

NOTA / NOTE

The establishment of *Bagrada hilaris* (Burmeister, 1835)
(Heteroptera: Pentatomidae) in Chile, an avoidable situation?Eduardo I. Faúndez^{1,2}, Alfredo Lüer³ & Álvaro G. Cuevas⁴

¹ Entomology Department, North Dakota State University, Dept. 7650, P.O. Box 6050; Fargo, ND, USA.
e-mail: ed.faundez@gmail.com

² Departamento de Zoología Médica, Centro de Estudios en Biodiversidad (CEBCh), Magallanes, 1979, Osorno, CHILE.

³ Panguilemo, 261, Quilicura, Santiago, CHILE.

⁴ Universidad Católica de Temuco, Facultad de Recursos Naturales, Escuela de Ciencias Ambientales, Rudecindo Ortega 02950, Edificio Cincuentenario, Campus San Juan Pablo II. Temuco, CHILE.

Abstract: The current situation of the painted bug *Bagrada hilaris* (Burmeister, 1835) (Heteroptera, Pentatomidae) in Chile is commented and discussed. Attention is drawn to the lack of reaction capacity of both governmental and private agencies in Chile in order to stop the spreading of this species recently detected in the country. The species is actually well established and has started to expand its distribution and to cause economic damages. Its occurrence in the Valparaíso Region is reported for the first time. Neighbouring countries are advised to take preventive steps due to the fast expansion of *B. hilaris* in Chile.

Key words: Heteroptera, Pentatomidae, *Bagrada hilaris*, South America, Chile.

Resumen: El establecimiento de *Bagrada hilaris* (Burmeister, 1835) (Heteroptera: Pentatomidae) en Chile, ¿una situación evitable? Se comenta y discute la situación actual de la chinche pintada *Bagrada hilaris* (Burmeister, 1835) (Heteroptera, Pentatomidae) en Chile. Se destaca la falta de capacidad de reacción tanto del sector público como privado en Chile para frenar o mitigar la proliferación de esta especie recién detectada en el país. La especie se encuentra actualmente bien establecida y ha comenzado a expandir su distribución y a causar daños económicos. Se reporta por primera vez su presencia en la Región de Valparaíso. Se recomienda a los países vecinos tomar acciones preventivas dada la rápida expansión de *B. hilaris* en Chile.

Palabras clave: Heteroptera, Pentatomidae, *Bagrada hilaris*, Sudamérica, Chile.

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On 28 September 2016, specimens of the painted bug *Bagrada hilaris* (Burmeister, 1835) (Heteroptera, Pentatomidae), an important pest on Brassicaceae and several other crops (Palumbo et al., 2016), were found in Quilicura, Metropolitan Region, Chile (Faúndez et al., 2016). This record was not only the first one for the country, but also for South America. Rapidly after noticing this, a survey in the zone was made, finding that the bugs were restricted to a small area in the Estero Las Cruces (Faúndez et al., 2016). Given the importance of this record and the possible implications of the species to Chilean crops, a paper was published on 11 October 2016 (Faúndez et al., 2016), also giving notice to the Chilean Agricultural Service (Servicio Agrícola y Ganadero SAG), doing a press release in national circulation media, and sending voucher specimens for reference collections in the area. Despite the efforts to inform community and governmental agencies on the situation, there was no immediate action taken regarding this matter. The authors of this note continued surveying in the field (Figs. 1 and 2) as well as getting records from identifications made by different persons. During the first weeks the specimens were just recorded on the initial locality and no specimens were found in the surrounding



Fig. 1. - Extension of *B. hilaris* on 11 November 2016 in the sampled area (yellow dots = presence).

Fig. 2. - Extension of *B. hilaris* on 26 November 2016 in the sampled area (yellow dots = presence, red dots = new records). (Maps elaborated with ArcGis 10.1, exported to a KMZ file and visualized in Google Earth®).

areas. However, the population sizes observed increased since the first sighting (Fig. 4), as well as the activity of the bugs (i.e. from 30 to 50 specimens to several hundreds) (see Lüer et al., 2016). At that time there was still no action taken to address the painted bug arrival. More recently, on February 2017 we have observed it well established on several more localities within the Metropolitan Region (Colina, Lampa, Pudahuel, Rinconada de Maipú, La Pintana), which results in an extension of 15-30 km radius (Fig. 3). On 9 March 2017, we have received the first record of a specimen in a garden of a house in Viña del Mar, Valparaíso Region (one specimen remains deposited in the collection of Raúl Dinamarca Valdivia), which constitutes the first record for a different administrative region. In addition, it has been observed with big population sizes including more than 300 specimens in a single spot, and we have observed the first cases of heavy damage caused to crops of small growers. Also, this species was observed for the first time invading buildings and sidewalks in big aggregations, even in private houses. Up to this point there are only incipient actions to control this heteropteran and it seems to be too late to stop the establishment. Furthermore, several aspects of its biology make it difficult to eradicate (e.g. Bundy et al., 2012; Palumbo et al., 2016). It is hard to tell if an immediate action in Chile may have eradicated the painted bug totally, but there were several weeks when the species remained restricted to the small area of the first sighting. At that time it was probably easier to at least contain the pest. An early informational campaign and adequate surveying in the perimeter could certainly have avoided the initial spreading of this species; however Chilean entities failed on this effort. It may be important to other countries in South America to look at the Chilean experience to avoid making the same mistakes in the case of finding *B. hilaris*. This situation brings heads up on the importance of the effective communication between the agricultural system and the academia, which could have prevented the negative impacts of the current establishment of *B. hilaris* in Chile.

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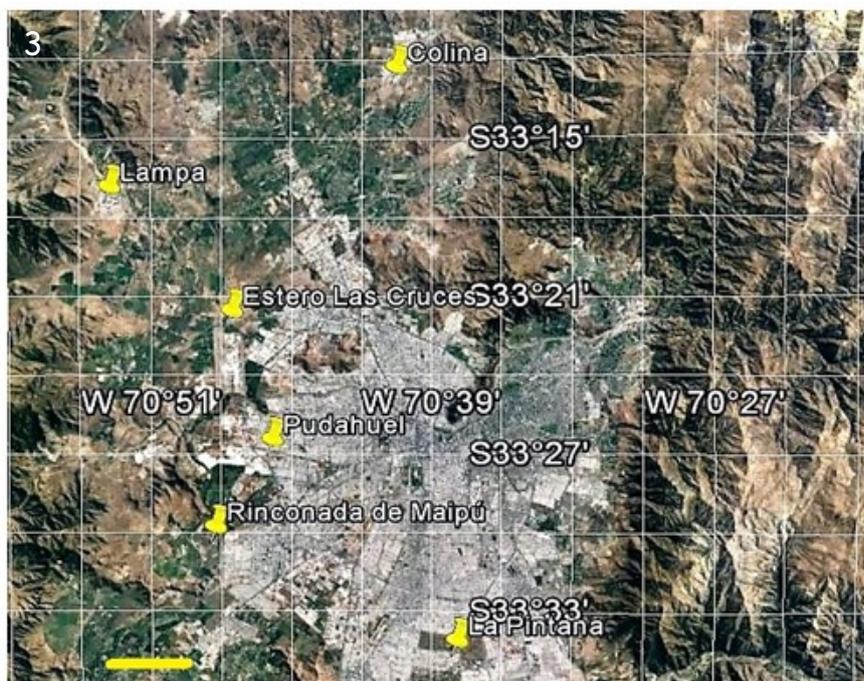


Fig. 3.- Localities where *Bagrada hilaris* has been recorded in the Metropolitan Region of Chile (map elaborated with Google Earth ®), scale = 5 km.



Fig. 4.- Aggregations of *B. hilaris* during the first sampling.