999), previously known from Barro Colorado Island, Panama. These are the first records of *Alepia* and the sixth record of a psychodine species for the Neotropical region of Argentina. A list of the non-phlebotomine Psychodidae for Argentina is included.

Key words: Diptera, moth flies, Neotropical, Misiones Province

Introduction

The genus *Alepia* Enderlein, 1937 includes fifty-three described Neotropical species (Quate 1963, Bravo et al. 2004, Quate & Brown 2004, Wagner & Hribar 2004, Wagner & Svensson 2006, Bravo 2008, Wagner et al. 2008, Wagner et al. 2010, Jezek et al. 2011) and is one of the most diverse genera of Psychodidae in the region (Quate & Brown 2004; Bravo 2008). Adults of *Alepia* are characterized by a suite of characters including an infuscate pattern on the wing membrane and multiple tenacula bearing modified tips, which are often confined to a basal black pad on the cerci (surstyli in Quate & Brown 2004). This contribution includes a description of *Alepia claritae* **sp. nov.** based on specimens collected from Misiones Province, Argentina and a re-description of the adult male of *Alepia copelata* Quate (1999) based on material collected in Misiones Province, Argentina. The re-description of the latter species is addressed as an extension of the original description by Quate, adding figures of different structures (head, antenna, palpus) that are missing in the original description. In addition, a list of the non-phlebotomine Psychodidae recorded from Argentina is given.

Material and methods

The specimen was cleared with hot 10% sodium hydroxide and mounted on a slide in Canada balsam. General terminology for Diptera follows that of McAlpine (1981), while specific morphological terminology for Psychodidae follows Bravo (2008). The holotype specimen was deposited in the collection of Museo de Ciencias Naturales de la Plata, La Plata, Argentina (MLP). Biogeographical regions are in accordance with Morrone (2006)

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Taxonomy

***Alepia claritae* sp. nov**.
Figs. 1–7

Type material. Argentina. Misiones province. Corpus, 27º7'51.03'' S; 55º30'26.46'' W. Holotype male, 20.XII.2007, malaise trap. Leg. G. Spinelli (MLP).

Etymology. The specific epithet *claritae* is after Clara Tercic, one of the dearest nieces of the senior author.

Diagnosis. Aedeagus thick, surrounded by a globular heavily sclerotized area. Gonostylus bifurcated with the medial ramus longer and ending in sharp point, sclerotized. The lateral ramus short, ending in hook shape with spines on its surface.

Description. MALE: *Head:* rounded, patch of setae alveoli on vertex divided medially; eye bridge with three facet rows, interocular distance equal to the width of two ommatidia; interocular suture inverted V-shaped; antenna with scape cylindrical 1.5 times longer than wide (0.12 mm), pedicel semi spherical; flagellomeres fusiform, numbering fourteen, all with a distal neck; flagellomere 14 smaller than preceding ones, with digitiform apiculus; ascoids not distinguishable from setae. Palp segment 1 shorter than remaining ones, palp formula: 1.0:1.8:2.0:2.5. *Wing*: Measures of length and width of the wing: 2.4 mm and 1.05 mm respectively. Membrane with infuscate pattern as illustrated in figure 9. Base of veins R_{2+3} and M_{1+2} with dark spots; additional darker spot on the base of R_5 and R_4; R_5 ending at wing apex; Sc short, (0.2 mm).

Male terminalia: hypandrium reduced, only a post-hypandrial plate present, apex of the post-hypandrial plate rounded, square basally, widened apically; gonocoxite 1.6 times longer than wide, glabrous, twice longer than the gonostylus. Gonostylus bifurcate, with the medial ramus longer (0.16 mm), acuminate apically, lateral ramus shorter (0.1 mm), hooked apically; gonocoxal apodeme 0.3x the length of aedeagal apodeme, with anterior band sclerotized; aedeagal apodeme inconspicuous, oval shaped; aedeagus surrounded by a darker area, sclerotized, wide; cerci pyriform in dorsal view, of the same length as the gonopods, without apical tenacula, with a small button-shaped protuberance; tenacula distributed along the cerci, not confined to dark pad, with umbrella shaped tips; epandrium hardly visible on the slide.

Distribution: Argentina, Misiones Province.

***Alepia copelata* Quate**
Figs. 8–14

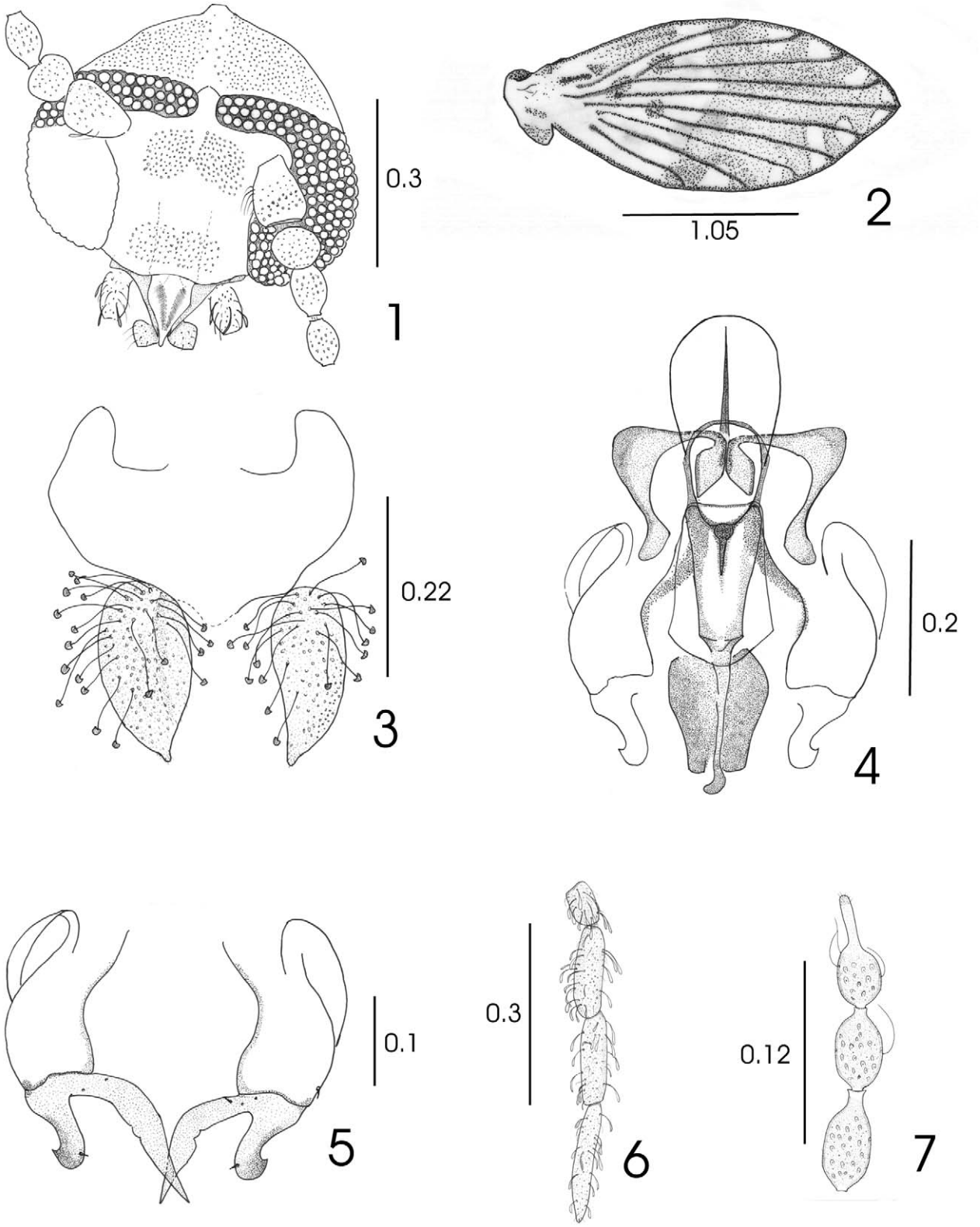
Alepia copelata Quate, 1999: 422–423, figs. 3E–F.

Type material. Argentina. Misiones province. Corpus. 27º7'51.03'' S; 55º30'26.46'' W, male, 29.VI.2005. CDC light trap. Leg. Stetson (MLP).

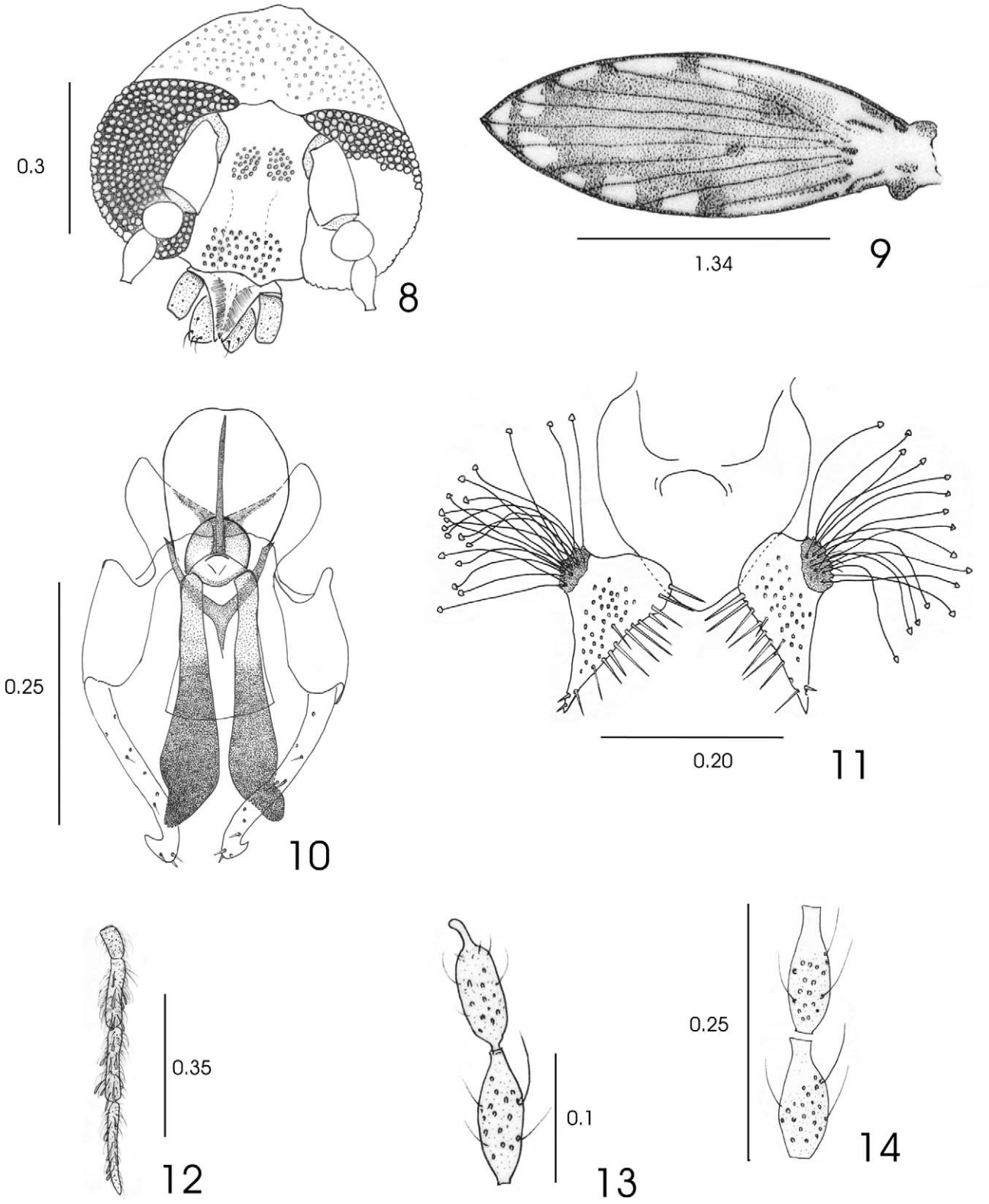
Diagnosis. Interocular distance equal to the width of 6 or 7 ommatidia. Aedeagus symmetrically bifurcate, branches of aedeagus narrow at base, widening at apex, with a small constriction subapically, terminating in a triangular lobe.

Description. MALE: *Head:* rounded. Eye bridge composed of 3 facet rows, interocular distance equal to the width of 6 or 7 ommatidia; medial margin of eye bridge angulate, but may be tapered to the width of only 1 facet on medial margin. Interocular suture arched. Patch of setae alveoli on vertex divided medially. Antenna: scape cylindrical, 0.5 times longer than wide (0.14 mm), pedicel spherical (0.07 mm), flagellum with 14 fusiform flagellomeres. Flagellomere 14 with apiculus, smaller compared to preceding flagellomeres. Ascoids not distinguishable from setae on the slide-mounted specimen. Palp segment 1 shorter than remaining segments, palpus formula = 1.0:2.1:2.4:2.9.

Wing: Measures of length and width: 2.32 mm and 0.85 mm respectively. Wing membrane infuscate with a pattern of lighter spots along the wing margin, with small bristles distributed evenly across the surface of the wing; base of veins R_{2+3} and M_{1+2} with small darker spots; also with darker spots at apices of all veins except R_5; R_5 ending at wing apex; Sc short (0.19 mm).



FIGURES 1–7. *Alepia claritae* Omad & Rossi, **sp. nov**., male. Figs. 1–7, holotype. 1. Head. 2. Wing with the infuscate pattern. 3-5. Male Terminalia, dorsal view. 3. Epandrium and cerci with the accessory tenáculas. 4. Aedeagal complex. 5. Gonocoxite and gonostylus. 6. Palpus. 7. Antenna: flagellomeres 12–14. All measures in mm.



FIGURES 8–14. *Alepia copelata* Quate, male. 8. Head. 9. Wing with infuscate pattern. 10–11. Male terminalia dorsal view. 10. Aedeagal complex. 11. Epandrium and cerci with accessory tenáculas. 12. Palpus. 13. Antenna: flagellomeres 13–14. 14. Antenna: flagelomeres 1–2. All measures in mm.

Male terminalia: Hypandrium reduced, only a post-hypandrial plate present, wider at the apex than at the base, rectangular; aedeagal apodeme ovoid; gonostylus two times longer than gonocoxite, sligthtly curved, hooked api-

cally; cerci triangular, narrow apically and wide basally, without apical tenacula, with two apical spines and large spines along the inner margin; cluster of accesory tenacula inserted in dark elliptical area near the base of cerci; tenacula with umbellate tips; aedeagus forked, 2.5 times longer than gonocoxite, wider at apex than at the base, sclerotized, dark. Both arms of the aedeagus are of similar shape, slender at the base and widening at the apex, with a slight constriction near the apex, ending in a triangular lobe. Epandrium hardly visible due to the position of the specimen on the slide-mounted. Hypoproct poorly visible, ending in a rounded shape.

Distribution: Panamá, Barro Colorado Island; Argentina, Misiones province.

List of non-phlebotomine Psychodidae recorded from Argentina

Subfamily Psychodinae:

Alepia claritae Omad & Rossi **sp. nov**.; Neotropical region
Alepia copelata Quate, 1999; Neotropical region
Australopericoma pallidula (Tonnoir, 1929); Andean region
Didicrum inornatum (Tonnoir, 1929); Andean region
Didicrum contiguum (Tonnoir, 1929); Andean region
Didicrum pyramidon Quate & Brown 2004; Andean region
Didicrum remulum Quate & Brown 2004; Andean region
Didicrum simplex (Tonnoir, 1929); Andean region
Desmioza edwardsi (Tonnoir, 1929); Andean region
Desmioza speciosa (Tonnoir, 1929); Andean region
Nemoneura confraga Quate &Brown 2004; Andean region
Nemoneura dealbata Tonnoir, 1929; Andean region
Maruina pilosella Quate & Wirth, 1951; Neotropical region
Maruina pebeta Ibañez-Bernal, 1994; Neotropical region
Psychoda pseudocompar Tonnoir, 1929; Andean region
Psychoda simillina Tonnoir, 1929; Andean region

Subfamily Bruchomyiinae:

Bruchomyia argentina Alexander, 1920; Neotropical region
Nemapalpus pallipes Shannon & Del Ponte, 1927; Neotropical region

Subfamily Trichomyiinae:

Trichomyia edwardsi Tonnoir, 1929; Andean region

Discussion

Alepia claritae **sp. nov.** and *Alepia copelata* are the first species *of Alepia* reported from Argentina. *Alepia claritae* differs from other described species of *Alepia* by having the aedeagus surrounded by a heavy sclerotized structure. The gonostyli are bifurcate with the medial ramus longer than the lateral ramus, and the latter with a pointed apex. This combination of characters is not present in any other species of the genus. Even though *A. distincta* (Bravo 2004) also has bifurcate gonostyli, the main difference is that in *A. distincta* the medial ramus is straight with a blunt apex while the lateral ramus is curved and comparatively longer than in *A. claritae.*

The cerci in *A. claritae* are similar to those of *A. distincta* Bravo 2004, *A. biapicalis* Bravo 2004, *A. clara* Bravo 2004 and *A. zavortinki* Wagner 2008. However, they differ from *A. distincta* by the presence of tenacula regularly distributed on the dorsal surface. The accessory tenacula in *A. clara* differ from those of *A. claritae*, by possessing along the cerci two types of tenacula, some with umbellate apices and others with clavate apices. *Alepia biapicalis* also differs from *A. claritae* by having all tenacula with clavate apices while *A. zavortinki* presents tenacula with pyriform apices.

A. copelata has been previously recorded only from the small island of Barro Colorado, Panama, Central America (Quate, 1999). The current record in the province of Misiones, Argentina, 5800 km to the south, without records in between and with clear differences of both geographical and environmental locations is very curious.

The province of Misiones has a subtropical climate and belongs to the Chaco subregion of the Neotropical region, while Barro Colorado has a tropical climate and belongs to the Caribbean subregion.

There are some discrepancies in the original description of *A. copelata* (Quate, 1999) and the re-description of Quate & Brown (2004): "Hair patch on frons separated", "surtylus with attenuate apex" (not mention of two apical tenaculas) in Quate (1999) and "frons hair patch undivided", "surtylus irregular in shape, apex with prolongation, with black subbasal area bearing accessory tenacula with two tenaculas" in Quate & Brown (2004). To clarify these doubts we requested photographs of type material housed in Los Angeles County Museum, (previously in the personal collection of Dr. L.W. Quate), and after reviewing these, we conclude that the correct description is that of Quate (1999), and the doubts about the identification of the specimen were dispelled.

The limited number of non-phlebotomine Psychodidae recorded from Argentina (6 species from the Neotropical Argentina including the two species is this study, and 13 from Patagonia) demonstrates the lack of specialists, proper fieldwork and collections of the group in Argentina. In this case, from a very limited sampling effort a new species is described and a new record is added to the checklist of Psychodidae known to occur in Argentina. Other new species of Psychodidae will probably be discovered with future sampling efforts. The studies of Tonnoir 1929, Shannon & del Ponte 1927, Ibañez Bernal 1994, Quate & Wirth 1951, Quate & Alexander 2000, Quate et al. 2000 and Quate & Brown 2004, have shown new species and new records for Argentina, but we believe that the non-phlebotomine psychodid fauna in the country is strongly underestimated and awaiting attention from specialists to improve our knowledge of this interesting group of flies.

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