

NOTA

Parasitoid Wasp *Inostemma striaticornu* Buhl (Hymenoptera: Platygasteridae) in Crops of Bell Pepper in Argentina

Avispa parasitoide *Inostemma striaticornu* Buhl (Hymenoptera: Platygasteridae) en cultivos de pimiento en Argentina

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► **Abstract** — Some species of the genus *Inostemma* have been recorded in pests associated with numerous botanical families, the current work records the presence of the mentioned parasitoid in an area of high plant diversity in La Plata, Argentina. The parasitoid wasp *Inostemma striaticornu* Buhl (Platygasterinae) is mentioned for the first time in the country in bell pepper crops.

Keywords: Platygasterid, La Plata, geographical distribution.

► **Resumen** — Algunas especies del género *Inostemma* han sido registradas en plagas asociadas a numerosas familias botánicas, aquí se registra la presencia del parasitoide en un área con gran diversidad vegetal en La Plata, Argentina. Se cita por primera vez la avispa parasitoide *Inostemma striaticornu* Buhl (Platygasterinae) en el país en cultivos de pimiento.

Palabras clave: Platigástridos, La Plata, distribución geográfica.

Platygastroidea is the third largest superfamily in Hymenoptera, with approximately 5800 species grouped in 270 genera described worldwide. In the Neotropical Region, about 420 species belonging to 90 genera have been recorded (Arias Penna, 2002). In Argentina,

more than 80 species were recorded (Loiácono, 1998; Loiácono *et al.*, 2002; Masner & Huggert, 1989; Vlugg, 1995). Platygastroidea is represented by species in almost all regions of the world with the exception of the polar region. Phylogenetic analysis conducted by

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Murphy *et al.* (2007) and Sharkey (2007) resulted in the consideration of Scelionidae and Platygastriidae within the Platygastroidea family, based on priority. This family contains five subfamilies: Teleasinae, Telenominae, Scelioninae, Sceliotrachelinae and Platygastriinae. The first three subfamilies are exclusively egg parasitoids, parasitizing eggs of Lepidoptera, Hemiptera, Orthoptera, Embioptera, Coleoptera, Odonata, Mantodea, Neuroptera and spider eggs, mainly of the families Araneidae and Theridiidae (Masner, 1976; Austin & Field, 1997; Margaría, 2008; Margaría *et al.*, 2014). Platygastriinae are known to parasitize eggs and early larval stages of Diptera (Cecidomyiidae), which are predominant in Chile and New Zealand, while Sceliotrachelinae are egg parasitoids of Coleoptera (Curculionidae and Cerambycidae), Hemiptera (Flatidae) and nymphs of whiteflies, aphids and scales (Hemiptera: Aleyrodidae, Pseudococcidae, Aphididae) (ICAR-NBAIR, 2016; Fernández & Sharkey, 2006).

Within Platygastriinae, *Inostemma* Haliday is cosmopolitan, with nine species recorded in the Neotropical Region (Table 1). Samples were collected on Asteraceae, Brassicaceae, Caprifoliaceae, Ephedraceae, emerged from galls of Brassicaceae, from larvae and pupae of Cecidomyiidae (Diptera), and from galls produced by Aphalaridae (Hemiptera) and Cynipidae (Hymenoptera) (Johnson, 2004).

Since species of the genus *Inostemma* have been reported in pests associated with numerous botanical families, we aimed at recording the presence of the parasitoid in an area with high plant diversity in La Plata, Argentina.

The site covers an area of 64 hectares with a wide diversity of crops: extensive crops including wheat (*Triticum* spp.), oat (*Avena* spp.), corn (*Zea mays* L.), sorghum [*Sorghum bicolor* (L.) Moench], and soybean [*Glycine max* (L.) Merr.]; intensive protected crops, namely, bell pepper (*Capsicum annuum* L. var.

Table 1. Neotropical species of the genus *Inostemma* Haliday. Geographical and biogeographical distribution, hosts, and references.

Tabla 1. Especies Neotropicales del género *Inostemma* Haliday. Distribución geográfica y biogeográfica, hospedadores y referencias.

<i>Inostemma</i> species	Geographical distribution	Biogeographical distribution (subregion/province) (Morrone, 2001)	Host	Reference
<i>I. bermudianum</i> Buhl	Warwick (Bermuda)	Caribbean	<i>Contarinia juniperina?</i> (Diptera: Cecidomyiidae)	Buhl, 2011
<i>I. bicornutum</i> Ashmead	Saint Vincent	Caribbean/Bahamas	Unknown	Ashmead, 1894
<i>I. mendozanum</i> Brèthes	Mendoza (Argentina)	Andean/Paramo Puna/Prepuna	Unknown	Brèthes, 1910
<i>I. microcerum</i> Kieffer & Jörgensen	Chacras de Coria, Luján de Cuyo, Mendoza (Argentina)	Andean/Paramo Puna/Prepuna	<i>Baccharis juncea</i> (Lehm) Desf. (Asteraceae)	Kieffer & Jörgensen, 1910
<i>I. noyesi</i> Buhl	Trinidad	Caribbean/Trinidad & Tobago	Unknown	Buhl, 2011
<i>I. porteri</i> Brèthes	Río Blanco, Valparaíso, Chile	Andean/Central Chilean	Unknown	Brèthes, 1918
<i>I. rex</i> Buhl	Nova Teutonia (Brazil)	Parana/Parana Forest	Unknown	Buhl, 2011
<i>I. simillimum</i> Ashmead	Saint Vincent	Caribbean/Bahamas	Unknown	Ashmead, 1894
<i>I. striaticornu</i> Buhl	Isla de Coiba (Panamá)	Caribbean/West Panamanian Isthmus	Unknown	Buhl, 2002



Figure 1. *Inostemma striaticornu* Buhl. a) lateral view, b) dorsal view. Scale: 0.1 mm.

Figura 1. *Inostemma striaticornu* Buhl. a) vista lateral, b) vista dorsal. Escala: 0,1 mm.

annuum), tomato (*Solanum lycopersicum* L.), eggplant (*Solanum melongena* L.), and cabbage (*Brassica oleracea* var. *capitata* L.); open-air crops, such as bell pepper, pumpkin (*Cucurbita pepo* L.), and sweet corn; aromatics, mainly oregano (*Origanum vulgare* L.) and peppermint (*Mentha* spp.); and fruit: peach [*Prunus persica* (L.) Batsch], plum (*Prunus* subgen. *Prunus*), apple (*Malus x domestica* Borkh.), pear (*Pyrus comunis* L.), grapevine (*Vitis* spp.), and olive tree (*Olea europaea* L.). The area also presents forest plantations of

willow (*Salix* spp.), poplar (*Populus* spp.) and eucalyptus (*Eucalyptus* spp.), and spontaneous flora including *Sorghum halepense* (L.) Pers. and *Brassica rapa* L.

In 2015, while monitoring the open-air crops with entomological net at «Estación Experimental Julio Hirschhorn» (School of Agriculture and Forest Sciences, National University of La Plata, Los Hornos locality, La Plata, Buenos Aires, Argentina — 34°59'05.84"S; 57°59'49.80"O—), we noted the presence of *Inostemma striaticornu* Buhl

(Fig. 1 a-b) only in bell pepper crops (*Cap-sicum annuum* L. var. *annuum*, Solanaceae). This species is only known in Panama. This is the first record of this parasitoid wasp in the Province of La Pampa in the Chaco Biogeographical Region, Argentina. Platygastroid sample measurements and photographs were taken with a Leica DFC290 digital camera attached to a Leica S8APO stereomicroscope. Parasitoids were identified using taxonomic keys to the species (Buhl, 2011) and original species description (Buhl, 2002). Entomological materials (20 ♀♀, 22-iv-2015, Aquino & Gallardo colls.) were housed in the collection of the Entomology Division, Museo de La Plata (MLP, for its abbreviation in Spanish), Argentina.

Loiácono *et al.* (2002) emphasize the need of performing further studies on the biodiversity of platygastrids in the Neotropical Region, particularly in Argentina, being the third species of *Inostemma* recorded in the country. This information will allow a better taxonomic knowledge of native parasitoid species and parasitoid-host associations.

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PARTICIPATION

Cecilia Margaría: identification of samples of Platygastroidea, preparation of manuscript. Peter Neerup Buhl: identification of samples of Platygastroidea. Daniel Alejandro Aquino: monitoring, identification and

photography of Platygastroidea samples. E. Mónica Ricci: supervision, preparation of manuscript, monitoring and species identification.

CONFLICTS OF INTEREST

To the best of our knowledge there are not conflict of interest among the authors or with third parties.

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