

FIRST RECORD OF *XYLOCOPA (SCHONNHERRIA) SPLENDIDULA*
LEPELETIER 1841 (HYMENOPTERA: APIDAE: XYLOCOPINI) IN THE
MEDITERRANEAN ZONE OF CHILE

PRIMER REGISTRO DE XYLOCOPA (SCHONNHERRIA) SPLENDIDULA
LEPELETIER 1841 (HYMENOPTERA: APIDAE: XYLOCOPINI) PARA LA ZONA
MEDITERRANEA DE CHILE

José Montalva^{1,2}, Leah S. Dudley¹, Mary T.K. Arroyo¹

¹Instituto de Ecología y Biodiversidad (IEB), Departamento de Ciencias Ecológicas, Facultad de Ciencias
Universidad de Chile, Casilla 653, Ñuñoa, Santiago.

²Email: montalva.jose@gmail.com

RESUMEN

Se reporta la presencia de *Xylocopa splendidula* para Santiago, Chile. En Marzo de 2007, hembras fueron observadas nidificando en *Acacia dealbata* Link y entre diciembre 2007 y febrero 2008 fueron observadas forrajeando sobre *Parkinsonia apiculata* L. Este es el primer registro de la especie para la zona mediterránea de Chile.

Apidae includes three subfamilies: Nomadinae, Apinae and Xylocopinae (Michener 2000). Within the subfamily Xylocopinae and its tribe Xylocopini, resides the genus *Xylocopa* Latreille 1802. Xylocopini are popularly known as “carpenter bees” because they construct nests digging galleries generally within dead hardwood (Michener 1979, 2000; Ospina 2000; Schlindwein *et al.* 2003; Ramalho *et al.* 2004). Members of Xylocopini are also known for their robust and large body size. Unlike bees of other tribes (Manueliini, Allodapini, Ceratini), those of Xylocopini do not have arolia (Chiappa *et al.* 1990; Michener 2000). The genus *Xylocopa* is characterized by its virtually absent wing stigma, the marginal cell longer than wide, and the distal end strongly papillate. Additionally, the scape is longer than the second and third flagellar segment combined in the antenna.

Xylocopa contains more than 700 species distributed worldwide (Vicidomini 2002; Schlindwein *et al.* 2003; Ramalho *et al.* 2004) grouped into 12 subgenera; 96 species are reported for the Neotropical region (Ospina 2000). The greatest number of species inhabits the tropics

(Ramalho *et al.* 2004). In spite of this great diversity and ample distribution, for Chile, only three species are known; all from the northern part of the country (Arica, Azapa and Putre): *Xylocopa (Schonnherria) viridigastra* Lepeletier, 1841; *Xylocopa (Schonnherria) splendidula splendidula* Lepeletier, 1841; and *Xylocopa (Neoxylocopa) bruesi* Cockerell, 1914 (Michener 2000; Ospina 2000; Ruiz 1929; Toro 1986).

The objective of this note is to report the presence of *X. splendidula* in central Chile; which for Chile was previously known only from Arica and Azapa (Fig. 1) (Michener 2000; Ospina 2000). This species has a wide distribution in South America, which includes Argentina, Bolivia, Brazil, Paraguay, and Peru (Fig. 1) (Silveira *et al.* 2002; Schlindwein *et al.* 2003).

In March 2007, a female of *X. splendidula* (Fig. 2) was found constructing a nest in living wood of *Acacia dealbata* Link, on the Juan Gómez Millas Campus, Universidad de Chile, Ñuñoa, Santiago de Chile, Región Metropolitana (33°27'59.11" S; 70°35'45.97" W). Additionally, during the months of December 2007 and January 2008 five males

(Fig. 3) and two females were collected foraging on *Parkinsonia aculeata* in the same locality. Also in January 2008, nine males were collected near to Estación Mapocho, Santiago de Chile, Región Metropolitana (33°25'52.15" S; 70°39'7.22" W), foraging on *Parkinsonia aculeata*. Finally, near to Estación Mapocho in July of 2008, a nest in *Erythrina falcata* Benth. was found (F. Rojas com. pers.). The individuals captured are now housed at the Museo Nacional de Historia Natural de Chile and the Instituto de Entomología de la Universidad Metropolitana de Ciencias de la Educación. In addition to the genus characters aforementioned, specimens of *X. splendidula* have a body size of 14-16 mm, metasoma are brightly metallic with a blue hue. Males can be recognized by the following combination of characters: clypeus and labrum yellow and the mesosoma with short, white hairs.



FIGURE 1: Distribution of *Xylocopa splendidula* in South America, including the new records for central Chile (Región Metropolitana, R.M.: 1 Estación Mapocho, 2 Juan Gómez Millas Campus).

FIGURA 1: Distribución de *Xylocopa splendidula* en Sudamérica, incluyendo los nuevos registros para Chile central (Región Metropolitana, R.M.: 1 Estación Mapocho, 2 Campus Juan Gómez Millas).

Females have a relatively narrow pygidial plate with a spine-like form.

Xylocopa splendidula has a disjunct distribution in Chile (Fig. 1). The mechanisms promoting its arrival to central Chile are unknown. Additionally, the separated collection dates and frequency of encounters, suggest that this species is naturalized in central Chile.

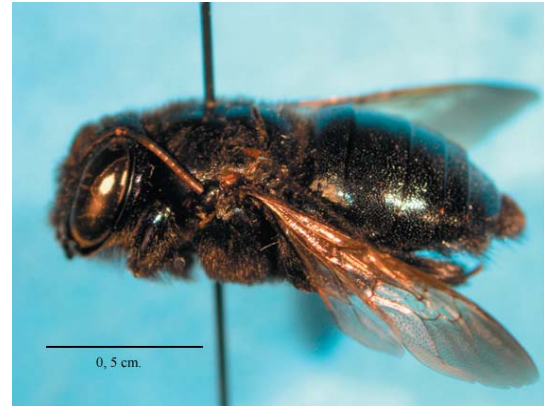


FIGURE 2: Lateral view of a *Xylocopa splendidula* female. Scale 0.5 cm.

FIGURA 2: Vista lateral de una hembra de *Xylocopa splendidula*. Escala 0,5 cm.



FIGURE 3: Lateral view of a *Xylocopa splendidula* male. Scale 0.5 cm.

FIGURA 3: Vista lateral de un macho de *Xylocopa splendidula*. Escala 0,5 cm.

ACKNOWLEDGMENTS

We acknowledge Arturo Roig Alsina, Luisa Ruz, Elizabeth Chiappa and an anonymous referee for their comments on previous versions of this manuscript. We also acknowledge the Master of Science's scholarship (Project ICM, P05-002).

BIBLIOGRAPHY

- CHIAPPA, E., M. ROJAS & H. TORO. 1990. Clave para géneros de abejas de Chile (Hymenoptera: Apoidea). *Revista Chilena de Entomología* 18: 61-87.
- MICHENER, C.D. 1979. Biogeography of the bees. *Annals of the Missouri Botanical Garden* 66(3): 277-347.
- MICHENER, C.D. 2000. *The Bees of the World*. The Johns Hopkins University Press, Baltimore, USA. 913 pp.
- OSPINA, M. 2000. Abejas carpinteras (Hymenoptera: Apidae: Xylocopinae: Xylocopini) de la Región Neotropical. *Biota Colombiana* 1(3): 239-252.
- RAMALHO, M., M. BATISTA & M. SILVA. 2004. *Xylocopa* (*Monoxylocopa*) *abbreviata* Hurd & Moure (Hymenoptera: Apidae) e *Encholirium spectabile* (Bromeliaceae): uma associação estreita no semi-árido do Brasil tropical. *Neotropical Entomology* 33(4): 417-425.
- RUIZ, P. 1929. Acerca de tres Apidos. *Revista Chilena de Historia Natural* 33: 300.
- SCHLINDWEIN C., B. SCHLUMPBERGER, D. WITTMANN & J. MOURE. 2003. O gênero *Xylocopa* Latreille no Rio Grande do Sul, Brasil (Hymenoptera, Anthophoridae). *Revista Brasileira de Entomologia* 47(1): 107-118.
- SILVEIRA, F.A, G.A. MELO & E.A. ALMEIDA. 2002. *Abelhas Brasileiras sistemática e identificação*. Belo Horizonte, Minas, Gerais. 253 pp.
- TORO, H. 1986. Lista Preliminar de los Apidos Chilenos (Hymenoptera: Apoidea). *Acta Entomológica Chilena* 13: 121-132.
- VICIDOMINI, S. 2002. Sistematica e distribuzione degli *Xylocopini* (Hymenoptera: Apidae: Xylocopinae): nuove e rare segnalazioni Americane. *Annali Museo Civico Rovereto* 16 (2000): 393-400.