

## Contribution to the knowledge of the Argentinean species of *Lepidura* Townes (Ichneumonidae: Mesochorinae), with description of the male of *L. patagonica* Araujo & Vivallo

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### Contribución al conocimiento de las especies argentinas del género *Lepidura* Townes (Ichneumonidae: Mesochorinae), con la descripción del macho de *L. patagonica* Araujo & Vivallo

**RESUMEN.** *Lepidura* Townes es un género con distribución andina de la subfamilia Mesochorinae, con especies presentes en Chile y Argentina. De las 14 especies descritas, los machos permanecen desconocidos en siete: *L. callaina* Dasch, *L. improcera* Dasch, *L. mallecoensis* Dasch, *L. nigricephala* Araujo & Vivallo, *L. patagonica* Araujo & Vivallo, *L. seminitida* Araujo & Vivallo y *L. viridis* Dasch. En base al estudio de especímenes depositados en el Museo Argentino de Ciencias Naturales "Bernardino Rivadavia", Argentina, aquí se describe e ilustra por primera vez el macho de *L. patagonica*. Adicionalmente, se proporciona un nuevo registro de distribución de *L. olivacea* Dasch en Argentina.

**PALABRAS CLAVE.** América del Sur. Avispas parasitoides. Ichneumonoidea. Región Andina.

**ABSTRACT.** *Lepidura* Townes is a genus with an Andean distribution of the subfamily Mesochorinae, occurring in Chile and Argentina. Among the 14 species described, the males remain unknown in seven: *L. callaina* Dasch, *L. improcera* Dasch, *L. mallecoensis* Dasch, *L. nigricephala* Araujo & Vivallo, *L. patagonica* Araujo & Vivallo, *L. seminitida* Araujo & Vivallo and *L. viridis* Dasch. Based on the study of specimens deposited in the Museo Argentino de Ciencias Naturales "Bernardino Rivadavia", Argentina, the male of *L. patagonica* is described and illustrated for the first time. In addition, a new distribution record of *L. olivacea* Dasch in Argentina is also provided.

**KEYWORDS.** Andean Region. Ichneumonoidea. Parasitoid wasps. South America.

#### INTRODUCTION

Mesochorinae is a moderately large species-rich group of specialized hyperparasitoids (Broad et al.,

2018), with approximately 880 species (Yu et al., 2016). Mesochorines are distinguished from other ichneumonid wasps by the following synapomorphies: glymmae long and deep; male gonoforceps apically well-developed,

resembling a long rod; female hypopygium large and triangular in lateral view; ovipositor sheath rigid; and ovipositor short and needle-like (Wahl, 1993; Araujo et al., 2018).

*Lepidura* Townes, 1971 is a small genus, currently including fourteen species distributed in the southern Andean biogeographic region *sensu* Morrone (2015) (Araujo & Vivallo, 2018). As well as in other Andean genera of the Mesochorinae, knowledge about biology and behavior of the species of *Lepidura* is scarce. Recently, Araujo & Vivallo (2018) provided an updated taxonomic revision for the genus and described *L. nigricephala*, *L. patagonica* and *L. seminitida* based on female specimens. The males of these species remain unknown.

Herein we describe the male of *L. patagonica* and provide a new distribution record of *L. olivacea* in Argentina.

## MATERIAL AND METHODS

General morphological terminology is according to Gauld et al. (2002), except for the wing venation and the cuticular microsculptures which follow Sharkey & Wharton (1997) and Broad et al. (2018), respectively. The information contained in the section "Material examined" corresponds to the specimen label *verbatim*. To describe the adult male of *L. patagonica* and compare its morphology with female's characteristics, specimens deposited at the following institutions were examined (curators in parentheses): FSCA: Florida State Collection of Arthropods, Gainesville, United States (Elijah Talamas) and MACN: Museo Argentino de Ciencias Naturales "Bernardino Rivadavia", Buenos Aires, Argentina (Arturo Roig-Alsina).

Photographs were obtained using a Zeiss Axiocam ERc5s camera attached to a Zeiss Stemi 508 stereomicroscope. All images were treated using Adobe Photoshop® (v. CS5). All measurements were rounded to the nearest 0.05. The abbreviation "T" was used for Tergite, followed by the number of the corresponding tergite.

## RESULTS

### *Lepidura* Townes, 1971

*Lepidura* Townes, 1971. 85. Type species: *Lepidura collaris* Townes, by original designation.

**Diagnosis.** Araujo & Vivallo (2018) provided the most recent revision of the genus, which can be identified by the combination of the following character states: ovipositor sheath stout, scale-shaped; head mostly greenish (except in *L. rubicunda*, *L. tuberosa*, *L. variegata* and *L. nigricephala*); fore wing with large rhombic areolet; hind wing vein CU/1b present, usually spectral; vein CU1a twice as long as cu-a; median longitudinal carina of propodeum present, but incomplete (except in *L. improcera* and *L. nigricephala*);

and glymma occupying 0.3 of petiole.

**Distribution.** Distribution restricted to the Andean biogeographic zone (*sensu* Morrone, 2015), with species occurring in Chile and Argentina.

**Included species.** *L. abbreviata* Dasch (Chile), *L. callaina* Dasch (Chile), *L. collaris* Townes (Argentina and Chile), *L. improcera* Dasch (Argentina and Chile), *L. mallecoensis* Dasch (Chile), *L. nigricephala* Araujo & Vivallo (Chile), *L. olivacea* Dasch (Argentina and Chile), *L. patagonica* Araujo & Vivallo (Argentina), *L. rubicunda* Dasch (Chile), *L. seminitida* Araujo & Vivallo (Chile), *L. tenebrosa* Dasch (Chile), *L. tuberosa* Dasch (Chile), *L. variegata* Dasch (Chile) and *L. viridis* Dasch (Argentina and Chile).

### *Lepidura olivacea* Dash, 1974

**Material examined:** 1 female: RA Neuquén, S. Martin Andes, Pucará, Jan'70, Schajovskoy Coll (FSCA). 2 females and 1 male: ARGENTINA: Neuquén, Villa la Angostura, PN Arrayanes, 20.II.2007 S 40° 47' 02,4" O 71° 39' 59,6" alt. 661,9 m. J. Martinez A. Ojanguren L. Compagnucci L. Piacentini (MACN).

**Previous geographic distribution:** ARGENTINA: Neuquén: San Martín de Los Andes (Araujo & Vivallo, 2018). CHILE: Región de la Araucanía: Malleco (Termas Tolhuaca) (Dasch, 1974). Región de Aysén del General Carlos Ibáñez del Campo: Puerto Cisnes (Dasch, 1974). Región de Bío-Bío: Las Cabras, Pichinahuel (Dasch, 1974). Región de Los Lagos: Caremalpu, Ensenada, Pucatrihue, Río Carihueico, Río Gol Gol (Dasch, 1974). Región de Los Ríos: Puerto Fuy (Dasch, 1974). Región de Magallanes y de la Antártica Chilena: Río Tres Pasos (Dasch, 1974; Lanfranco, 1974). **New record:** ARGENTINA: Neuquén: Villa La Angostura, Parque Nacional Arrayanes.

### *Lepidura patagonica* Araujo & Vivallo, 2018

**Material examined:** 1 female: Holotype, ARGENTINA: Neuquén, Villa La Angostura, PN Arrayanes, 20.II.2007 S 40° 47' 02,4" O 71° 39' 59,6" alt. 661,9 m. J. Martinez A. Ojanguren L. Compagnucci L. Piacentini. (MACN). 5 females: Paratypes with the same label information (MACN). 3 males: ARGENTINA: Neuquén, Villa La Angostura, PN Arrayanes, 20.II.2007 S 40°47'02,4" O 71°39'59,6" alt. 661,9m. J. Martinez A. Ojanguren L. Compagnucci L. Piacentini (MACN).

**Diagnosis:** White pubescence covering the entire body, denser on head and most of mesosoma, sparser on metapleuron and most of metasoma. Body almost completely turquoise green, except antenna dark brown, mandible yellow with well developed, dark brown teeth; mesoscutum, mesothorax, anterior and posterior margins of T2, anterior margin of T3, posterior half of T5 and T6–9, dark brown; parameres light brown; anterior margin of femura, and anterior and posterior margins of tibiae and tarsi brown.

**Description:** Male (Figs. 1–3). Approximate body length: 8.5 (mm). Fore wing length: 6.4 (mm); antenna

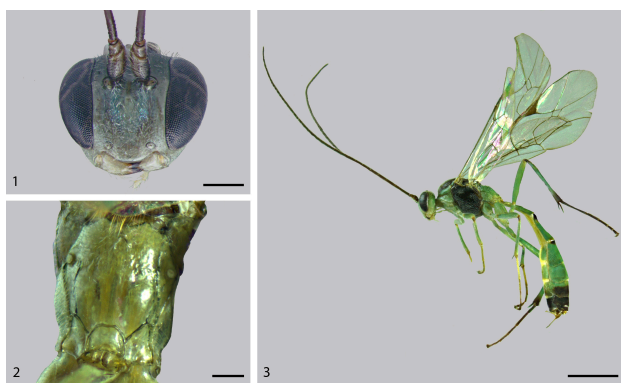
length: 8.1 (mm); number of flagellomeres: 40–42; head 1.20× as wide as high (frontal view); head punctate with sparse whitish setae (Fig. 1); distance between eye and lateral ocellus 1.00× as long as the diameter of lateral ocellus; frons smooth; clypeus 3.00× as wide as high; clypeal sulcus weakly discernible; mandible 2.85× as long as the basal width (frontal view); mandible with two well developed teeth; mandible basal width 1.70× as long as malar space; pronotum polished; epomia present; hind femur 7.00× as long as wide; hind tibia 10.90× as long as wide; hind basitarsus 13.40× as long as wide; mesosoma generally smooth, polished and finely punctate; areolet large, rhomboid, 1.70× as wide as long; hind wing with 5 distal hamuli; propodeum smooth, with isolated punctures; areola absent, but with subpentagonal area delimited by complete lateral longitudinal and posterior transverse carina and incomplete anterior transverse and median longitudinal carina (Fig. 2); area externa, lateralis, petiolaris and postero-externa discernible; T1 smooth, with isolated punctures; glymma deep; postpetiole 1.95× as long as its maximum width; T2 4.10× as long as its maximum height (lateral view); T2–T7 similarly sculptured; Parameres elongated, needle-shaped (Fig. 3).

**Type material:** Holotype female: ARGENTINA: Neuquén, Villa La Angostura, PN Arrayanes, 20.II.2007 S 40° 47' 02,4" O 71° 39' 59,6" alt. 661,9 m. J. Martinez A. Ojanguren L. Compagnucci L. Piacentini. (MACN). 5 paratypes females with the same label information (MACN).

**Type locality:** ARGENTINA: Neuquén: Villa La Angostura.

**Distribution:** ARGENTINA: Neuquén: Villa La Angostura.

**Comments:** Coloration as in female except dark brown on the posterior half of T5. The male of *L.*



**Fig. 1–3. *Lepidura patagonica* Araujo & Vivallo, 2018. Male. 1 Head (frontal view). 2 Propodeum (dorsal view). 3. Habitus (lateral view).** Scale bars (mm): Fig. 1: 0.4; Fig. 2: 0.2; Fig. 3: 2.0.

*patagonica* is similar to *L. viridis* by the absence of vein CU1b on the hind wing but it differs by the presence of the costula and the anterior transverse carina of propodeum, both absent in the latter species.

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