SCIENTIFIC NOTE

First Record of *Hesperolabops nigriceps* Reuter (Hemiptera: Miridae) on *Opuntia ficus-indica* in Milpa Alta, Mexico City

Martín Palomares-Pérez[1], Esteban Rodríguez-Leyva[1], Harry Brailovsky[2], Samuel Ramírez-Alarcón[3]

[1]*Colegio de Postgraduados, Instituto de Fitosanidad, km 36.5 Carr México-Texcoco, Montecillo, 56230 Texcoco, Edo de México, México; mpalomares@colpos.mx, esteban@colpos.mx*
[2]*UNAM, Instituto de Biología, Depto de Zoología, Apdo Postal 70153 México 04510 D.F. México; coreidae@ibiologia.unam.mx*
[3]*Univ Autónoma Chapingo, Depto de Parasitología Agrícola, km 38.5 Carr México-Texcoco, 56230 Chapingo, Edo. de México, México*

Edited by Roberto A Zucchi – ESALQ/USP

Neotropical Entomology 39(5):829-830 (2010)

ABSTRACT - In recent years a species of *Hesperolabops* has become a problem as a pest of nopalitos, *Opuntia ficus-indica*, in Milpa Alta, in the south of Mexico City, which is the most important production region of this vegetable in the country. A survey of *Hesperolabops* in Milpa Alta has resulted in the first report of *Hesperolabops nigriceps* Reuter. This occurrence should be monitored and considered in future studies in order to avoid misidentification of *Hesperolabops* spp. Kirkaldy native populations there, and to avoid the confusion of the damage that may be caused on *O. ficus-indica*.

KEY WORDS: Bryocorinae, Nopalitos, edible young *Opuntia* pad, native pest, red bug

Central and southern Mexico is one of the most important domestication places of *Opuntia ficus-indica* (Cactaceae) (Casas & Barbera 2002, Griffith 2004); people from this country, especially central Mexico, consume *nopalitos* (edible young *Opuntia* pads) as vegetable for thousands of years. The crop is cultivated in more than 10,500 ha in all the country, but Milpa Alta by itself, located in the south of Mexico City, has more than 4,000 ha and produces more than 35% of the national yield (Anonymous 2005). *Opuntia ficus-indica* is the predominant species for obtaining nopalitos in Milpa Alta, and there are not many papers that specify the insect pests related with *Opuntia* there. This is the case of the insect called red bug, *Hesperolabops* spp. Kirkaldy. It is known that nymphs and adults of *Hesperolabops* suck sap fluids from *Opuntia* pads. These species are gregarious in habit and often occur in abundance, and the plants may get yellow from their attack (Mann 1969, Badii & Flores 2001).

Obscure reports indicate that *Hesperolabops gelastops* Kirkaldy attacks *O. ficus-indica* in Milpa Alta, and may be related with the problem called *cacarizo* in some plants. However, none of these reports indicate how the insects were identified, and where the vouchers were deposited. Because there are nine species of this genus reported on Cactaceae in Mexico (Carvalho 1957, Froeschner 1967, Schaffner & Carvalho 1981, Schuh 1995), we considered important to identify the *Hesperolabops* species present in Milpa Alta. For this purpose, 20 samples were taken from different fields all over Milpa Alta region (between 19° 04′ - 19° 12 N and 99° 08′ - 99° 57′ W, 2200 m to 3000 m above sea level). Each sample consisted of 10 adult females and 10 males. We sampled the field from February to July 2008. The insects were kept in vials and moved to the Universidad Nacional Autónoma de México (UNAM), at the Colección Nacional de Insectos, Instituto de Biologia. The insects were killed by ethyl acetate gases and pinned. The keys of Froeschner (1967) and Schaffer & Carvalho (1981) *Hesperolabops* were used. Vouchers specimens were deposited at the Colección Nacional de Insectos, UNAM, and at Colección de Insectos in the Colegio de Postgraduados *Campus* Montecillo, Texcoco, Edo. de México.

All the collected specimens were *Hesperolabops nigriceps* Reuter (Fig 1a). This is the first time that this species is reported on *O. ficus-indica* from Milpa Alta, Mexico City. It was reported from Calpulalpan, Tlaxcala, and Chapingo, Edo. de México (Froeschner 1967). The insects were easy to find in the 20 fields in Milpa Alta that season. Some plant symptoms helped to find the insects. In general, attacked plants showed small yellow dots; if the population of nymphs or nymphs and adults were high, those yellow dots (0.1-0.3 cm in diameter) might cover more than 50% of the surface pad. The feeding process was observed more in mature, one year-aged and older, than in immature pads. Damaged immature pads are cut away of the plants by farmers, what explains why the damage was commonly observed on mature pads. Pads one-year-old or more showed

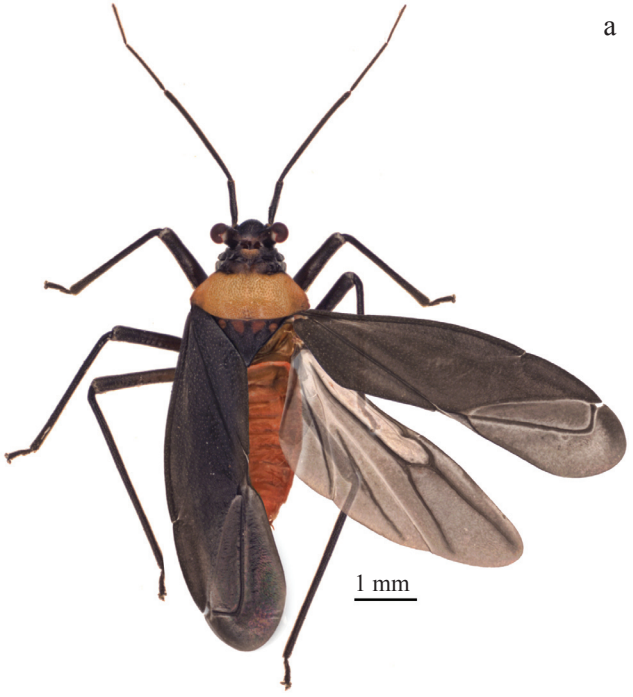

Fig 1 a) *Hesperolabops nigriceps*, in the fore wings the costal vein and marginal area are completely black; b) *Cacarizo del nopal* = damage of *H. nigriceps* on *Opuntia* pads.

that the feeding damage seems to coalesce, and to become a circular or oval brown scar around 1.0 cm in diameter. Those symptoms are called *cacarizo* (Fig 1b), meaning permanent marks on the skin, such as those produced by acne or smallpox on humans.

There is no information on the effect of this feeding damage in *Opuntia*, even though many farmers indicated that pads and plants can be less productive with those symptoms, and some farmers even have called it a disease. Until now, there is no evidence that *cacarizo* symptoms on *O. ficus-indica* can be pathogenic. Because the biology and life history of *H. nigriceps* is not described on *Opuntia*, and because some people indicate that the species is a problem on O. *ficus-indica* in Milpa Alta, some attention should be placed on it.

Other species of the genus *Hesperolabops* have also attacked a number of species of *Opuntia,* as listed in the host plant-list made available by Schuh (1995).

Acknowledgments

We thank Jorge M. Valdez-Carrasco by his time and effort for taking the insect picture. The first author thanks the scholarship support from Consejo Nacional de Ciencia y Tecnología (CONACYT), México.

References

Anonymous (2005) www.siap.sagarpa.gob.mx/siacon, accessed in May 2008.

Badii M H, Flores A E (2001) Prickly pear cacti pests and their control in Mexico. Fla Entomol 84: 503-505.

Casas A, Barbera G (2002) Mesoamerican domestication and diffusion, p.143-162. In Nobel P S (ed) Cacti biology and uses. University of California, Berkeley, 292p.

Carvalho J C M (1957) Catalogue of the Miridae of the world. Part I. Arq Mus Nac R Jan 44: 1-158.

Froeschner C R (1967) Revision of the Cactus Plant Bug genus *Hesperolabops* Kirkaldy (Hemiptera: Miridae). Proceedings of the US Nat Mus 123: 1-11.

Griffith M P (2004) The origins of an important cactus crop, *Opuntia ficus-indica* (Cactaceae): new molecular evidence. Am J Bot 91: 1915-1921.

Mann J (1969) Cactus-feeding insects and mites. Bull 256, Smithsonian Institution, US Nat Mus, Washington D.C., 158p.

Schaffner J C, Carvalho J C M (1981) Additional cactus plant bugs of the genus *Hesperolabops* (Miridae, Hemiptera). Folia Entomol Mex 47: 69-80.

Schuh R T (1995) Plant bugs of the Word. Systematic catalog, distributions, host list bibliography; George Willett Curator, Department of Entomology. American Museum of Natural History New York, NY, 554p.

Received 20/III/09. Accepted 30/III/09.