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Nota Científica
(Short Communication)

FIRST REPORT OF *CACTOPHAGUS SPINOLAE* (GYLLENHAL) (COLEOPTERA: CURCULIONIDAE) ON THREE SPECIES OF *HYLOCEREUS* (CACTACEAE) IN MORELOS, MEXICO

Ramírez-Delgadillo, J. J., E. Rodríguez-Leyva, M. Livera-Muñoz, A. Pedroza-Sandoval, N. Bautista-Martínez & C. Nava-Díaz. 2011. Primer informe de *Cactophagus spinolae* (Gyllenhal) (Coleoptera: Curculionidae) en tres especies de *Hylocereus* (Cactaceae) en Morelos, México. *Acta Zoológica Mexicana (n. s.),* 27(3): 863-866.

RESUMEN. Se observó daño de un insecto en tallos y botones florales de tres especies y una subespecie de *Hylocereus* en Morelos, México durante 2006 y 2007. El objetivo de este trabajo fue la identificación específica de la plaga y la descripción del daño. Mensualmente se recolectaron pupas y adultos en campo en ambos años, y se identificó a *Cactophagus spinolae* (Gyllenhal). Las larvas se alimentaron de tallos maduros (incidencia del 50%) y afectan el cilindro vascular, lo que puede matar a la planta. Los adultos se alimentaron de tallos inmaduros (5% de incidencia) y de brácteas y sépalos de botones florales (1% de incidencia).

The pitahaya, *Hylocereus* spp. (Cactaceae), is a fruit that has been used in Mexico since prehispanic times, and commercial orchards have been established in the last 20 years (Ortiz 1999) mainly in Peninsula de Yucatan. Three species and one subspecies of *Hylocereus*, *H. undatus* (Haworth) Britton & Rose, *H. purpussi* (Weing) Britton & Rose, *H. ocamponis* (Salm-Dyck) Britton & Rose and *H. undatus* subsp. *luteocarpus* are native of Mexico and they are considered high value crops (Bravo 1978, Anónimo 1999, Ortiz 2000, Cálix de Dios 2005, Le Bellec *et al*. 2006, Guzmán *et al.* 2007). Recently, commercial orchards were reduced from 1,100 to 350 ha because of low production combined with pest and diseases incidence (Rodríguez 2002, Castillo *et al*. 2003). Several pests of *Hylocereus* have been reported to genus level in Mexico (Ortiz & Livera-Muñoz 2000) and worldwide (Anónimo 1999, Rodríguez 2002, Le Bellec *et al*. 2006, Pohlan *et al*. 2007). For example, Trucios (2005) found *Metamasius* sp., probably *Cactophagus* sp. (Coleoptera: Curculionidae) affecting stems and fruits of *H. undatus.*

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During our surveys in 2006, insect damage was observed on stems and floral buds on 17 clones of *H. undatus,* two clones of *H. undatus* subsp. *luteocarpus*, one of *H. purpussi* and one of *H. ocamponis* in a experimental orchard that belongs to "Programa de Recursos Genéticos de *Hylocereus* del Colegio de Postgraduados" located at Tepoztlan, Morelos, Mexico [1,541 masl, climate (A)Ca(w2)(w)(i')g]. The principal objective of this research was to identify the insect, describe the damage and quantify it. From October 2006 to April 2007, surveys were carried out at 30-day interval in order to collect larvae, pupae and adults of the pest on damaged plants. Larvae and pupae were placed in plastic containers and were fed with *Hylocereus* stems at 25±1.5 ºC, 55% of RH, and 14:10 h (L: D) until life cycle was completed.

Emerged adults were conserved in 70% alcohol then labeled, mounted and identified (M.Sc. Raul Muñiz Velez†, Instituto Politécnico Nacional). The specimens were identified as *Cactophagus spinolae* (Gyllenhal 1838) (Fig. 1); voucher specimens are held at the "Colección de insectos del Colegio de Postgraduados" in Texcoco, Mexi-

Figure 1. Damage of *Cactophagus spinolae* on *Hylocereus* spp. **A**) First instar larva damaging mature stems. **B**) Larva feeding on vascular tissue and parenchyma. **C**) Adult attacking floral bud and **D**) immature stems.

co. *C. spinolae* is a well known pest of prickly pear cactus (*Opuntia* spp. and *Nopalea* spp.) that has been reported from North America to Central America (Mann 1969, Zimmermann & Granata 2002). This insect is frequently found as a pest on prickly pear that is grown in highlands at Central Mexico (Mann 1969, Méndez 1994). Vaurie (1967) mentions this species as pest of the family Cactaceae in the genera *Cereus*, *Ferocactus*, and *Opuntia*; and Zimmermann & Granata (2002) points out that there is no specific information about pests of cultivated *Hylocereus* and *Stenocereus*. There are at least other 20 insect pest of natural occurrence on *Opuntia* species in Mexico, and some biology information does exist.

Adults of *C. spinolae* fed on *Hylocereus* immature stems and observed on 5% of sampled plants, and 1% of the bracts and floral buds (N = 478). The principal damage was caused by larvae which affected 50% of the surveyed plants (N = 478). Larvae that fed on mature stems induced secretion of sap, destroyed parenchyma and vascular tissue, and killed branches and even whole plants (Fig. 1 A, B, C, D). In Nicaragua has been reported that closely related species *C. fahrei striatoforatus* (Gyllenhal) attacks stems, floral buds and flowers (inducing floral drop) and causing deformations and fruit rotting (Anónimo 1999 & 2000, Pohlan *et al*. 2007). To the best of our knowledge, this is the first report of *C. spinolae* attacking *H. undatus, H. undatus* subsp. *luteocarpus H. purpussi* and *H. ocamponis*. Because of the high incidence and fatal consequences of larvae attack, this insect represents a potential pest for commercial pitahaya orchards in Mexico. It is important to study the life cycle and to better understand its relationship with the host in order to develop management strategies.

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Juan José Ramírez-Delgadillo,[1] Esteban Rodríguez-Leyva,[1] Manuel Livera-Muñoz,[1] Aurelio Pedroza-Sandoval,[2] Néstor Bautista-Martínez[1] & Cristian Nava-Díaz[1]

[1]Colegio de Postgraduados, Campus Montecillo,
Km 36.5 Carr. México-Texcoco, Montecillo,
56230 Texcoco, Edo. de México. México.
<jjrd@colpos.mx>
[2]Universidad Autónoma Chapingo,
Unidad Regional Universitaria de Zonas Áridas (URUZA),
Km. 40 Carr. Gómez Palacio, Durango - Chihuahua.
35230 Bermejillo, Durango. México.