

**STUDIES ON SOME *AULACUS* JURINE (HYMENOPTERA:
AULACIDAE) FROM SOUTHERN SOUTH AMERICA**

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Abstract.—The male of *Aulacus castiglioni* Perieto, Lara, and Turrisi, 2020 is described and illustrated, and new distribution records from Brazil and Argentina are given. *Aulacus lucens* Smith, new species is described and illustrated from Argentina and Uruguay and separated from similar species. A lectotype is designated for *Aulacinus gaullei* Kieffer, 1904.

Key Words: Neotropical, parasitic wasps

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The description of a new *Aulacus* from Uruguay by Perieto et al. (2020) prompted this study which gives some additional information on the species they described as well addition of another species. *Aulacus castiglioni* Perieto, Lara, and Turrisi, 2020 was described from a single female and was one of the first records of an aulacid from Uruguay. Here, I add records of *A. castiglioni* from other countries, thereby expanding its distribution, add some notes on variation, describe the male, and add a new species of *Aulacus* which was collected in Uruguay and Argentina. The addition of these two species brings the total species of *Aulacus* from the Neotropics to 29 (Smith 2001, Turrisi 2017).

MATERIALS AND METHODS

Abbreviations for museums are: (AMNH) American Museum of Natural History, New York, NY, USA; (CNC) Canadian National Collection of Insects, Ottawa, ON, Canada; (AEI) American Entomological Institute, Logan, UT, USA; (NMW) Naturhistorisches Museum

Wien, Wien, Austria; (MNHN) Muséum National d'Histoire Naturelle, Paris, France; (USNM) National Museum of Natural History, Smithsonian Institution, Washington, DC, USA.

Images were acquired through an EntoVision micro-imaging system. This system included a Leica 16 stereomicroscope with a JVC KY-75U 3-CCD digital video camera or a GT-Vision Lw11057C-SCI digital camera attached that fed image data to a notebook or desktop computer. The program Cartograph 6.6.0 was used for focus stacking.

RESULTS

Aulacus castiglioni Perieto, Lara,
and Turrisi

(Fig. 1)

Aulacus castiglioni Perieto, Lara, and
Turrisi, 2020: 42–51, figs. 2–10.

Male.—Length 7.0–7.5 mm. Structure and color similar to female as described and illustrated by Perieto et al. (2020).

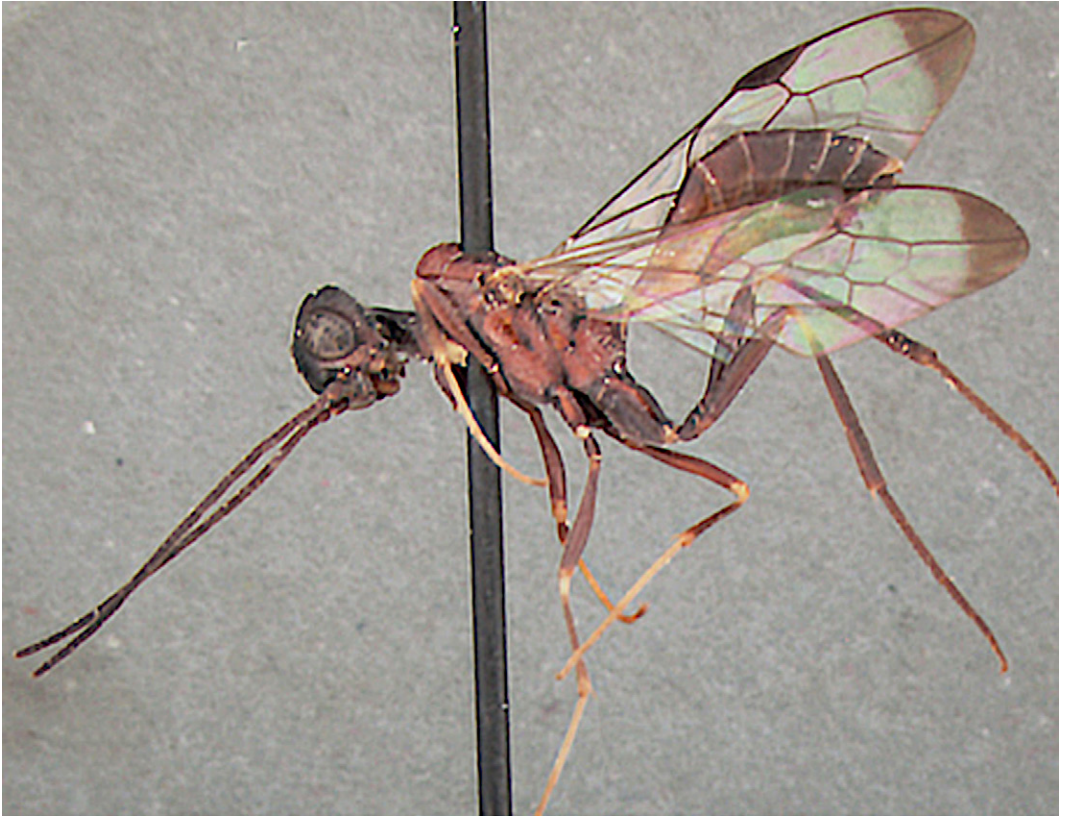


Fig. 1. *Aulacus castiglioni*, male, length 7.5 mm.

Variation.—Among the females and males examined, some variation on the amount of black of the legs and thorax and darkness of the apex of the forewings are noted. In both sexes, the hind coxa may be black, black on the outer surface and orange on the inner surface, or entirely orange. The black on the mesonotum may cover the axillae, scutellum, and dorsum of the propodeum or may be restricted to the axillae and anterior scutellum and part of the propodeum.

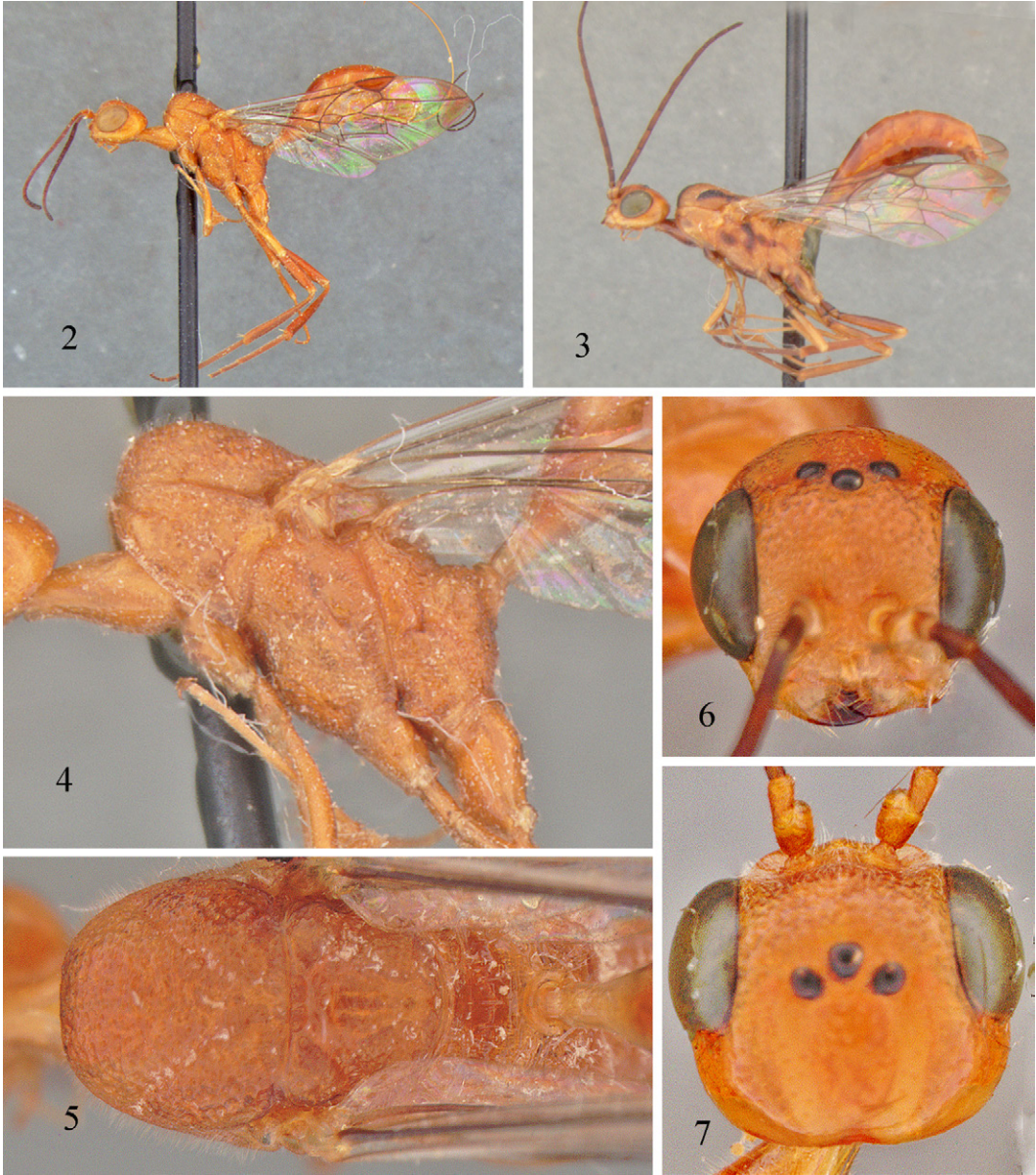
The extreme apex of the forewing may be almost clear as the rest of the wing or may be slightly darkened, as in Fig. 1.

Additional records.—ARGENTINA: Entre Rios, Dpto Colon, Parque Nacional (1 ♀, AMNH). BRAZIL: Rondon, 24°38' B, 54°07' L, 500 m, Mar 1953. Fritz Plaumann

(1 ♂, AEI), same except II.18.1953 (1 ♂, AEI), XI.27.1952 (1 ♀, AEI); XII.8.1952 (1 ♂, AEI); Rio Caragulá, 24°48' B, 52°27' L, 400 m, Fritz Plaumann, XII.3.1953 (1 ♀, AEI), same except XI.8.1953 (1 ♀, AEI), XI.4.1953 (2 ♂♂, AEI), X.22.1953 (1 ♂, AEI), X.29.1953 (1 ♂, AEI), XI.15.1953 (2 ♀♀, AEI, USNM), XI.3.1953 (1 ♀, AEI); Nova Teutonia, Santa Catarina, XI.8.53, Fritz Plaumann (1 ♀, AEI), same except XI.17.53 (1 ♀, 1 ♂, AEI), I.22.53 (1 ♀, AEI); Aguas Vermelhas, 15°45' S, 11°28' W, 800 m, Dec. '83, Alverenga (1 ♀, CNC).

Distribution.—Argentina, Brazil, Uruguay.

Discussion.—The species is well described and illustrated by Perioto et al. (2020) and, with *Pristaulacus ambiguus* (Schletterer, 1890), were recorded as the



Figs. 2-7. *Aulacus lucens*. 2, Female, length (excluding ovipositor) 9.5 mm. 3, Male. Length 8.0 mm. 4, Female mesosoma, side. 5, Female mesosoma, dorsal. 6, Female head, front. 7, Female head, dorsal.

first records of Aulacidae from Uruguay. However, the comparison of *A. castiglioni* with described species lacks mention of *Aulacus fusiger* Schletterer, 1890, probably the species it most resembles. The holotype of *A. fusiger* is at NMW, and I have examined the specimen. It

is simply labeled "Natterer, Brasilien." The exact locality in Brazil is unknown. It was from an expedition to Brazil by Johann Natterer who spent the years 1817-1835 in Brazil and his collections were eventually deposited is at NMW. Most of Natterer's time apparently was

spent on the Rio Negro and in the northern parts of Amazonas (Silva 2009), far away from the distribution of *A. castiglioni*. From my notes, the holotype of *A. fusiger* agrees in most sculpturation with *A. castiglioni*, but the head behind the eyes is much more strongly narrowing and more rounded in *A. castiglioni* (Perioto et al. 2020: fig. 4) whereas the head behind the eyes is straight and more squared in *A. fusiger*. In color, *A. fusiger* has the mesonotum almost all black and the legs entirely orange brown with the hind coxa and hind femur slightly darker, and *A. castiglioni* has the mesonotum mostly reddish and hind legs, except coxa, black, as illustrated by Perioto et al. (2020: fig. 2). These differences seem to be sufficient to justify the two are valid species.

***Aulacus lucens* Smith, new species**

<http://zoobank.org/8748E8AE-3E3B-453C-B13A-A1BAE2F76225>

(Figs. 2–7)

Diagnosis.—Female entirely yellow; sculpture dense on frons with closely-set punctures; gena and vertex smooth, shiny, with few widely scattered punctures; head from above very slightly broader than long; head behind eyes from above gently rounded, not sharply narrowing; apex of forewing slightly darkened; mesosoma with closely-set punctures; ovipositor about 0.6 × forewing length.

Description.—*Female holotype* (Fig. 2): Length (excluding ovipositor) 9.5 mm; ovipositor length 3.4 mm; forewing length 6.5 mm. Entirely yellow, antennal flagellum black; wings hyaline, very slightly darkened at extreme apex, veins and stigma light brown. **Head** (Figs. 6, 7): Antenna filiform, length about 2.5× head width. Vertex and gena smooth, shiny,

few large scattered pits on vertex behind ocelli, separated by flat interspaces several times pit diameter; frons more densely pitted, separated by sharp, narrow interspaces less than diameter of pits; malar space 0.25× eye height; from above, head almost square, about 1.1× broader behind eyes than long, head behind eyes in dorsal view 0.7 × eye length; in front view, inner margins of eyes parallel, lower interocular distance slightly greater than eye height; clypeus about 2.5× broader than long at center. **Mesosoma** (Figs. 4, 5): Mostly pitted to rugose, with narrow interspaces less than pit diameters; propleuron shiny, without sculpture; anterior margin of pronotum shiny, without pits; pits farther apart and sparser on axilla and scutellum; few faint cross carinae on mesepimeron. Notauli obsolete behind before reaching transcutal articulation. Hind coxa slightly longer than broad; groove on inner surface at center, diagonal, about half width of coxa; outer surface shiny, with few pits; hind basitarsus about 2.5 × longer than remaining tarsal segments combined; tarsal claws simple. **Metasoma**: Pyriform; smooth, shiny. Ovipositor 0.6× forewing length.

Male (Fig. 3): Length 8.0 mm. Mainly yellow like female, with reddish-brown to black markings on propleuron, spot on mesoprescutum and each mesonotal lateral lobe, mesosternum, central spot on mesopleuron and metapleuron; and inner surface of hind coxae. Metasoma red brown on first 2 tergites.

Type material.—*Holotype female*: Labeled “Argentina, Pronunciamiento, Entre Rios, XI-1963” (CNC). *Paratypes*: ARGENTINA: Same data as for holotype (1 ♂, CNC); same data as for holotype except date, II-III.1964 (1 ♂, CNC); Pronunciamiento, Entre Rios, Sept. 64 (1 ♀, CNC). URUGUAY: Rio Negros, Arroyo Negro, 15 km S Paysandu,

December 27-31, 1962, A. G. Van Gelder (5 ♂♂, AMNH, USNM).

Etymology.—The name is from the Latin, *lucens*, referring to its shiny, glossy appearance.

Distribution.—Argentina, Uruguay.

Discussion.—This is the third species recorded from Uruguay. It is most similar to *Aulacus gaullei* (Kieffer, 1904) which was described from “Jatahy, province de Goyaz, au Brésil.” Both are entirely yellow and the head above the eyes is shiny with scattered pits. In *A. gaullei*, the head behind the eyes in dorsal view is rounded and strongly narrowing, the pits on behind the ocelli and on vertex sparse, separated by broad shiny interspaces but much denser, and the mesonotum is shiny with closely-set pits and with several indistinct transverse carinae on anterior of mesoprescutum. In color, *A. gaullei* has the hind femur and hind tibia black and a spot on the first metasomal segment black and the wings are hyaline, but slightly blackish toward the apex.

Kieffer (1904) did not designate a holotype for *A. gaullei*. He stated “Les deux exemplaires, provenant de la collection de M. de Gaulle ...” I saw two females of *A. gaullei* from MNHM, both labeled “Jatahy Goyaz,” “TYPE,” “Museum Paris, Coll. J. De Gaulle 1919.” One specimen has a handwritten determination label: “*Aulacus gaullei*,” I designate the

specimen with the determination label the lectotype, the other a paralectotype.

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