Journal *of* Melittology
Bee Biology, Ecology, Evolution, & Systematics *The latest buzz in bee biology*
No. 59, pp. 1–12 4 March 2016

First report of *Monoeca* in Argentina, with description of two new species (Hymenoptera: Apidae)

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Abstract. Two new species of the oil-collecting bee genus *Monoeca* Lepeletier & Audinet-Serville (Apidae: Tapinotaspidini) are described and figured from females and males captured in northeastern Argentina. The two new species here described, ***Monoeca armata*** Torretta & Roig-Alsina, new species, and ***M. puchella*** Torretta & Roig-Alsina, new species, are easily distinguished from each other by the color of the integument, the wings, and the pilosity. Their relationships to already described species of the genus are discussed. *Monoeca* were the only genus of Tapinostaspidini not known to occur in Argentina. The flower records and the study of the pollen scopal loads corroborate the association of these oil-collecting bees with plants of the family Malpighiaceae.

INTRODUCTION

All species of the tribe Tapinotaspidini are oil-collecting bees associated with different families and genera of plants with oil-rewarding flowers (Roig-Alsina, 1997). These bees have specialized structures to exploit this reward, and these structures vary in different groups in form and localization: forelegs, middle legs, or metasoma (Vogel, 1974; Neff & Simpson, 1981; Roig-Alsina, 1997; Cocucci *et al*., 2000). This tribe is exclusively Neotropical, with higher diversity in Brazil and Argentina. In Argentina it is represented by species of the genera *Arhysoceble* Moure, *Caenonomada* Ashmead, *Chalepogenus* Holmberg, *Lanthanomelissa* Holmberg, *Paratetrapedia* Moure, *Tapinotaspis* Holmberg, and *Tapinotaspoides* Moure.

The genus *Monoeca* Lepeletier & Audinet-Serville, with a dozen recognized species (Aguiar, 2007, 2012), occurs from San Luis Potosí and Jalisco in México to southern Brazil (Michener, 2007), and has never been cited for Argentina. The species of this

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doi: http://dx.doi.org/10.17161/jom.v0i59.5031

ISSN 2325-4467

genus collect oil from flowers of diverse species of Malpighiaceae (Gottsberger, 1986; Cunha & Blochtein, 2003; Sigrist & Sazima, 2004; Rozen *et al*., 2006; Rocha-Filho & Melo, 2011), and from some species of the tribe Oncidiinae of Orchidaceae (Cunha & Blochtein, 2003; Rocha-Filho & Melo, 2011). However, other floral resources can be gathered from other plant families as well as from Malpighiaceae. Females of *Monoeca xanthopyga* Harter-Marques, Cunha, & Moure were observed collecting pollen of Malpighiaceae and Fabaceae (Cunha & Blochtein, 2003). The pollen masses in brood cells of *M. haemorrhoidalis* (Smith) consisted of pollen of *Niedenzuella acutifolia* (Cav.) W.R. Anderson, *Heteropterys intermedia* (A. Juss.) Griseb. (both Malpighiaceae), and *Styrax acuminatus* Pohl (Styracaceae). Moreover, females and males of this species visit flowers of different families for nectar (Rocha-Filho & Melo, 2011).

In this paper we record *Monoeca* for the first time in the provinces of Misiones and Corrientes in Argentina, and describe two new species. We studied the scopal pollen loads to analyze the taxonomic identity of the pollen used by females of these species of *Monoeca*.

MATERIAL AND METHODS

The material studied is deposited in the following institutions: Facultad de Agronomía, Universidad de Buenos Aires, Argentina (FAUBA); Museo Argentino de Ciencias Naturales, Buenos Aires, Argentina (MACN); Museo de La Plata, La Plata, Argentina (MLP); and Instituto y Fundación Miguel Lillo, Tucumán, Argentina (IFML). The following abbreviations are used in the descriptions: S1–S7, metasomal sterna 1–7, respectively; T1–T8, metasomal terga 1–8, respectively; DF, diameter of third flagellomere; and pd, puncture diameter, used to refer to the size of the intervals between punctures.

Scopal load analysis: Pollen in scopal hairs was mechanically extracted, placed in an Eppendorf vial, and disaggregated according to conventional techniques (Rust *et al*., 2004), but without acetolyzation. Later, under the microscope, we determined the taxonomic identity of the pollen grains. Of each sample at least 500 pollen grains were counted (Villanueva-Gutiérrez & Roubik, 2004). The identity of the grains was confirmed using reference preparations from the plant species where individuals of these bee species were observed.

SYSTEMATICS

Genus *Monoeca* Lepeletier & Audinet-Serville

Monoeca pulchella Torretta & Roig-Alsina, new species

ZooBank: urn:lsid:zoobank.org:act:D7D566C1-FA7C-4E50-A8EF-587A157D417D

(Figs. 1, 2, 9, 12, 13, 17, 18)

DIAGNOSIS: The female of *M. pulchella* runs to *M. campestris* Aguiar in the key to Brazilian species of *Monoeca* by Aguiar (2012), due to the bicolored integument, the extended yellowish brown vestiture, the size, and the polished, impunctate first tergum. The only two species of *Monoeca* not occurring in Brazil are the Mexican and Central American *M. mexicana* (Radoszkowsky) and *M. pyropyga* (Friese). From the former the new species can be separated by the pilosity of T2–T4 which is short and sparse in *M. mexicana* but forming conspicuos apical bands of long hairs in *M. pulchella*.

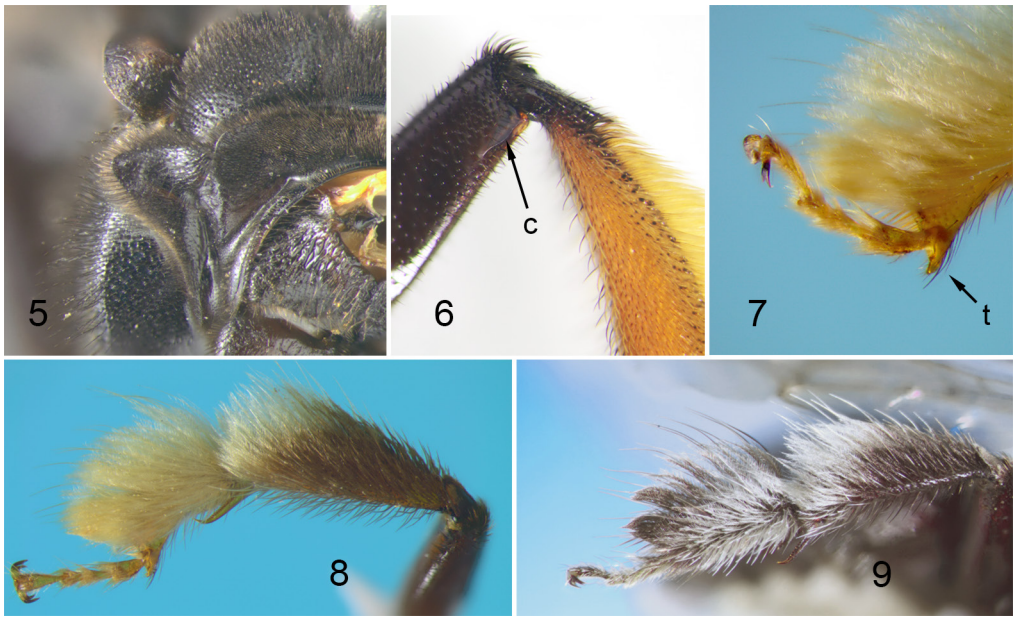
From *M. pyropyga* the new species differs by the lack of fulvous pilosity on T4–T6 and the labrum. The male seventh sternum and the genitalia readily separate *M. pulchella* from *M. campestris*. The S7 has the two apical points free for one third of the length of the disc of the sternum (Fig. 17), and their apices are stout and truncate, while in *M. campestris* the free apical points are 0.12x as long as the disc, and are pointed. The dorsal lobe of the gonocoxite is enormous, as long as the distance between its base to the base of the gonocoxite (Fig. 13), while in *M. campestris* the dorsal lobe is slenderer and smaller, approximately one third of the distance between its base to the base of the gonocoxite. Both species show consistent differences in the shape of the sterna and the genital capsule. According to Aguiar (2012), *M. campestris* is restricted to the Cerrado savannas, while *M. pulchella* occurs in the Paranaense forest of northeastern Argentina.

Description: Holotype ♂: Total body length: 8.0 mm; maximum head width: 2.1 mm; forewing length (including tegula): 7.2 mm. Integument dark brown (Fig. 1) except apical half of mandible and flagellum brownish orange. Legs brownish orange. Tegulae brownish orange, wing membrane brown, veins and stigma brownish orange. Spurs of fore and mid-tibiae brown, of hind tibia black. Terga mostly dark brown, T2–T4 with translucent apices, sterna brown. Labrum with plumose brown hairs. Clypeus with simple, long (2x DF) hairs on disc, lateral areas with decumbent, plumose, white hairs. Paraocular area and frons with erect, plumose, white hairs. Vertex with erect, plumose (1x DF), brownish hairs. Gena with adpressed, short, white hairs intermingled with plumose white and brown hairs. Pubescence of pronotum, scutum, scutellum, propodeum, and metanotum brown. Mesopleuron with long (2x DF), plumose, brown hairs. Legs with brown hairs, mixed with white hairs on tarsi of mid-legs, on apex of tibia, and on tarsi of hind legs (Fig. 9). T1 mostly glabrous, with few whitish hairs laterally and whitout marginal band of decumbent hairs. Disc of T2–T5 with short, decumbent whitish hairs; apical margin of T2–T5 with band (wider on center) of decumbent, long, whitish hairs, those on T2 shorter medially; on lateral areas with intermixed whitish and brown hairs. T6 and T7 at sides of pygidial plate with long brown hairs. S2–S5 with dense bands of plumose hairs intermixed with simple, longer hairs (Fig. 2). Punctures coarse and dense on disc of clypeus (1 pd) and on frons (0.3 pd). Apical band of clypeus impunctate, shiny. Supraclypeal area with scattered punctures medially. Paraocular area with very sparse, fine punctures (>4 pd). Scutum, scutellum, and mesopleuron with coarse and dense punctures (1 pd). Lateral surface of propodeum with sparse fine punctures, and metaposnotum shiny, with few punctures. T1 with anterior vertical surface with very sparse punctures (>5 pd). T2–T4 covered with dense (1.5–2 pd), fine punctures. T5 and T6 with punctures sparser and coarser than those of T2–T4. Head wider than long (1.00:0.81). Eye with inner orbits slightly sinuate and convergent below. Proportion of scape, pedicel, and first three flagellomeres 2.55:0.81:1.00:0.77:0.79. Labrum wider than long. Clypeus slightly protuberant (0.30x width of eye). Supraclypeal area elevated. Median sulcus (2.0x DF) present on upper frons, reaching median ocellus. Pronotal lobe rounded in frontal view. Dorsolateral angle of pronotum flattened but not carinate. Scutellum with weak longitudinal carina. Apex of hind basitarsus without apical tooth. S7, S8, and genitalia as in figures 12, 13, 17, and 18.

♀: Total body length: 9.0–10.1 mm; maximum head width: 3.1–3.5 mm; forewing length (including tegula): 7.4–8.6 mm (n=5). Integument bicolored. Head black except median mark in mandible, apical margin of clypeus, and flagellum orange. Mesosoma black except pronotal lobe, upper half of mesopleuron, metapleuron, and lateral part of propodeum yellowish brown (some paratypes with yellowish brown reduced to

Figures 1–4. Males of *Monoeca* Lepeletier & Audinet-Serville from Argentina. **1.** Dorsal view of mesosoma of *Monoeca pulchella*, new species, holotype. **2.** Ventral view of metasoma of *M. pulchella*, holotype. **3.** Dorsal view of mesosoma of *M. armata*, new species, paratype from Bernardo de Irigoyen, Misiones. **4.** Ventral view of metasoma of *M. armata*, same paratype as in figure 3.

pronotal lobe and hypoepimeral area, and upper part of metapleuron and anterior lateral part of propodeum dark brownish). Tegulae yellowish brown. Wing membrane yellowish brown, veins and stigma yellowish brown. Legs dark brown except orange dorsal surface of mid- and hind coxae (some paratypes with legs entirely dark, and other paratypes with legs almost entirely orange except dark tarsus and anterior surface of tibia of fore and mid-legs). Spurs of tibiae dark brown. Some paratypes with metasoma entirely dark brown, others with metasoma mostly black except orange anterior and lateral portions of T1, and lateral portions of S1, and two paratypes with orange extended to disc of T2. Vestiture mostly black on head. Labrum with decumbent,



Figures 5–9. Mesosomal and leg structures of species of *Monoeca* Lepeletier & Audinet-Serville from Argentina. **5.** Female mesosoma of *Monoeca armata*, new species, anterior view showing pointed pronotal lobe and carinate dorsolateral angle of pronotum. **6.** Female hind femur and tibia of *M. armata*, showing inner apical carina of femur (c). **7.** Male hind tarsus of *M. armata*, showing apical tooth-like projection (t) of basitarsus. **8.** Outer view of male hind tibia and tarsus of *M. armata*. **9.** Outer view of male hind tibia and tarsus of *M. pulchella*, new species.

plumose, black hairs (1x DF) intermixed with longer black unbranched hairs (1.5x DF). Clypeus with decumbent black hairs, mixed with sparse longer unbranched hairs (1x DF) and plumose whitish hairs in lateral areas. Paraocular areas and frons with numerous long (2.5–3x DF) white hairs intermixed with shorter (1–1.5x DF), plumose, black hairs; along inner margin of eye with row of thick hairs with short one-sided branches. Scape with very short (0.2x DF) black hairs. Vertex with erect (1–1.5x DF), plumose, black hairs. Gena with adpressed white hairs intermingled with long (1–1.5x DF) plumose, black hairs. Pubescence on pronotum, scutum, scutellum, metanotum, and propodeum abundant, plumose (1–1.5x DF), yellowish brown. Metapostnotum with scattered plumose orange hairs. Mesopleuron with plumose, yellowish brown hairs on upper two thirds, and with hooked, pale yellow, unbranched hairs on lateral lower third (1–1.5x DF) and ventral area (0.3–0.7x DF). Legs mostly with black hairs, but with some plumose white hairs on basal area of mid-basitarsus and white scopal hairs on apex of hind tibia and base of basitarsus. Coxae, trochanters, and basoventral area of femora with few hooked setae. T1 mostly glabrous, with few long plumose orange hairs on lateral portions and without marginal band of decumbent hairs. Basal half of T2–T4 with short, decumbent hairs and marginal band (wider on center) of decumbent, plumose, long, golden hairs; adpressed white hairs on lateral areas. T5 with decumbent and erect plumose black hairs, intermingled with simple, longer, black hairs. T6 with plumose black hairs (shorter than those on T5) surrounding pygidial plate. S2–S4 with long (1.5–2x DF), pale yellow, hooked setae. S5 with decumbent, white hairs and few shorter, pale, hooked setae, and marginal band of longer, plumose, white and black mixed hairs. S6 covered with adpressed short black hairs.

Sculpture similar to that of male. Head wider than long (1.00:0.75). Eye with inner orbit slightly sinuate and convergent below. Proportion of scape, pedicel, and first three flagellomeres 2.35:0.64:1.00:0.47:0.64. Labrum wider than long (1.00:0.62). Clypeus protuberant (0.38x width of eye). Supraclypeal area elevated, with weak longitudinal carina (2x DF) on interantennal area. Median sulcus (2x DF) on upper frons. Pronotal lobe rounded in frontal view. Scutellum with weak longitudinal carina. Apex of posterior surface of hind femur with longitudinal, strong, and short (1.5–2.0x DF) carina. T6 without wax-extruding area at base.

HOLOTYPE: ♂, ARGENTINA, Misiones, Puerto Bemberg, 7-XII-1933, col. K. Hayward (MACN).

PARATYPES: ARGENTINA: **Misiones:** 1♀, San Ignacio, Parque Provincial Teyú Cuaré, 5-XII-2012, col. J.P. Torretta (on flowers of *Heteropterys intermedia*) (MACN); 1♀, San Ignacio, 30-XI-2015, col. J.P. Torretta (on flowers of *Heteropterys intermedia*) (MLP); 5♀♀, Montecarlo, 29-XI-2014, col. J.P. Torretta, N. Gomiz & S.S. Aliscioni (on flowers of *Heteropterys intermedia*) (FAUBA, MACN, IFML). **Corrientes:** 2♀♀, Corrientes, Camping El 15, 15-XII-2015, col. A. Ávalos & J.P. Torretta (on flowers of *Heteropterys intermedia*) (FAUBA, MACN); 1♂, Corrientes, Camping El 15, 15-XII-2015, col. A. Ávalos & J.P. Torretta (on flowers of *Stachytarpheta cayennensis* (Rich.) Vahl) (FAUBA); 1♀, San Martín, Yapeyú, 3-XII-2012, col. J.P. Torretta (on flowers of *Heteropterys argyrophaea* A.Juss.) (MACN).

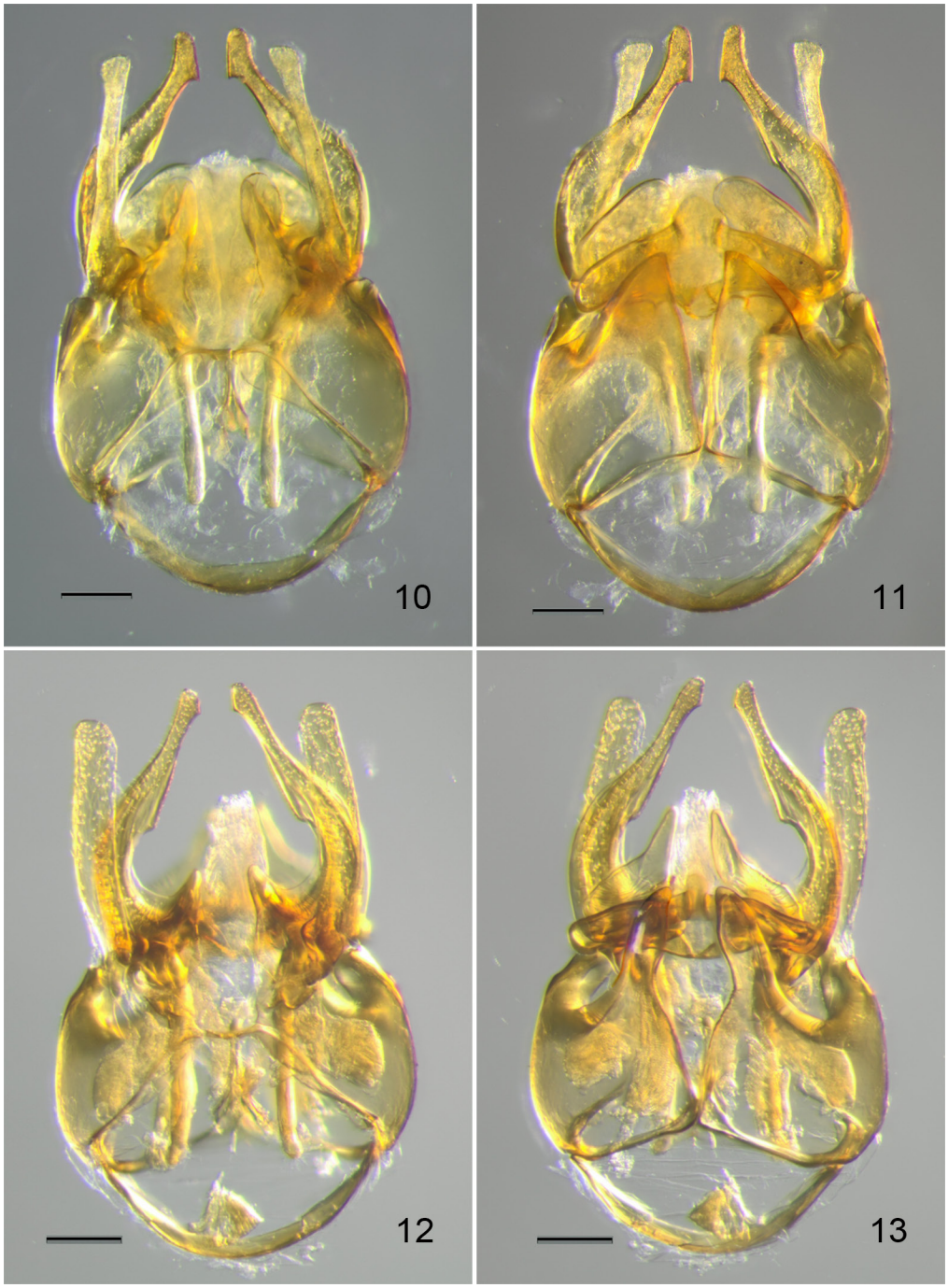
ETYMOLOGY: The specific epithet is derived from the Latin, and refers to the beauty of this species.

COMMENTS: This species is variable regarding the color of the integument. Some specimens have more extended orange coloration on the legs, the propodeum, and the first and second metasomal terga, while in others the orange color is restricted to T1.

SCOPAL POLLEN LOADS: In all females in which pollen scopal loads were analyzed (n=4), the loads contained 100% of pollen of the plant where each female was captured. A single female of *M. pulchella* had pollen of *H. argyrophaea* while all other specimens had pollen of *H. intermedia*.

Monoeca armata Torretta & Roig-Alsina, new species
ZooBank: urn:lsid:zoobank.org:act:F2146668-13AF-4FA1-88ED-B8F63E90DAEF
(Figs. 3–8, 10, 11, 14, 15, 16)

DIAGNOSIS: Both sexes of *M. armata* run to *M. lanei* (Moure) in the key to Brazilian species of *Monoeca* by Aguiar (2012), due to the dark coloration of the integument, the infumate wings, and the polished, sparsely punctate T2. Comparing the structures of male *M. armata* to those of *M. lanei* (Michener & Moure, 1957: their figures 43–45), the terminal sterna and genitalia are strikingly different. Since females of *M. lanei* are not known (Aguiar, 2012), some peculiar structures of *M. armata* such as the pointed pronotal lobe, the carinate dorsolateral angle of the pronotum, and the strong, short carina on the posterior surface of the hind femur, could not be compared. These features are not mentioned in the descriptions of any of the other known species of *Monoeca*. From the only two species of *Monoeca* not occurring in Brazil, the Mexican and Central American *M. mexicana* and *M. pyropyga*, this new species can be separated from the former by the pointed pronotal lobe and from the latter by the lack of fulvous pilosity. The sterna and genital capsule of *M. armata* are diagnostic for the species: the S7 has a median apical digitiform projection, which is keeled ventrally and is as long as half the length of the sternum (Figs. 14, 15); the S8 has two free apical points, which are as long



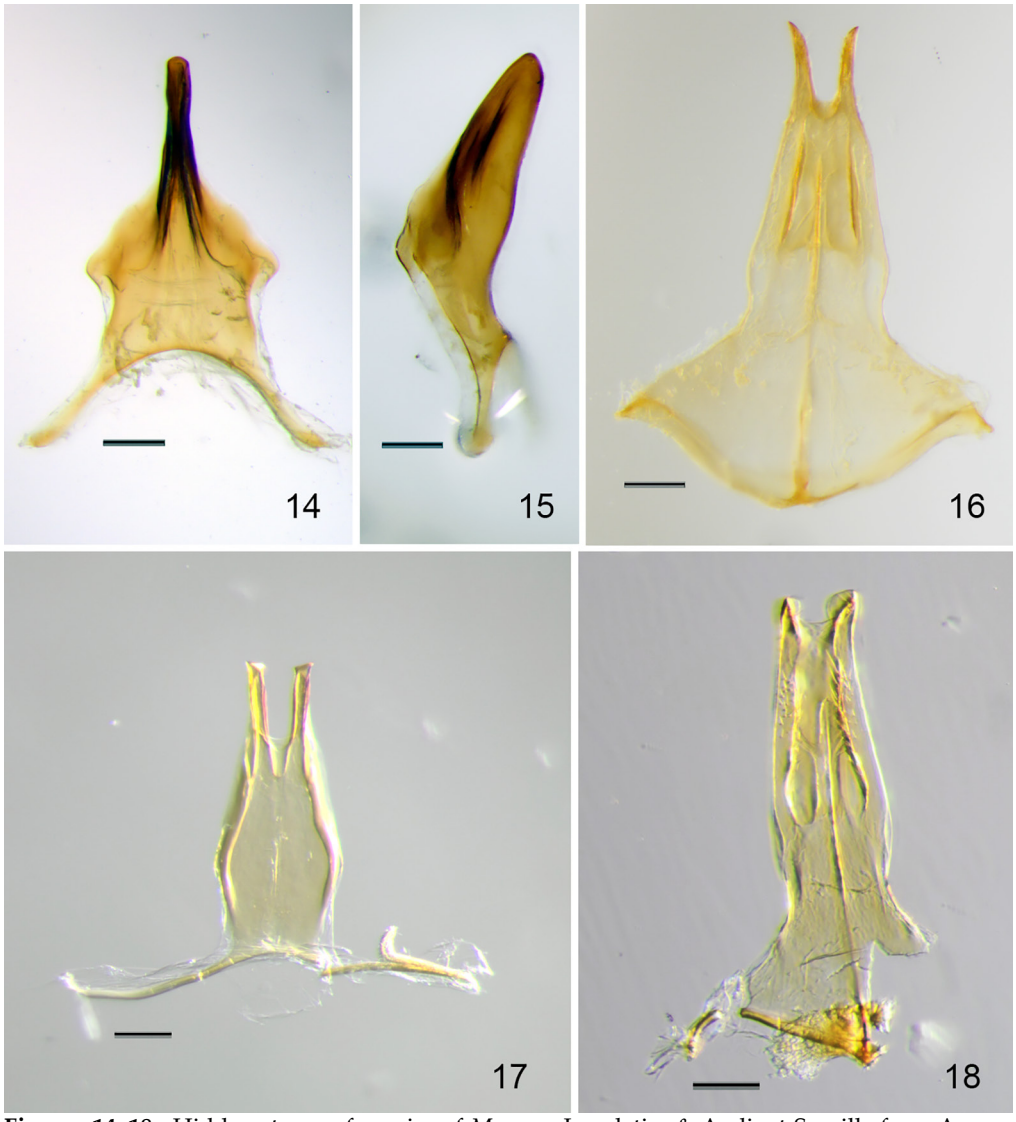
Figures 10–13. Male genitalia of species of *Monoeca* Lepeletier & Audinet-Serville from Argentina (scale bars = 0.2 mm). **10.** Ventral view, *Monoeca armata*, new species, holotype. **11.** Dorsal view, *M. armata*. **12.** Ventral view, *M. pulchella*, new species, holotype. **13.** Dorsal view, *M. pulchella*.

as one fifth of the disc of the sternum, and have acute apices (Fig. 16); the genital capsule is characterized by the broad dorsal branch of the penis valve and by the strong

dorsal lobe of the gonocoxite (Figs. 10, 11). The apically projected hind basitarsus of the male is a diagnostic feature of this species (Fig. 7).

DESCRIPTION: Holotype ♂: Total body length: 9.1 (range: 8.7–9.6) mm; maximum head width: 2.9 mm (range: 2.5–2.9); forewing length (including tegula): 8.3 mm (range: 7.7–8.6) (n=12). Integument mostly black (brown in some paratypes). Legs brown (brownish orange in some paratypes). Tegulae brown, wing membrane brown, veins and stigma brownish orange (Fig. 3). Spurs of fore and mid-tibiae brown, of hind tibia black. Metasomal sterna brown. Labrum with plumose, brown hairs. Clypeus with simple, long (2x DF) hairs on disc, lateral areas with decumbent, plumose, white hairs. Paraocular area and frons with erect, plumose, white hairs. Vertex with erect, plumose (1.5–2x DF), brownish hairs. Gena with adpressed, short, white hairs intermingled with long (2–3x DF), plumose, white hairs. Pubescence of pronotum, scutum, scutellum, propodeum, and metanotum dark brown. Mesopleuron with long, plumose (2–3x DF), brown hairs. Legs with brown hairs, mixed with yellowish hairs on middle tarsus, and on apex of tibia, and tarsus of hind legs (Fig. 8). T1 mostly glabrous, with few simple hairs on lateral portions. T2–T4 covered with decumbent, plumose (1.5–2.0x DF), black hairs. T5 and T6 with abundant, plumose hairs (2.5–3.5x DF), intermingled with few white hairs at sides. T7 with pygidial plate covered with adpressed short hairs. S2–S5 with dense bands of plumose, and long, simple hairs (Fig. 4). Clypeus with coarse, dense punctures, except smooth and shiny apical band and median longitudinal band. Supraclypeal area smooth and shiny. Paraocular area with sparse (4 pd), fine punctures; area surrounding ocelli smooth and shiny. Frons with coarse, dense punctures. Scutum, scutellum, and pleura with dense (1 dp) and coarse (smaller than on clypeus) punctures. Metanotum and propodeum with very sparse and weak punctures, metaposnotum smooth and shiny. T1 smooth and shiny, with few, very fine punctures on anterior vertical area. T2–T4 with dense, fine punctures, except median area glabrous and shiny. T5 and T6 with punctures sparser and coarser than on T2–T4. Head wider than long (1.00:0.78). Eye with inner orbits slightly sinuate and convergent below. Proportion of scape, pedicel, and first three flagellomeres 2.54:0.77:1.00:0.61:0.77. Labrum wider than long (1.00:0.60). Clypeus slightly protuberant (0.30x width of eye). Supraclypeal area elevated. Median sulcus (2x DF) present on upper frons. Pronotal lobe pointed in frontal view. Dorsolateral margin of pronotum shortly carinate (3x DF). Scutellum with weak longitudinal carina. Apex of hind basitarsus ending in strong tooth. S7, S8, and genitalia as in figures 10, 11, and 14–16).

♀: Total body length: 9.8–11.8 mm; maximum head width: 4.1–4.3 mm; forewing length (including tegula): 9.2–10.2 mm (n=5). Integument mostly black. Head black except for brown flagellum. Mesosoma and legs black except posterior surface of hind tibia and basitarsus brown. Tegulae dark brown, wing membrane dark infumate, veins and stigma dark brown. Spurs of tibiae brown. Metasoma black except T1–T4 with translucent brownish orange apical margins. Pubescence mostly black except as noted below. Labrum with numerous decumbent, plumose (1.5x DF) hairs. Lateral portions of clypeus with shorter (0.5–0.7x DF), plumose hairs and disc of clypeus with longer (1.5–3x DF), simple hairs. Paraocular area, frons, and vertex with short (0.4–0.5x DF), plumose hairs, those on vertex intermixed with longer (0.5–1x DF), simple hairs. Gena with decumbent white hairs, intermingled with scattered longer (0.5–2x DF) white (and black) simple hairs. Scutum and scutellum with very short (0.1–0.2x DF), plumose hairs intermingled with scattered longer (0.5–0.7x DF, a few up to 3x), simple hairs. Metanotum with very short (0.1–0.2x DF), plumose hairs, and longer



Figures 14–18. Hidden sterna of species of *Monoeca* Lepeletier & Audinet-Serville from Argentina (scale bars = 0.2 mm). **14.** Ventral view of S7 of *Monoeca armata*, new species, holotype. **15.** Lateral view of S7 of *M. armata*. **16.** Ventral view of S8 of *M. armata*. **17.** Ventral view of S7 of *M. pulchella*, new species, holotype. **18.** Ventral view of S8 of *M. pulchella*, with disc largely damaged.

hairs (0.3–0.4x DF) on lateral areas. Lateral areas of propodeum with plumose (0.5–1x DF) hairs. Mesopleuron with plumose (0.8–1.0x DF) hairs on upper third, and those on lower third with hooked setae (1.5–2x DF). Ventral areas of mesosoma with shorter (0.5–1x DF), dark brown, hooked setae. Coxae and trochanthers with dark brown, hooked setae. Foreleg with simple and plumose orange hairs on distal tarsomeres. Ventral area of mid-basitarsus with long (1.5–2x DF), orange hairs, mixed with black hairs, and plumose (and simple), shorter (0.3–1x DF), orange hairs on distal tarsomeres. Hind leg with scopal hairs on hind tibia and basitarsus pale yellow, abundant, long (4–7x DF, a few up to 10x) hairs, but basal area of tibia with hairs black, and in

some paratypes distal hairs of basitarsus also black; distal tarsomeres with orange hairs. T1 mostly glabrous, with few simple hairs on lateral portions. T2–T4 covered with decumbent, plumose (1.5–2x DF) hairs. T2 and T3 with glabrous median area. T5 with abundant, long (2.5–3.5x DF), plumose hairs intermingled with simple hairs, pale yellow laterally, or entirely black in some paratypes. T6 with plumose hairs surrounding pygidial plate. S2–S5 with abundant, orange, hooked setae. S5 covered with long (3–4x DF), plumose, orange hairs. S6 covered with adpressed, short, orange hairs. Sculpture similar to that of male. Head wider than long (1.00:0.80). Eye with inner orbit slightly sinuate and convergent below. Proportion of scape, pedicel, and first three flagellomeres 2.33:0.61:1.00:0.50:0.61. Labrum wider than long (1.00:0.60). Clypeus protuberant (0.50x width of eye). Supraclypeal area elevated (in some individuals with very weak longitudinal carina [1.5–2.0x DF] on interantennal area). Medial sulcus (2.0x DF) on upper frons. Pronotal lobe pointed in frontal view (Fig. 5). Dorsolateral angle of pronotum carinate (3.0x DF). Scutellum with weak longitudinal carina. Apex of posterior surface of hind femur with arcuate, strong, short (2.0–2.5x DF) carina (Fig. 6). T6 without wax-extruding area at base.

HOLOTYPE: ♂, ARGENTINA, Misiones, San Pedro, Reserva Esmeralda, 15-XII-2011, col. L. Alvarez (MACN).

PARATYPES: ARGENTINA: **Misiones:** 1♀, San Ignacio, Parque Provincial Teyú Cuaré, 5-XII-2012, col. H.J. Marrero (on flowers of *Heteropterys intermedia*) (FAUBA); 1♀, San Ignacio, 30-XI-2015, col. J.P. Torretta (on flowers of *Heteropterys intermedia*) (FAUBA); 1♀, Iguazú, Parque Nacional Iguazú, 6-XII-2012, col. J.P. Torretta (on flowers of *Mascagnia divaricata* (Kunth) Nied.) (FAUBA); 1♀, Iguazú, Parque Nacional Iguazú, 12-XII-2008, col. Zamudio, Colleselli & Gomez de Olivera (MLP); 1♂, San Pedro, Reserva Esmeralda, 14-XII-2011, col. L. Alvarez & D. Aquino (MLP); 4♀♀, Guaraní, El Soberbio, 19-XII-2013, col. J.P. Torretta (on flowers of *Heteropterys intermedia*) (MACN, FAUBA); 1♀, Montecarlo, 29-XI-2014, col. J.P. Torretta, N. Gomiz & S.S. Aliscioni (on flowers of *Heteropterys intermedia*) (MACN); 34♂♂, Bernardo de Irigoyen, 5-XII-1951, col. A. Willink & F. Monrós (IFML); 1♀, 1♂, Pto. Bemberg, no date, col. K. Hayward (MACN).

ETYMOLOGY: The specific epithet refers to the presence of a strong apical tooth on the hind basitarsus of the male.

SCOPAL POLLEN LOADS: In three females in which pollen scopal loads were analyzed the loads contained 100% of pollen of *H. intermedia*.

DISCUSSION

Herein we describe two new species of *Monoeca*, representing the first records of the genus in Argentina. *Monoeca* were the only genus of Tapinotaspidini not previously known to occur within this country. The two new species from Argentina are easily distinguished from each other by the color of the integument, the wings, and the pilosity. However, *M. pulchella* is similar to the Brazilian *M. campestris* and *M. armata* to the Brazilian *M. lanei*.

The new flower records and the study of the pollen scopal loads corroborate the association of these oil-collecting bees with plants of the family Malpighiaceae as oil and pollen sources, and as shown by previous authors (Gottsberger, 1986; Cunha & Blochtein, 2003; Sigrist & Sazima, 2004; Rozen *et al*., 2006; Rocha-Filho & Melo, 2011). Remarkably, most females (18 out of 20) of the two species of *Monoeca* were collected on the showy inflorescences of *H. intermedia*, a species widely spread in southeastern Brazil and in the province of Misiones in Argentina. Other species of Malpighiaceae

occur simpatrically with *H. intermedia*, including some other species of *Heteropterys* H.B.K., but we did not capture *Monoeca* on these floral species. One female of *M. pulchella* was captured on flowers of *H. argyrophaea* and one female of *M. armata* on *M. divaricata* at sites where *H. intermedia* was not observed (Torretta, pers. obs.). Since the pollen of congeneric potential floral hosts (*i.e.*, other species of *Heteropterys*) is similar, these species of *Monoeca* might use other floral species of this genus as plant hosts.

ACKNOWLEDGEMENTS

We thank Emilia Pérez (Instituto y Fundación Miguel Lillo) and Leopoldo Alvarez (Museo de La Plata) for the loan of specimens, two anonymous reviewers for their valuable comments, and the Administración de Parque Nacionales (Regional NEA) and Ministerio de Ecología y Recursos Naturales Renovables, province of Misiones, for permission to conduct part of this study in protected areas. Fieldwork was supported by PIP (11220110100312) and UBACyT (20020130200203BA) Argentina. Both authors are affiliated with CONICET.

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ISSN 2325-4467