



<http://dx.doi.org/10.11646/zootaxa.3795.2.4>

<http://zoobank.org/urn:lsid:zoobank.org:pub:04A6843F-D77F-4EDB-A8C4-881B5D010C3C>

An updated key to the species of *Fannia* Robineau-Desvoidy (Diptera: Fanniidae) of Southern South America, and the description of a new species from Mendoza, Argentina

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Abstract

The aim of this study is to describe *Fannia puxcu* **sp. n.**, a new species of the genus *Fannia* Robineau-Desvoidy (Diptera: Fanniidae) that was collected in the Villavicencio Provincial Reserve in Mendoza, Argentina, and to present an updated key to the 27 species of *Fannia* Robineau-Desvoidy (Diptera: Fanniidae) of Southern South America. The male of *F. puxcu* **sp. n.** is described, and illustrations provided as well as distributional records and a discussion of its possible phylogenetic affinities.

Key words: Fanniidae, key, Southern South America, new species

Introduction

The Fanniidae Schnabl is a small family of the Muscoidea (Diptera) with over 360 described species. Fanniids are found predominantly in temperate zones, with the majority of the species occurring in the Holarctic, although there is a considerable Neotropical element (Carvalho *et al.* 2003; Domínguez 2007; Grisales *et al.* 2012 a; b). However, the family has a worldwide distribution (Rozkošný *et al.* 1997).

The genus *Fannia* Robineau-Desvoidy (Diptera: Fanniidae) contains approximately 260 species, of which 66 occur in the Neotropical Region (Carvalho *et al.* 2003). Recently 27 new Neotropical species have been described, mainly from Argentina and Colombia (Domínguez 2007; Dominguez & Aballay 2008; Quiroga & Dominguez 2010; Grisales *et al.* 2012 a; Grisales *et al.* 2012 b; c).

The medical and hygienic importance of many species of *Fannia* such as *Fannia canicularis* (Linnaeus), *F. femoralis* (Stein), *F. incisurata* (Zetterstedt), *F. pusio* (Wiedemann), *F. scalaris* (Fabricius) are well known, as well as the importance of the family in forensic investigations (Smith 1986). Although less abundant than the dominant families of Diptera such as Calliphoridae and Sarcophagidae that are usually used to indicate the PMI (Post Mortem Interval), many species of Fanniidae are prevalent in decomposing carcasses [see Aballay *et al.* (2012) for a summary], although only a few studies (Matuszewski *et al.* 2010; Matuszewski *et al.* 2011; Aballay *et al.* 2012) have examined their usefulness in forensic research, i.e. their usefulness as PMI indicators.

A few species of *Fannia* are known as secretophagous because they attack cattle in pastures as well as perspiring people in summer, this is the case for *Fannia armata* (Meigen) in Europe (Rozkošný *et al.* 1997), *Fannia benjamini* Malloch from California, USA (Chillcott 1961), *Fannia fusconotata* Rondani from Mendoza, Argentina, *Fannia coxata* Shannon & Del Ponte widely distributed in Argentina (Domínguez 2007) and for *Fannia puxcu* **sp. n.** described here.

The male of *Fannia puxcu* **sp. n.** keys to couplet 8 in the key to males in the most recent keys for southern south American *Fannia* (Domínguez 2007), which is modified here to include *F. puxcu* **sp. n.** as well as two other recently described species of *Fannia* from Argentina found in forensic experiments (Domínguez & Aballay 2008; Quiroga & Domínguez 2010).

The aim of this study is to present an updated key to the species of *Fannia* of Southern South America, and to

describe a new species belonging to the genus *Fannia*, to provide illustrations of genitalic structures, and details of its distribution.

Material and methods

The specimens of *Fannia puxcu* **sp. n.** were captured in the Villavicencio Provincial Reserve, located at 45 km NW from Mendoza city (32°31'15.5"S, 69°00'28.9"W). This reserve is located next to the Precordillera or Andean foothills, a north-south directed mountain ridge of 450 km length that begins at 28° S and ends in Mendoza at 33°S. The precordillera runs parallel to the Andes from which it is separated by the Uspallata-Callingasta-Iglesia valley. Biogeographically, the Precordillera is predominantly Puna, Monte and Prepuna (Roig & Martínez Carretero 1998). These biogeographical provinces are mostly separated by their altitudinal range, and the region in which *Fannia puxcu* **sp. n.** was collected is Monte, with an altitude of 1680 m.

The specimens were collected using a malaise trap that was left at the collecting site from 04-09.XII.2004; 08-10.II.2005; 26-29.XII.2005; and 13-17.II.2006. The material is deposited at IADIZA collection (IADIZA, CCT Conicet Mendoza, Argentina).

Measurements are expressed as follows: *body length*: anterior margin of head (frons), excluding antennae, to apex of abdomen; *frons width*: narrowest distance between eye margins; *vitta width*: measured at uppermost pair of frontal setae; *frontal setae length*: relative to length of flagellum, *parafacial width*: relative to width of flagellum at its base; *shape of flagellum*: length/width; *palpi shape*: basal width relative to apical width; *shape of fore-femur*: length/width; *length of ventral pubescence of mid tibia*: relative to tibial width; *shape of hind femur*: length/width.

The following abbreviations are used in the descriptions: Head: *fr*: frontal seta; *poel*: postocular seta; *orb*: orbital seta. Thorax: *acr*: rows of acrostichal setulae; *acr s*: acrostichal seta; *dc*: dorsocentral seta; *ial*: intra-alar seta; *npl*: notopeura; *prepm*: proepimeral seta; *pra*: prealar seta; *pprn*: postpronotal seta; *spal*: supraalar seta. Legs: *C*: coxa; *F*: femur; *T*: tibia; *a*: anterior seta; *ad*: anterodorsal seta; *av*: anteroventral seta; *d*: dorsal seta; *p*: posterior seta; *pv*: posteroventral seta; *pd*: posterodorsal seta; *v*: ventral seta; *ad*: anterodorsal seta.

Morphological terminology mainly follows McAlpine (1981) with the exception of the following genitalic terms: pregonite and postgonite (paramere and gonopod of McAlpine).

For genitalic examination, the abdomen was removed from a dry specimen and heated in 10% (OH) K for 10-15 minutes. The abdomen was then transferred to acetic acid, and then to glycerine. The postabdominal structures were separated from the rest of the abdomen. Examination and illustration of genitalic structures were done using compound microscope equipped with a drawing tube. After examination, the genitalia and the rest of the abdomen were placed in glycerine in a plastic microvial and pinned directly under the specimen.

Illustrations were done using a stereomicroscope. Scales are indicated in each drawing, except when scales were absent in the original illustration.

Description

Fannia puxcu **sp. n.**

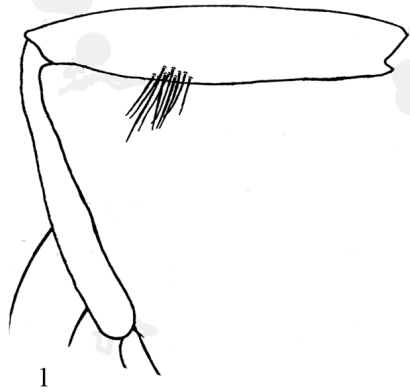
(Figs. 2–5)

Etymology. The species name “puxcu”, which means “sister” in the indigenous huarpe language (specifically in the *allentiac* dialect), is a reference to the morphological similarity of this species with *F. fusconotata* and also to *F. puxcu* and *F. fusconotata*'s overlapping geographic distribution.

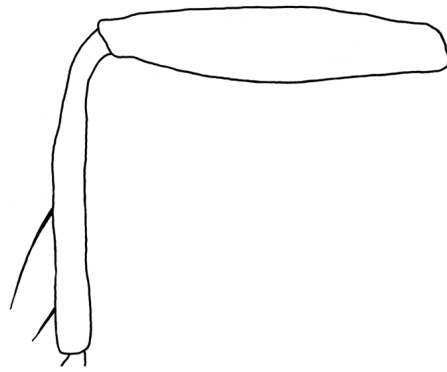
Type material examined. Holotype male, Argentina: Mendoza: Las Heras, Reserva Villavicencio (32°31'15,5”S; 69°0'28, 9”W); 1680 m. Paratypes: 9 males, same data as holotype. IADIZA.

Distribution. The species is only known from the type-locality.

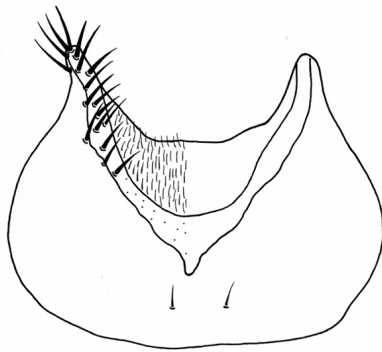
Diagnosis: Small yellow and grey species very similar to *F. fusconotata* and *F. benjamini*. Frontal vitta at narrowest point reduced to a thin line. Eyes bare. Parafacial bare. Antennae light brown. Palpi brownish yellow. Thorax grey-brown, thin brown vittae visible in full length of *acr* and between *dc* and *ia*, but not present at base of scutellum. Two strong *pra* near *spal*. T2 constricted in basal half. F3 lacking preapical posteroventral protuberance. T3 lacking medial row of *ad*. Wings clear. Halteres yellowish-white. Abdomen heart-shaped, grey-brown in ground colour, heavily yellow pruinose on laterals of tergites 2–4.



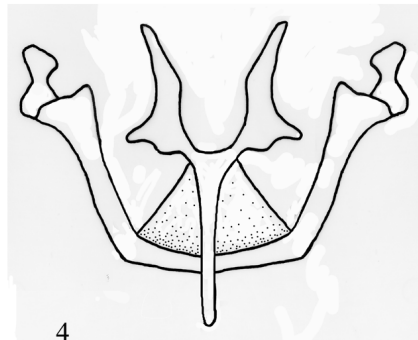
1



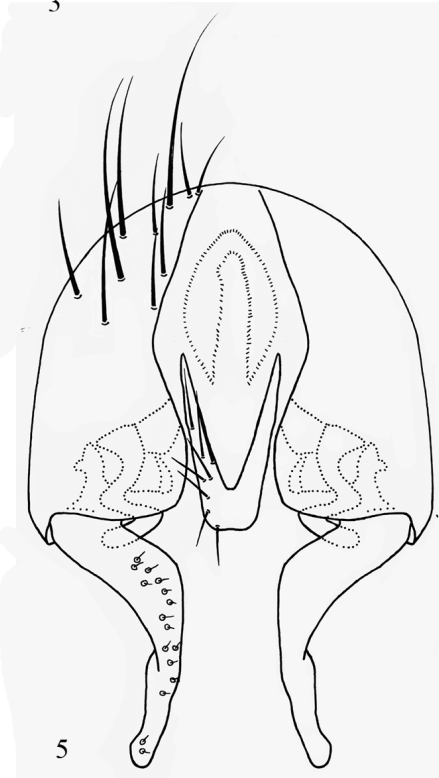
2



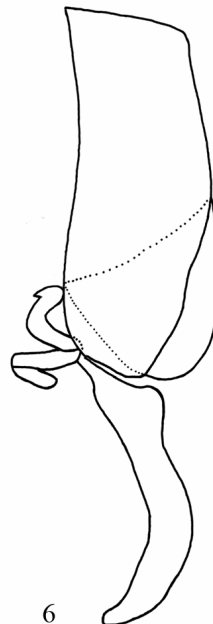
3



4

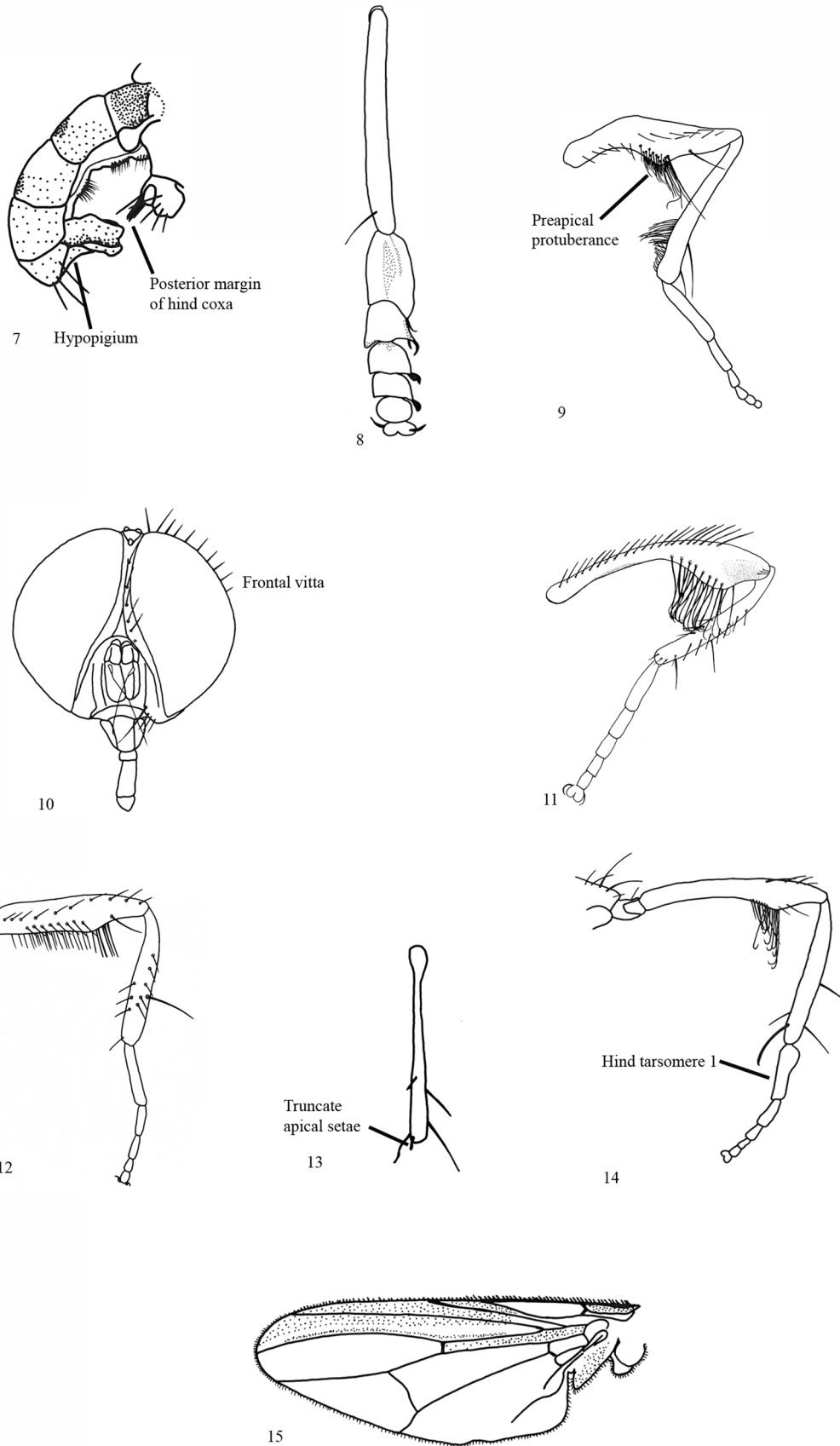


5



6

FIGURES 1–5. 1. *Fannia fusconotata* Rondani: male hind leg, posterior. 2–5. *Fannia puxcu* sp. n.: male hind leg, posterior (2); male sternite 5, ventral (3); male hypandrium (4) male genitalia external structures, ventral (5); male genitalia external structures, lateral (6).



FIGURES 7–16. *F. coxata* Shannon & Del ponte: male hind coxa and abdomen, lateral (7); *F. schmusei* Stein: male fore tarsi, dorsal (8); male hind leg, anterior (9). *F. fusconotata* (Rondani): male head, anterior (10); *F. yunguensis* Quiroga & Domínguez: male hind leg, anterior (11); *F. sanihue* Domínguez & Aballay: male hind leg anterior (12); *F. roigi* Domínguez: male mid tibia, posterior (13); male hind leg, anterior (14); *F. hermani* Domínguez; wing (15).

Male: body length 3.1–3.4 mm

Head. Frontal vitta black to silvery, at narrowest point reduced to a thin line. Fronto-orbital plate heavily silvery grey pruinose, at uppermost pair of *fr* 2x width of anterior ocellus. Six to seven *fr*, slightly shorter than flagellum. Eyes bare, antero-internal facets 2x diameter of remaining; *pocl* of uniform length as opposed to having a long followed by a short seta. Face and parafacial silvery grey; parafacial at base of flagellum 0.6x width of same and bare. Facial carina dark grey. Genae grey. Scape light brown, pedicel and flagellum brownish yellow; flagellum short and broad 1.2 to 1.7x as long as broad, heavily silvery grey pruinose. Arista light brown at base, and short pubescent. Palpi brownish yellow, slightly spatulated, the apex 2x width of base. Lower oral margin, slightly concave and grooveless.

Thorax: Scutum grey, thin brown vittae visible in full length of *acr* and between *dc* and *ia*, but not present at base of scutellum; pleura grey; 3+3 *acr*, 1 pair of prescutellar *acrs*; 2+3 *dc*; *pprn* lacking setulae; 2 strong *pra* near *spal*; prealar area bare; 2 *prepm*, lacking surrounding setulae.

Legs: Coxae brown, trochanters yellow, femora brown; tibiae completely yellow, tarsi dark-brown to black. F1 normal (length/width = 5); 1 row of *pd* as long as femoral width; 2 rows of *p* as long as femoral width; 1 row of *pv* short in apical fourth but 4 to 6 longer *pv* at apex. T1 with 1 subapical *pd*; 1 apical *v* and *pv*; 1 submedial and 1 apical *ad*. Fore tarsomere 1 0.3x length of fore tibia, tarsomeres 4 and 5 as wide as long. F2 with 1 row of weak *ad*; 2 rows of short *a*, one in full length and other in medial 1/3; with 1 row of *av* sparse at base, denser and shorter at apex; 2 rows of *pv*, upper row as long as femoral width and lower short at base, longer at apex; 1 row of *p* longer and ventrally directed at apex. T2 constricted in basal half. Ventral pubescence sparse, as long as 0.5x femoral width; 1 submedial and 3 apical *a*; 1 subapical *ad*; 1 strong apical *av-v*; 1 submedial and 1 apical *pd*; 1 apical *pv* and *p*. C3 bare at apex of posterior margin. F3 normal (length/width = 5.5), lacking preapical posteroventral protuberance; 1 row of *ad* longer and ventrally directed towards apex; 1 row of long and hair-like *av*, and 2 preapical *av* longer than femoral width; with a row of very short setulose *pv* (Fig. 2). T3 with 1 submedial and 1 subapical *d*; 1 submedial and 1 apical *ad*, lacking medial row; 2 to 3 medial and 1 apical short *av*; apex of ventral and posteroventral surface with a weak ctenidium.

Wings: Clear. Lower calypter oval, upper rounded, both white. Knob of halteres yellowish-white, light brown at base.

Abdomen: Heart-shaped, tergite 2 over 2x width of tergite 4. Grey-brown in ground colour, heavily yellow pruinose on laterals of tergites 2–4. Hypopygium not protruding.

Postabdomen: Posterior margin of sternite 5 profoundly indented and covered with setae (Fig. 3). Hypandrial arms directed outwards and expanded at apex; postgonites inconspicuous; aedeagus membranous (Fig. 4). Epandrium slightly broadened at posterior margin; cercal plate fused, slightly bilobed at base; bacilliform process cork-screw shaped; surstily long and simple, marginal respect to epandrium (Figs. 5, 6).

Female (unknown).

Key to the species of *Fannia* of Southern South America (Argentina & Chile)

Males

(Male of *F. pusilla* is unknown)

- | | | |
|---|---|-------------------------------|
| 1 | Hind coxa bare at apex of posterior surface | 2 |
| - | Hind coxa setulose at apex of posterior surface (Fig. 7). | 10 |
| 2 | Antennae and palpi brown, dark grey or black, never yellow. Ground colour of body black to steely blue, with dark brown pruinosity or dark grey with light blue pruinosity. Fore-tarsomeres partially or totally white flattened and expanded (Fig. 8). Mid tarsomere 1 with a basal ventral crest, followed by a short strong seta | 3 |
| - | Antennae and palpi yellow. Ground colour of body grey fore tarsomeres or yellow, never flattened and expanded. Mid tarsomere 1 lacking basal ventral crest | 8 |
| 3 | Fore tarsomere 1 and 2 completely white, except for a black spot on fore tarsomere 1 at base, remaining tarsomeres black. Basal ventral crest and setae of mid tarsomere 1 short, shorter than width of tarsomere. Lacking ventral protuberance on F3, only with a preapical tuft of short and thin <i>pv</i> | <i>F. anthracina</i> (Walker) |
| - | Fore tarsomeres 1 to 4 mostly or completely white or yellowish-white. Basal ventral crest and setae of mid tarsomere 1 longer than or as long as width of tarsomere. F3 with a medial or preapical ventral protuberance bearing dense tufts of <i>v</i> or <i>pv</i> (Fig. 9) | 4 |

4	Eyes densely setulose; <i>pra</i> short and stout. All fore tarsomeres flattened and expanded, completely yellowish-white. Ventral protuberance of F3 in medial position. T3 preapically flattened and expanded, with numerous curled and flat <i>av</i> , and short, thin and dense preapical <i>pv</i> and <i>p</i> (Fig. 9)	<i>F. schmusi</i> Stein
-	Eyes bare or weakly haired. <i>pra</i> longer and thin. Only some fore tarsomeres expanded and flattened, yellowish-white. Ventral protuberance of F3 situated in apical third. T3 without modifications in shape, with 2 to 3 <i>av</i> , lacking <i>pv</i>	5
5	Calypteres white or yellow in outer margin	6
-	Calypteres brown in outer margin	7
6	Frons at narrowest point 2x width of anterior ocellus. Fore tarsomere 1 expanded at apex and lacking leaf-like spine, tarsomeres 2 to 5 completely expanded and flattened. T2 with 2 <i>ad</i> and 2 <i>pd</i> . T3 with 2 to 3 <i>ad</i> . Scutum and abdomen dark, with a little thin even pale dust	<i>F. bigoti</i> (Stein)
-	Frons at narrowest point less than 2x width of anterior ocellus. Fore tarsomeres weakly flattened and expanded, fore tarsomere 1 with a broad leaf-like spine at tip of posterior surface. T2 with 1 <i>ad</i> and 1 <i>pd</i> . T3 with 1 <i>ad</i> . Scutum with four light-grey dusted vittae and a broad prescutellar patch, abdomen wholly light grey dusted except for some triangulated markings on all tergites	<i>F. albitarsis</i> Stein
7	T1 completely dark, 2x length of fore tarsomere 1; fore tarsi long and thin. T2 more or less straight, twice as long as mid tarsomere 1, with a long apical <i>v</i> . Hind femur with several strong <i>av</i> alongside tubercle	<i>F. setosa</i> (Bigot)
-	T1 yellow at tip, 4x length of fore tarsomere 1, the tarsomeres rather short and compressed. T2 bent at basal third, 4x length of mid tarsomere 1, with 1 short apical <i>v</i> . F3 with 1 to 2 <i>av</i> alongside protuberance.	<i>F. confusa</i> Pont & Carvalho
8	Frontal vitta at narrowest point 1.5x width of anterior ocellus. Parafacial completely covered with short setae. Scutum lacking brown vittae. 1 <i>pra</i> dorsad <i>spal</i> , 0.33 length of same. Sternite 1 with numerous long setae. Cercal plate bearing very long and conspicuous setae, visible in ventral view	<i>F. flavicornis</i> Stein
-	Frontal vitta very narrow, reduced to a line (Fig. 10). Parafacial bare. Scutum with brown vittae. 2 <i>pra</i> near <i>spal</i> . Sternite 1 with few setae. Setae of cercal plate not visible in ventral view.	9
9	Hind femur with a very weak preapical protuberance on posteroventral surface, with a conspicuous tuft of setae that are slightly longer than femoral width (Fig. 1)	<i>F. fusconotata</i> (Rondani)
-	Hind femur lacking preapical protuberance on posteroventral surface and its associated tuft of setae (Fig. 2).	<i>F. puxcu</i> sp. n.
10	T3 with 1 row of <i>pv</i> . Light grey in ground colour and light blue dusted	11
-	Lacking row of <i>pv</i> on T3. With other colouring.	12
11	C2 with 2 strong hooked setae laterad, and 1 strong vaguely hooked apical seta. T2 with a strong triangulated anteroventral crest on apical half. T3 with 3 to 4 <i>pv</i> in medial third.	<i>F. scalaris</i> (Fabricius)
-	C2 lacking hooked setae. T2 without crest on apical half. T3 with 4 to 6 <i>pv</i> in medial third.	<i>F. incisurata</i> (Zetterstedt)
12	Abdomen trimaculated	13
-	Abdomen with different colour pattern.	17
13	Parafacial with setae	14
-	Parafacial bare.	16
14	F3 lacking preapical posteroventral protuberance	<i>F. femoralis</i> (Stein)
-	F3 with preapical posteroventral protuberance.	15
15	F3 not dorsoventrally flattened and with a weak preapical posteroventral protuberance, T3 with numerous long and hair-like rows of <i>v</i>	<i>F. pusio</i> (Wiedemann)
-	F3 dorsoventrally flattened and with a very strong preapical posteroventral protuberance (Fig. 11), T3 lacking numerous long and hair like rows of <i>v</i>	<i>F. yunguensis</i> Quiroga & Domínguez
16	Eyes scarcely pilose. Two strong <i>pra</i> , near <i>spal</i> . T3 with a preapical protuberance only visible on posterior surface; 1 short row and a short hair-like subapical tuft of <i>pv</i>	<i>F. punctiventris</i> Malloch
-	Eyes bare. Two <i>pra</i> , one very thin and short near the <i>spal</i> and the other stouter and longer, near the transverse suture. T3 lacking preapical protuberance, and bare on posteroventral surface.	<i>F. flavipalpis</i> Stein
17	Wing clear, abdomen yellow on lateral margins of tergites 1–3	19
-	Wing smoky. Abdomen yellow on lateral margins of tergites or not	18
18	Abdomen completely black, with darker markings on central longitudinal line and apex of tergites. T3 with two <i>d</i> : one submedial and one apical	25
-	Abdomen yellow on lateral margins of tergites. T3 only with 1 dorsal seta (the submedial), lacking subapical (Fig. 12)	<i>F. sanihue</i> Dominguez & Aballay
19	Upper <i>orb</i> present	<i>F. canicularis</i> (Linnaeus)
-	Upper <i>orb</i> absent.	20
20	Parafacial with strong setae throughout. Thorax lacking vittae	<i>F. petrocchiae</i> Shannon & Del Ponte
-	Parafacial lacking strong setae. Thorax with vittae	21
21	C3 with 4 to 5 long and stout setae at apex of posterior surface. Hypopygium protruding (Fig. 7)	<i>F. coxata</i> Shannon & Del Ponte
-	Apex of posterior surface of C3 lacking such setae. Hypopygium not protruding.	22
22	T2 with 1 truncate apical <i>pd</i> (Fig. 13). Hind tarsomere 1 expanded and flattened (Fig. 14)	<i>F. roigi</i> Domínguez
-	T2 never with truncate apical <i>pd</i> . Hind tarsomere 1 normal in shape.	23
23	Scutum brown, lacking vittae along <i>acr</i> and <i>de</i> lines.	<i>F. tumidifemur</i> Stein
-	Scutum brown with grey vittae along <i>acr</i> and <i>de</i> lines.	24
24	F2 with 2 rows of <i>pv</i> hooked at base, forming a dense ctenidium of 4 to 5 rows in apical fourth	<i>F. tucumanensis</i> Albuquerque

- F2 with 2 rows of hooked *pv*, lacking apical ctenidium *F. heydenii* (Wiedemann)
- 25 Body length 5 to 7 mm. Wings smoky, dark in upper half of the space between R1 and R 2+3 (Fig. 15). Halteres black. F3 with 1 row of very short *pv*, not visible in anterior view. 26
- Body length 3 to 4 mm. Wings smoky, clear in upper half of the space between R1 and R 2+3. F3 with 1 row of long and hair-like *pv*, visible in anterior view *F. losgateados* Domínguez.
- 26 F3 with two complete rows of *av*, one long and the other short and hair-like. Surstylus with a lobate process bearing very short setulae in basal region. *F. hermani* Domínguez
- F3 with a single row of *av*. Surstylus lacking lobate processes at base *F. hirtifemur* (Stein)

Females

(Females of *F. bigoti*, *F. puxcu* **sp. n.**, *F. roigi*, *F. setosa*, *F. tucumanensis* and *F. tumidifemur* unknown)

- 1 C3 bare at apex of posterior margin 2
- C3 setulose at apex of posterior margin 7
- 2 Ground colour dark brown with metallic blue reflections, never yellow in first abdominal tergites 3
- Ground colour grey, abdominal tergites 1–3 laterally yellow 6
- 3 Calypter dark brown in outer margin 4
- Calypter white, yellow or yellowish brown in outer margin. 5
- 4 Several rows of *po*. Scutum weakly pruinose, confined to *pprn* and post-alar calli. Abdomen thinly bluish dusted. Halter black *F. schnusei* Stein and *F. pusilla* (Bigot)
- One row of *po*. Scutum with 4 to 5 grey vittae. Abdomen heavily pruinose. Halter brown. *F. albitarsis* Stein
- 5 T1 yellow at apex, black in remaining. T2 with 2 *ad* and 2 *pd*. T3 with the *ad* at the same level as or very slightly basad of the submedian *d*. *F. confusa* Pont & Carvalho
- T1 completely black. T2 with 1 *ad* and 1 *pd*. T3 with the *ad* well apicad of the submedian *d*, by at least tibial diameter *F. anthracina* (Walker)
- 6 (2) Parafacial bare. *F. fusconotata* (Rondani)
- Parafacial setulose. *F. flavicornis* Stein
- 7 (1) T3 with 1 row of *pv*. Three spermathecae. **scalaris group**
- Lacking row of *pv* on T3. Two spermathecae, if three, then one reduced 8
- 8 Wing smoky. 9
- Wing never smoky. 10
- 9 Two spermathecae normal in size, third reduced **obscurinervis group**
- Two spermathecae. *F. sanihue* Domínguez & Aballay
- 10 Abdomen grey in ground colour with lateral yellow markings in tergites 1–3. 11
- Abdomen with different pattern 12
- 11 Parafacial setulose. *F. petrocchia* Shannon & Del Ponte
- Parafacial bare. **heydenii group** (including *F. coxata* Shannon & Del Ponte and *F. flavipalpis* Stein)
- 12 Abdomen with tergite 2 completely yellow *F. canicularis* (Linnaeus)
- Abdomen with tergite 2 never completely yellow 13
- 13 Abdomen entirely black 14
- Abdomen trimaculated 15
- 14 Frons grey pruinose, abdomen light bluish-grey at posterior margin of 1–3 abdominal tergites *F. losgateados* Domínguez
- Frons shining black, abdomen lacking bluish-grey markings at posterior margin of 1–3 abdominal tergites. *F. yunguensis* Quiroga & Domínguez
- 15 Fron silvery pruinose, pruinosity clearly heavier near eye, disappearing near frontal vitta, where it is reddish-brown *F. pusio* (Wiedemann)
- Fron silvery pruinose. 16
- 16 Thorax grey with brown vittae *F. punctiventris* (Malloch)
- Thorax black, lacking vittae. *F. femoralis* (Stein)

Discussion

Although the *Fannia benjamini*-complex as defined by Chillcott (1961) was not recovered as a monophyletic unit in Domínguez and Roig-Juñent's (2008) phylogenetic analysis of Fanniidae, the species *F. benjamini*, *F. fusconotata* were grouped along with *F. punctiventris* and two European species. *Fannia puxcu* **sp. n.** is morphologically very similar to *F. fusconotata* and *F. benjamini* and also shows the same secretophagous habits documented for the latter two (Chillcott 1961; Domínguez 2007), but can be separated from the remaining species of *Fannia* known in Argentina by its small size in combination with the yellow colouring of the legs and the first abdominal segments and the absence of the preapical protuberance on the posteroventral surface of the hind femur, as well as the tuft of setae that usually accompanies this structure (Figs. 1, 2).

The male genitalia is similar to that of *F. fusconotata* and *F. benjamini*, which is not uncommon among the species of some species-groups of *Fannia*, such as the *Fannia heydenii* group.

Acknowledgement

We thank CONICET for PIP nro. 11220080101869 “La región austral del Chaco, su evolución histórica a través de reconstrucciones de los patrones biogeográficos y evolutivos de los componentes de su artropodofauna”. And the authors are grateful to S. A. Roig-Juñent for reading this manuscript and suggestions and comments.

References

- Aballay, F.H., Domínguez, M.C. & Fernández Campón, F. (2012) Adult Fanniidae associated to pig carcasses during the winter season in a semiarid environment: examination of their potential as complementary PMI indicators. *Forensic Science International*, 219, 284.e1–284.e4.
<http://dx.doi.org/10.1016/j.forsciint.2011.11.019>
- Brunett, H.S., Parmelee, W.E., Lee, R.D. & Wagner, E.D. (1957) Observations on the life cycle of *Tbelazia californiensis* Price, 1930. *Journal of Parasitology*, 43 (4), 433.
- Carvalho, C.J.B., Pont, A.C., Couri, M.S. & Pamplona, D. (2003) A Catalogue of the Fanniidae (Diptera) of the Neotropical Region. *Zootaxa*, 219, 1–32.
- Chillcott, J.G. (1961) A revision of the Nearctic species of Fanniinae (Diptera: Muscidae). *Canadian Entomologist*, Supplement 14, 92, 1–295.
- Domínguez, M.C. (2007) A Taxonomic Revision of the Southern South American species of the genus *Fannia* Robineau-Desvoidy (Diptera: Fanniidae). *Papéis Avulsos de Zoologia*, 47, 289–347.
<http://dx.doi.org/10.1590/s0031-10492007002400001>
- Domínguez, M.C. & Aballay, F.H. (2008) A new species of the genus *Fannia* Robineau-Desvoidy (Diptera: Fanniidae) collected on pig carrion in Mendoza, Argentina. *Annales Zoologici (Wars.)*, 58, 819–824.
<http://dx.doi.org/10.3161/000345408x396747>
- Domínguez, M.C. & Roig-Juñent, S.A. (2008) A phylogeny the family Fanniidae Schnabl (Insecta: Diptera: Calypttratae) based on adult morphological characters, with special reference to the Austral species of the genus *Fannia*. *Invertebrate Systematics*, 22, 563–587.
<http://dx.doi.org/10.1071/is08003>
- Grisales, D., Domínguez, M.C. & Carvalho, C.J.B. (2012a) Revision of Central American species of *Euryomma* Stein (Diptera, Fanniidae), with description of two new species and updates of distributional records. *Revista Brasileira de Entomologia*, 56 (4), 451–457.
<http://dx.doi.org/10.1590/s0085-56262012000400008>
- Grisales, D.G., Wolff, M. & Carvalho, C.J.B. (2012b) Neotropical Fanniidae (Insecta, Diptera): new species of *Fannia* from Colombia. *Zootaxa*, 3591, 1–46.
- Grisales, D., Wolff, M. & Carvalho, C.J.B. (2012c) Neotropical Fanniidae (Insecta: Diptera): new species of *Euryomma* Stein from Colombia. *Journal of Natural History*, 46 (13–14), 803–829.
<http://dx.doi.org/10.1080/00222933.2011.651644>
- Matuszewski, S., Bajerlein, D., Konwerski, S. & Szpila, K. (2010) Insect succession and carrion decomposition in selected forests of Central Europe. Part 2. Composition and residency patterns of carrion fauna. *Forensic Science International*, 195, 42–51.
<http://dx.doi.org/10.1016/j.forsciint.2009.11.007>
- Matuszewski, S., Bajerlein, D., Konwerski, S. & Szpila, K. (2011) Insect succession and carrion decomposition in selected forests of Central Europe. Part 3. Succession of carrion fauna. *Forensic Science International*, 207, 150–163.
<http://dx.doi.org/10.1016/j.forsciint.2010.09.022>
- Mazza, S. & Oribe, H.R. (1939) Miasis urinaria por *Fannia fusconata* Rondani, en Formosa. In: Investigaciones sobre Dipteros Argentinos. *I Miasis. Publicaciones Misión de Estudios de Patología Regional Argentina* (Jujuy), 41, 66–69.
- McAlpine, J.F. (1981) Morphology and terminology – adults. In: McAlpine, J.F., Peterson, B.V., Shewell, G.E., Teskey, H.J., Vockeroth, J.R. & Wood, D.M. (Eds.), *Manual of Nearctic Diptera. Vol. 1. Monograph 27*. Research Branch Agriculture Canada, Ottawa, pp. 9–63.
- Oliva, A. (1997) Insectos de interés forense de Buenos Aires (Argentina). Primera lista ilustrada y datos bionómicos. *Revista del Museo de Ciencias Naturales, Bernardino Rivadavia*, 7, 13–59.
- Quiroga, N.I. & Domínguez, M.C. (2010) A new species of the genus *Fannia* Robineau-Desvoidy (Diptera: Fanniidae) belonging to the *canicularis* species group, collected on pig carrion in the Yungas of the province of Jujuy, Argentina. *Studies on Neotropical Fauna and Environment*, 45, 95–100.

<http://dx.doi.org/10.1080/01650521.2010.497994>

Roig, F.A. & Martínez Carretero, E. (1998) La vegetación puneña en la provincia de Mendoza, Argentina. *Phytoecoenologia*, 28 (4), 565–608.

<http://dx.doi.org/10.1127/phyto/28/1998/565>

Rozkošný, R., Gregor, F. & Pont, A.C. (1997) The European Fanniidae (Diptera). *Acta Scientiarum Naturalium Academiae Bohemicae Brno*, 31, 1–80.

Smith, K.G.V. (1986) *A Manual of Forensic Entomology*. British Museum (Natural History), London, 195 pp.