First record of *Hylaeus (Gnathoprosopis) euxanthus* (Hymenoptera: Colletidae) in Chile

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**Abstract.** A 2009 field survey at Cerro San Cristobal, Santiago, Chile, revealed the presence of *Hylaeus (Gnathoprosopis) euxanthus* (Cockerell, 1910). Since then, numerous individuals have been observed visiting several plant species around Santiago and Valparaíso. This is the first record of this Australian-native bee in South America.

**INTRODUCTION**

*Hylaeus* Fabricius is a species-rich genus with 767 species in 55 subgenera with a global distribution (Michener, 2007; Ascher & Pickering, 2018). Superficially resembling small black apoid wasps such as some Pemphredoninae, they are typically small bees with black, shiny integument with indistinct pubescence. The head, pronotum, tegulae, and legs usually have yellow markings, which are more extensive in males. Scopae are absent because the females carry pollen internally (Michener, 2007). Many species of *Hylaeus* nest in hollow dead stems, others use pre-existing cavities (in wood, ground, etc.), which makes them readily transportable by human means (Michener, 2007; Ascher, 2001; Ascher et al., 2006; Gibbs & Dathe, 2017; Martins et al., 2017).

Here, we provide the first record of the Australian bee species *Hylaeus euxanthus* (Cockerell) in Chile (Fig. 1). This is the second species of *Hylaeus* introduced to the country; the first one was *H. punctatus* (Brullé, 1832) in 1986 (Toro et al., 1989). The native distribution of *H. euxanthus* includes most of mainland Australia in areas of both
low and high rainfall (Houston, 1981). The first record in Chile was found during a survey of urban native bees (2009) at the Jardín Botánico Chagual, which is part of the Cerro San Cristobal, Santiago (Montalva et al., 2010). Since then, it has been found in various localities in Santiago and in Valparaiso. This species has been observed visiting Oenothera rosea L’Hér. ex Aiton (Onagraceae), Gnanhalium philippi Gand (Asteraceae), Schinus polygamous (Cav.) Cabrera (Anacardiaceae), Baccharis linearis (Ruiz & Pav.) Pers., Baccharis sp. (Asteraceae), Papaver somniferum L. (Papaveraceae), Quillaja saponaria Molina (Quillajaceae), and Crataegus monogyna Jacq.

**SYSTEMATICS**

*Hylaeus (Gnathoprosopis) euxanthus* (Cockerell, 1910)

(Fig. 1)

**Identifying features:** ♂: mostly black, nonmetallic body; pronotum yellow, propodeal enclosure bordered laterally by distinct carinae and very coarsely areolate, contrasting with more finely sculptured areas to either side; paraocular area, clypeus, labrum, malar area, and mandibles yellow; vertex, frontal ocellus area, and frons black; scape yellow; flagellum usually completely yellow-brown. Legs yellow. A pair of relatively large spines on 3rd sternum in larger males.

♀: mostly black, nonmetallic body; pronotum yellow, propodeal enclosure bordered laterally by distinct carinae and very coarsely areolate, contrasting with more finely sculptured areas to either side; paraocular area, malar area yellow and, unlike male, clypeus, labrum, malar area, and mandibles black; vertex and frons black; antennae usually completely yellow-brown. Legs black except hind femora and tibiae usually yellow over at least 1/4 of their length.

**New records:** Chile: 2 ♀♀, 4 ♂♂, (Metropolitan region), Providencia, Santiago Jardín Botánico Chagual (-33.4074365,-70.605679), 10 Oct 2009, J. Montalva; 3 ♀♀, 6 ♂♂, (Metropolitan region), Providencia, Santiago Jardín Botánico Chagual (-33.4074365-70.605679), 17 Oct 2009, J. Montalva; 4 ♂♂, Ñuñoa, Campus Juan Gomes Millas, Universidad de Chile (-33.4660436,-70.5979008), 24 Oct 2009, J. Montalva; 1 ♂, (Valparaíso), Viña del Mar, Jardín Botánico Nacional -33.04807,-71.5022451), 25 Nov 2014, J. Diego Reyes Arellano. Specimens are deposited in the following institutions in Chile: Museo Nacional de Historia Natural, Instituto de Entomología Universidad Metropolitana de Ciencias de la Educación, Jardín Botánico Chagual and Pontificia Universidad Católica de Valparaíso. Photographic records of the species also exist, showing expansion throughout the Metropolitan region.

**Remarks:** The mechanisms promoting the arrival of this species to central Chile are unknown, but we believe nests could have been carried in commercial wooden pallets, as has occurred with other recently introduced bees in Chile (Montalva et al., 2015). *Hylaeus euxanthus* was recently reported from New Zealand (Ministry for Primary Industries, 2015), a country directly in the path of commercial traffic between Australia and Chile. The various collection dates, localities, and frequency of encounters suggest that *H. euxanthus* is naturalized in central Chile.

**Key to Species of Hylaeus of Chile**

1. Male ...................................................................................................................... 2
   —. Female ........................................................................................................ 3
2. Mandibles, scape yellow; 3rd metasomal sternum bearing pair of spines, at least in larger specimens ............................................ H. euxanthus (Cockerell)
—. Mandibles, scape black; 3rd metasomal sternum lacking spines ........................... H. punctatus (Brullé)
3. Propodeal enclosure bordered laterally by distinct carinae ................................ H. euxanthus (Cockerell)
—. Propodeal enclosure not bordered laterally by distinct carinae ........................... H. punctatus (Brullé)

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REFERENCES


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