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Short communication

Detection of the boxelder bug *Boisea trivittata* (Say, 1825) (Heteroptera: Rhopalidae) in Chile

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Abstract. The first record of the boxelder bug *Boisea trivittata* in the Southern Hemisphere is provided. Specimens were collected in Pudahuel, Santiago, Chile. This record becomes also the first for the subfamily Serinethinae in the country. The record as well as observations are commented and discussed.

Key words: Hemiptera, Coreoidea, scentless plant bug, faunistics, distribution, first record, alien species, Andean Region.

Rhopalidae, commonly known as scentless plant bugs, is a family of phytophagous true bugs that currently comprises 416 species classified in 42 genera (Coreoidea Species File 2020). Several rhopalids are considered of economic importance, as some species feed on crops and/or ornamental plants (Schaefer & Kotulski 2000).

Boisea trivittata (Say, 1825), the boxelder bug, is a North American rhopalid, associated with maple (*Acer* spp.) and soapberry trees (*Sapinus* spp.) (Aldrich et al. 1990). Originally, this species was distributed in eastern United States and Mexico; however, its current distribution comprehends Southern Canada to Guatemala (Carroll 2020). *Boisea trivittata* is considered a pest as its hosts are commonly used as ornamental plants and it sometimes aggregates in big numbers and enter into homes for overwintering (Schaefer & Kotulski 2000). The purpose of this contribution is to report for the first time the presence of this species in the Southern Hemisphere.

In March 2020, we started to receive records from Santiago's citizens of an unidentified heteropteran, found on *Acer* sp. trees. After four records in Pudahuel, Santiago; an infestation was found in a backyard tree. The specimens were identified as *Boisea trivittata* (Figs. 1-2).

Material examined: Chile, Metropolitan Region, Santiago, Pudahuel, 4-30-2020, C. Sarmiento leg. 5♀♀, 5♂♂ (in authors' collection).

The infestation started in February, where nymphs were observed. By the beginning of April, adults started to appear, and a correct identification was finally made. Specimens showed activity from 11:00 am to 5:00 pm. Adults are abundant and passively flying especially at noon. Aggregations include more than 60 specimens.

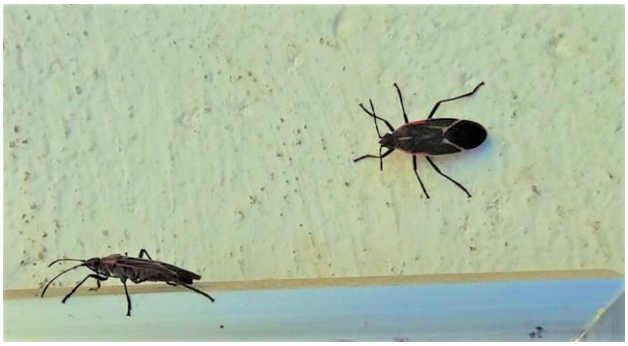

Fig. 1. Adults of *B. trivittata,* from Pudahuel, Santiago, Chile; dorsal and lateral view, on a wall.

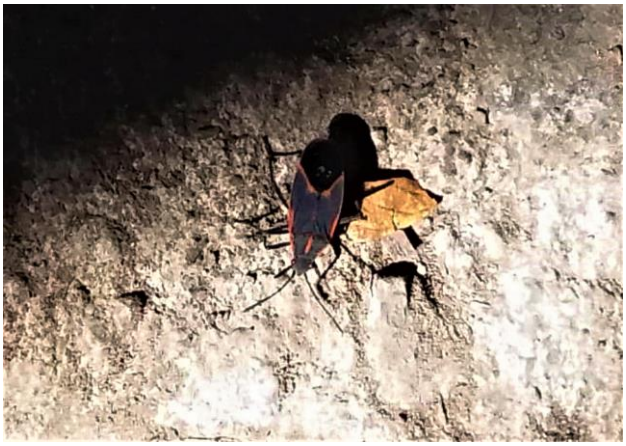

Fig. 2. Adult of *B. trivittata* in the soil, habitus. Pudahuel, Santiago, Chile.

The mediterranean climate in Central Chile might be propitious for the development of this bug. *Boisea trivittata* can be bivoltine depending on the climatic conditions (Schaefer & Kotulski 2000). Our observations suggest that *B. trivittata* is following its normal cycle from the Northern Hemisphere.

Although the economic importance of *B. trivittata* is reduced, control can be done with chlordane and kerosene if needed (Schaefer & Kotulski 2000). In homes, where they might become a nuisance because its overwintering aggregation behavior; manual, together with commercial non-industrial insecticide should be enough.

It should be necessary to follow up the behavior and adaptation of this bug in Chile; where *Acer* spp. trees are commonly used as ornamental in addition to its overwintering strategy that to survive very cold winters (i.e. with temperatures of -40ºC).

This bug with its brownish-black coloration and red markings dorsally, and with three conspicuous red strips in the pronotum (Figs. 1-2) is very distinctive among Chilean Rhopalidae.

We believe that the most probable entry of this bug in the country was via airplane, at the International Airport Arturo Merino Benitez; which is the largest and most important airport in Chile, and is located also in Pudahuel, were all the records have been taken.

Within the last years this is the fourth introduced heteropteran from the U.S., following the painted bug *Bagrada hilaris* (Burmeister), brown marmorated stink bug *Halyomorpha halys* Stål and the western conifer seed bug *Leptoglossus occidentalis* Heidemann (Faúndez & Rider 2017; Faúndez et al. 2017; Faúndez et al. 2018; Faúndez 2018; Faúndez et al. 2019; Faúndez et al. 2020). Therefore, it is urgent to implement both, better control measures, and training in true bugs identification to the professionals working in quarantine facilities; in order to avoid the entrance of more alien Heteroptera.

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