

Geographical Distribution of *Bagrada hilaris* (Hemiptera: Pentatomidae) in Mexico¹

Reyna Ivonne Torres-Acosta and Sergio R. Sánchez-Peña²

Departamento de Parasitología, Universidad Autónoma Agraria Antonio Narro, Saltillo, Coahuila 25315, México

J. Entomol. Sci. 51(2): 165–167 (April 2016)

Key Words Hemiptera, *Brassica*, invasive pest

Bagrada hilaris (Burmeister) (Hemiptera: Pentatomidae), commonly known as Bagrada bug or painted bug, is a major pest of commercial cruciferous plants. It is an Old World insect native to Africa, Asia, and southern Europe (Taylor et al. 2015, Ann. Entomol. Soc. Am. 108: 536–551). *Bagrada hilaris* was first discovered in the United States in 2008 in Los Angeles, CA (Huang et al. 2014, Crop Prot. 59: 7–13). Since then, it has rapidly expanded its range into Arizona, Nevada, New Mexico, and west Texas (Reed et al. 2013, Int. J. Pest Manag. 4: 1–7). *Bagrada hilaris* feeds on apical meristems, cotyledons, and leaves of cruciferous hosts, causing economic losses (Palumbo 2014, Veg. West 18: 18–20). Seedling mortality reportedly reached 60% in some fields in California in 2009 (Reed et al. 2013).

Bagrada hilaris was first reported in Mexico at Saltillo, state of Coahuila (Sánchez-Peña 2014, Southwest. Entomol. 39: 375–377). Severe crop damage has already been observed in Sonora state. In Saltillo, it has been observed feeding on broccoli (*Brassica oleracea* var. *italica* L.), radish (*Raphanus sativus* L.), London rocket (*Sisymbrium irio* L.), and wild arugula (*Eruca sativa* [L.] Miller). The potential impact of this pest in cruciferous crop production is considerable for Mexico, with 40,000 ha in cole crop production in 2014 (Servicio de Información Agroalimentaria y Pesquera [SIAP], 2014. Accessed 20 Sep 2015. www.siap.gob.mx). Several generations can develop per year; specific natural enemies were absent in Saltillo (R.I.T.A. and S.R.S.P. unpubl. obs.). In 2014, the main states producing broccoli were in central Mexico: Guanajuato (292,345 t), Michoacán (45,878 t), and Puebla (26,002 t). The main states producing radish were Puebla (13,271 t), Sonora (5,964 t), and Baja California (5,598 t) (SIAP 2014). Herein, we report information on the geographical distribution of the Bagrada bug in Mexico as a baseline for future biological and management studies of this pest.

¹Received 10 October 2015; accepted for publication 27 October 2015.

²Corresponding author (email: sanchezcheco@gmail.com).

Table 1. Confirmed occurrence of *B. hilaris* in Mexico, September 2015.

State	Locale	Google Maps coordinates	Host plant(s)	Economic damage*
Baja California	Mexicali	32.5495274, -115.3746098	Various weeds	Unknown
Baja California	San Quintín	30.5688335, -115.964916	Broccoli (<i>Brassica oleracea</i> var. <i>italica</i>)	High
Chihuahua	Camargo	27.6795876, -105.1618567	Roadside	Unknown
Chihuahua	Chihuahua	28.5878901, -106.1117432	Roadside	Unknown
Chihuahua	Ojinaga	29.5429403, -104.4418253	Pepperweed (<i>Lepidium</i> spp.)	Unknown
Coahuila	Huachichil	25.209567, -100.832387	Bastard cabbage (<i>Rapistrum rugosum</i> [L.])	Unknown
Coahuila	Ramos Arizpe	25.519175, -100.956176	Wild portulaca (<i>Portulaca oleracea</i> L.)	Unknown
Coahuila	Saltillo	25.3584511, -101.0387746	Broccoli; London rocket (<i>Symbrium irio</i>); arugula (<i>Eruca sativa</i>)	High
Durango	Gómez Palacio	25.588092, -103.5263591	London rocket	Unknown
Sonora	San Luis Rio Colorado	32.3962316, -114.8893075	Broccoli	High
Nuevo León**	Guadalupe	25.689802, -100.174465	Various weeds	Unknown

* Unknown economic damage indicates that crucifer crops are not grown in that area or that damage has not been documented.

** Possible report (González-Botello 2015, Naturalista-CONABIO. Accessed 24 September 2015. (<http://conabio.inaturalist.org/observations/1549143>))

Fields were surveyed and monitored for the pest, and information on its possible occurrence was requested from entomologists in various states of Mexico from May 2014 to September 2015. Sampling targeted Brassicaceae, particularly broccoli and weeds (e.g., London rocket, wild arugula), using sweep nets and visual examination of individual plants.

The survey efforts confirmed the occurrence of Bagrada bug in six states in northern Mexico, encompassing thousands of square kilometers (Table 1). The presence of this insect in Gomez Palacio and Durango indicates that it might reach important cruciferous-producing areas in central and eastern Mexico. Neighboring states are also producers of broccoli, cabbage, and radish. Effective monitoring and management strategies for Bagrada bug (including classical biological control and chemical control) must be developed to prevent damage to cole crops in Mexico.