



Description of a new species of *Macronychia* Rondani (Diptera: Sarcophagidae: Miltogramminae), with a key to the New World species of the genus

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The Miltogramminae of the Neotropical Region are low in species diversity, with no endemic genera (Pape 1996). However, the actual number of Neotropical species in this subfamily is expected to be higher according to the few comprehensive taxonomic revisions (e.g., Pape 1987a, 1989).

The genus *Macronychia* Rondani contains about 20 species in the world, of which four occur in the Neotropical Region: *M. aurifrons* Hall, *M. auromaculata* (Townsend), *M. lopesi* Verves and *M. ornata* (Townsend) (Verves & Richet 2009). Recently, *Macronychia* was divided into three subgenera, according to the morphology of male and female genitalia: in males of *Macronychia* s. str., the apical parts of the cerci are broad in dorsal view and close together, the epiphallus is elongate, the basiphallus is long and curved and the postgonite is s-shaped, whereas in females the ovipositor is modified to form an elongate, spine-like piercer; males of *Moschusa* Robineau-Desvoidy possess distinctly separate cercal prongs, an elongate epiphallus and the postgonite is hook-shaped, and females have a short and non-piercing ovipositor; in males of *Thomaspapeia* Verves & Khrokalo (a subgenus with a single species in the Oriental Region), the cerci are very broad and apically truncated, the epiphallus is not developed and the postgonite is slightly s-shaped (Verves 1983; Verves & Khrokalo 2006).

Species of *Macronychia* are either kleptoparasites, with larvae usually developing in stem and stalk nests of sphecid and eumenid wasps, rarely in terrestrial nests of sphecids, bumblebees, and solitary bees (Verves & Khrokalo 2006), or are parasitoids, having been reared from adult tabanids (Thompson 1978). The adults seem to be associated with mesophytic and humid bushlands and meadows, often in mountainous areas (Verves & Richet 2009).

The aim of this work is to provide the description of a new species recently discovered in the Patagonian temperate forest of Neuquén Province, Argentina. This finding constitutes the first record of the subgenus *Moschusa* Robineau-Desvoidy in southern Argentina, and the southernmost record for the genus in the world (the previous southernmost locality was Ñuble in Central Chile, for *M. auromaculata*). A key to the New World species of *Macronychia* is provided. The terminalia of the male holotype of the new species were extracted and cleared in 90% lactic acid at ambient temperature for 10 days and then mounted on a concave slide for study. The terminology used for the external morphology is that of McAlpine (1981). The terminology used for genital structures of the male largely follows Pape (1987b) and Sinclair (2000). Distance measurements between two points were digitally obtained with a Nikon DS-L1 camera control unit. Illustrations were produced from photographs taken with a Nikon DS-6M digital camera mounted on a Nikon SMZ 800 stereomicroscope. The specimens are pinned and deposited in the collection of Administración Nacional de Laboratorios e Institutos de Salud (ANLIS) “Dr. Carlos G. Malbrán, Buenos Aires, Argentina.

Macronychia (*Moschusa*) *trafulensis* sp. nov.

(Figs 1–10)

Description. Male. Body length: 8.14 mm (paratype). **Head:** Length at antennal base 1.16–1.20x (measured on two specimens), length at vibrissal level (Fig. 1). Parafacial width at level of antennal base 0.56–0.55 eye height, covered with golden microtomentum, with 3–4 irregular rows of setulae; fronto-orbital plate with silvery microtomentum on the anterior half, black on posterior half, with long and short black setulae; postcranium with gray microtomentum and black setulae; eye height 0.64–0.67x head height (measured on two specimens), eye bare; frontal vitta brownish black (Figs 1–2); frons at its narrowest point 0.37x (measured on two specimens) head width, 8–9 frontal setae; two proclinate orbital setae, one (weak) reclinate orbital seta; inner vertical seta strong, outer vertical seta weak (less than 0.5x the inner

vertical) and laterocline, similar in size to the postocular setae; ocellar triangle black, with silvery microtomentum, with one pair of long divergent and procline ocellar setae and supplementary short setulae; postocellar and paraverticilar setae present (weak); postocular setae black and in one row; vibrissal distance 1.32–1.45x (measured on two specimens) length of first flagellomere; genal groove brown with silvery microtomentum, genal dilation with golden microtomentum; postgena with silvery microtomentum and black setae, gena with black setae; face black with silvery microtomentum; facial ridge brown, bare and with silvery microtomentum, with 2–3 supravibrissal setae; 9–10 subvibrissal setae; antenna brown, first flagellomere short (length 0.14–0.17x head height), as long as pedicel (Fig. 2), and black with silvery microtomentum; arista pubescent and dilated on basal third; palpus black with black setae on apical half. **Thorax:** Black, with silvery microtomentum (Figs 3–4); prescutum, scutum, and scutellum with dorsal stripes of silvery microtomentum; scutum with thin lateral stripes of silvery microtomentum (Fig. 3); postpronotal lobe, notopleuron, katepisternum, anepimeron and anepisternum with spots of silvery microtomentum (Fig. 4); proepisternum silvery-gray, bare. Chaetotaxy: acrostichals 3–4+2 (near the scutellum), dorsocentrals 3+3, intra-alars 1+2–3, supra-alars 1+2, anterior postpronotals 0, basal postpronotals 3, postalar 2; notopleurals 2, three strong proepisternal setae plus 2 or 3 supplementary setae, one strong proepimeral seta plus 5–7 supplementary setae, 3 katepisternals, the median one somewhat smaller and inserted near the anterior one, postalar wall bare; scutellum with two pairs of lateral, one pair of discal, and one pair of strong and crossed apical setae. Wing hyaline, tegula dark-brown, basicosta and basal part of costa whitish, veins brown, vein R_1 bare, R_{4+5} setulose above and below at base, costal spine not differentiated, third costal section without ventral setulae, cell r_{4+5} open at wing margin, upper and lower calypteres whitish. Legs predominantly black; coxae, femora, and tibiae with silvery gray microtomentum; trochanters reddish-brown with thin gray microtomentum, fore tibia with 3–4 anterodorsal setae and 3 posterodorsal setae, mid femur without posteroventral ctenidium on its apical portion, with 3–4 anteroventral and posteroventral setae on basal part; mid tibia with 4 anterodorsal setae (distal pair stronger than basal pair), 2 posterodorsal setae, and one ventral seta; hind femur with rows of anterodorsal, anteroventral, and posteroventral setae; hind tibia with one anteroventral seta, rows of 4–5 anterodorsal setae, and 3 posterodorsal setae. **Abdomen:** Black; syntergite 1+2–T4 each with two dorsal spots of silvery-gray microtomentum (occupying the anterior part of tergites) and lateral spots of silvery microtomentum (Figs 3–4); T5 with golden microtomentum and a longitudinal, narrow, median black stripe (Figs 3–4); syntergite 1+2–T3 without median marginal setae; syntergite 1+2–T3 each with 2–3 lateral marginal setae; T4 and T5 each with a complete row of strong marginal setae; ST1–4 exposed, with silvery microtomentum and long black hair-like setae; ST5 has a shallow v-shaped indentation on posterior margin with stronger setae laterally (Fig. 5). **Terminalia:** T6 and sytergosternite 7+8 entirely covered with golden microtomentum, both having a marginal row of setae and some smaller black hair-like setae; epandrium and cerci black, with black hair-like setae; surstylus somewhat shorter than cercus, broad at midlength and with a rounded apex (Figs 6–7); cerci with cercal base 1.65x cercal prong length (Fig. 6); apical part of cerci distinctly separated and narrow in dorsal view (Fig. 6); cerci slightly curved forward in profile (Fig. 7); pregonite short and pointed (Fig. 8), postgonite hook-shaped with a small subapical seta on anterior margin (Fig. 9); phallus with ventral and dorsal plates well developed, distiphallus with a distinct ventral swelling, with numerous denticles (Fig. 10), epiphallus well developed as is usual in the subgenus.

Female: Unknown.

Distribution: Neotropical – Argentina: (Neuquén: Villa Traful).

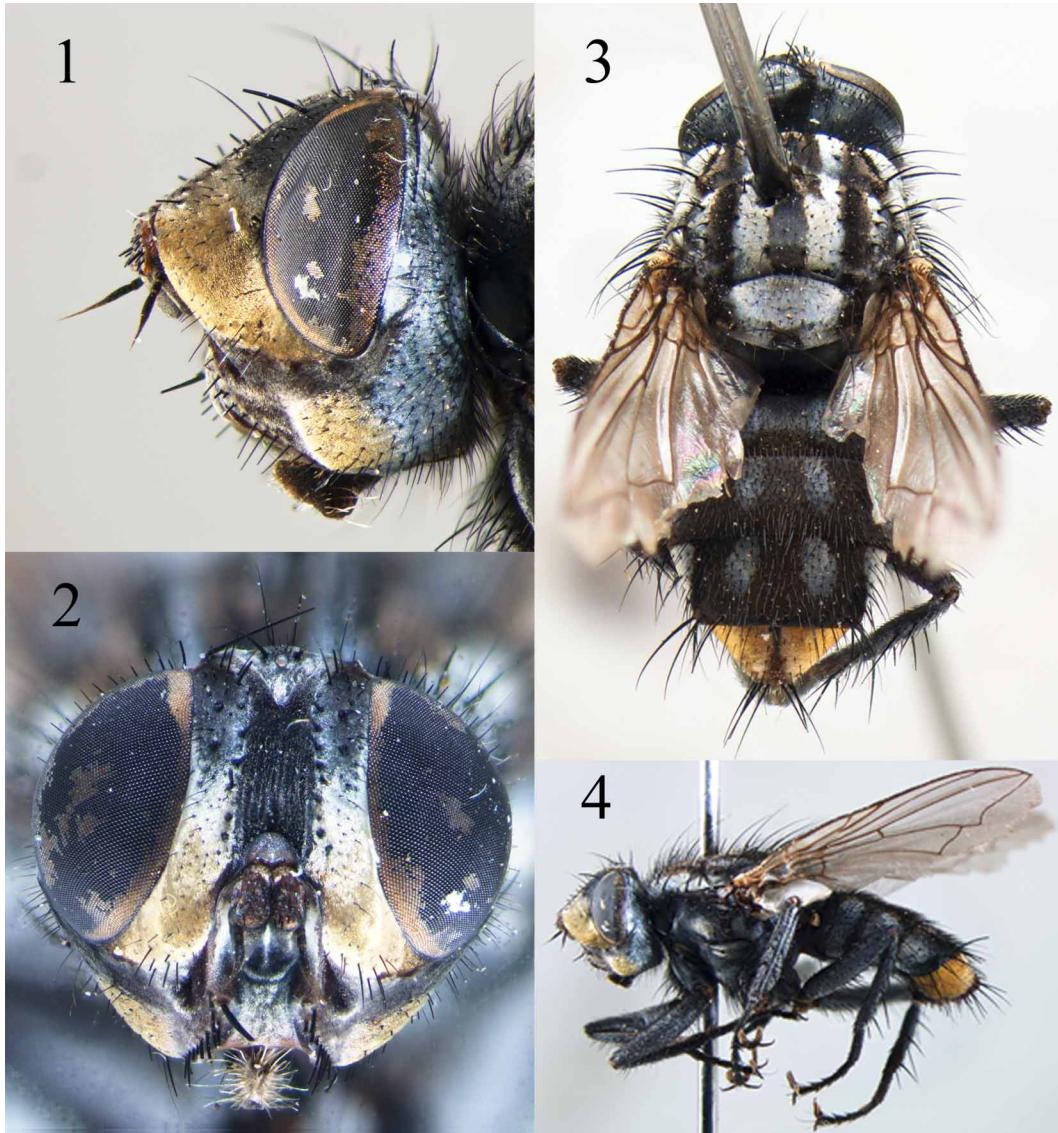
Holotype. Male, 3467 / Diptera / Argentina: Neuquén: Villa Traful, sobre / *Baccharis* sp., leg. Mariano Devoto & / Juan Pablo Torretta 17/12/2002 (ANLIS).

Paratype. Male, 3481 / Diptera / Argentina: Neuquén: Villa Traful, sobre / *Phacelia* sp., leg. Mariano Devoto & / Juan Pablo Torretta 17/12/2002 (ANLIS).

Remarks. *Macronychia trafulensis* agrees with the general groundplan of male terminalia in the subgenus *Moschusa* and is very similar to the Neotropical *M. (Moschusa) auromaculata*. It runs to *M. auromaculata* in the existing keys (Verves 1983; Verves & Khrokalo 2006). However, males of *Macronychia trafulensis* can be easily differentiated from those of *M. auromaculata* by the golden genal dilation; a vibrissal distance exceeding the length of the first flagellomere; postpronotal lobe, notopleuron, katepisternum, anepimeron and anepisternum with spots of silvery-gray microtomentum; and syntergite 1+2–T4 without spots of golden microtomentum. *Macronychia trafulensis* is also similar to the Nearctic *M. (Moschusa) confundens* but it can be easily separated by the possession of a golden genal dilation, first flagellomere shorter (as long as pedicel in the new species, whereas in *M. confundens* the first flagellomere is two times as long as pedicel); and vibrissal distance larger than the length of first flagellomere.

Biology. Unknown. The holotype and paratype were collected while visiting flowers of Asteraceae (*Baccharis* sp.) and Boraginaceae (*Phacelia* sp.).

Etymology. Named after its type locality Villa Traful, Argentina.



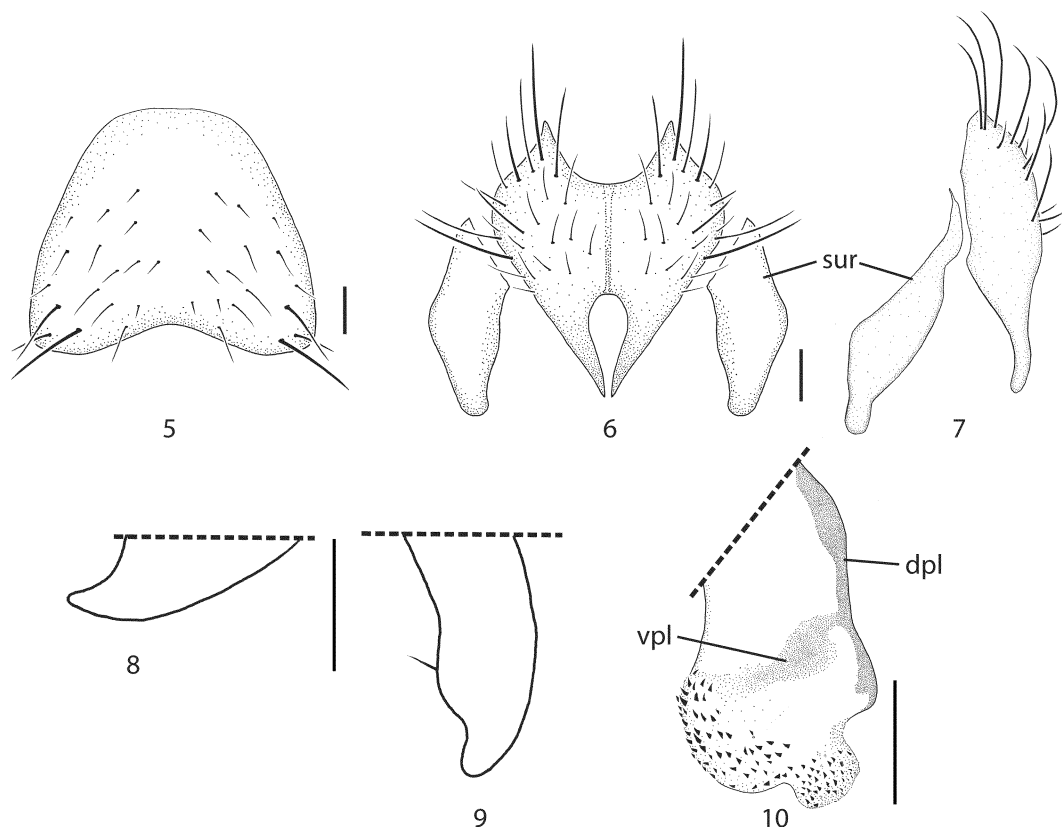
FIGURES 1–4. *Macronychia (Moschusa) trafulensis* sp. nov. **1.** Male head, left lateral view. **2.** Male head, frontal view. **3.** Male habitus, posterodorsal view. **4.** Male habitus, left lateral view.

Key to males of New World *Macronychia*

[Modified from Verves (1983) and Verves and Khrokalo (2006).]

- 1 Postgonite s-shaped. Apical part of cerci close together, not distinctly narrow in dorsal view (subgenus *Macronychia*) 2
- Postgonite hook-shaped (Fig. 9). Apical part of cerci distinctly separated and narrow in dorsal view (subgenus *Moschusa*) (Fig. 6) 5
- 2 Abdominal T5, T6 and syntergosternite 7+8 with golden microtomentum *M. (s. str.) aurata* (Coquillett) [Nearctic only: Canada, USA]
- Abdominal T5, T6 and syntergosternite 7+8 with gray microtomentum 3
- 3 Basicosta brown to black, palpi light yellow *M. (s. str.) ornata* (Townsend) [Brazil (Mato Grosso, Rio de Janeiro, São Paulo)]
- Basicosta yellow, palpi black 4
- 4 Pleura with spots of golden microtomentum *M. (s. str.) aurifrons* Hall [Argentina (Misiones)]
- Pleura with spots of gray microtomentum *M. (s. str.) lopesi* Verves [Brazil (Rio de Janeiro)]
- 5 Abdominal syntergite 1+2 with strong median marginal setae *M. (Moschusa) utahensis* (Smith) [Nearctic only: Canada, USA]

- Abdominal syntergite 1+2 without strong median marginal setae or with very fine setae..... 6
- 6 Genal dilation with golden microtomentum *M. (Moschusa) trafulensis* **sp. nov.** [Argentina (Neuquén)]
- Genal dilation with gray microtomentum 7
- 7 Parafacial with light golden spot of microtomentum.....
.....*M. (Moschusa) auromaculata* (Townsend) [Chile (Arica Ñuble, Tarapacá); Ecuador; Perú]
- Parafacial entirely covered with yellowish golden microtomentum
..... *M. (Moschusa) confundens* (Townsend) [Nearctic only: Canada, USA]



FIGURES 5–10. *Macronychia (Moschusa) trafulensis* **sp. nov.**: male genitalia. **5.** Abdominal ST5, ventral view. **6.** Cerci and surstyli, posterior view. **7.** Cercus and surstylus, left lateral view. **8.** Pregonite, left lateral view. **9.** Postgonite, left lateral view. **10.** Phallus, left lateral view. Abbreviations: dpl, dorsal plate; sur, surstylus; vpl, ventral plate. Scale bars 0.1 mm.

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