

**NEW RECORDS OF *HEILIPUS ALBOPICTUS* CHAMPION (COLEOPTERA: CURCULIONIDAE)
INFESTING AVOCADO TREES IN MEXICO**

Alvaro Castañeda-Vildozola, Omar Franco-Mora

Centro de Investigación y Estudios Avanzados en Fitomejoramiento, Facultad de Ciencias Agrícolas, Universidad Autónoma del Estado de México, Campus El Cerrillo, Toluca, Estado de México, C.P. 50200, México; correo electrónico: acastanedav@uaemex.mx

Armando Equihua-Martínez, Jorge Váldez-Carrasco

Colegio de Posgraduados, Campus Montecillo. Km 36.5 Carretera México-Texcoco, Montecillo, Estado de México. C.P. 56230, México; correo electrónico: equihuaa@colpos.mx

Allan González-Herrera

Universidad Nacional, Escuela de Ciencias Agrarias, Laboratorio de Entomología, Campus Omar Dengo. C.P. 86-3000. Heredia, Costa Rica; correo electrónico: allsolo7@hotmail.com

RESUMEN

El picudo *Heilipus albopictus* Champion (Coleoptera:Curculionidae) es reportado por primera vez dañando tallos de aguacatero en huertos de traspatio en el Estado de México y se extiende su distribución previamente conocida en México.

Palabras clave: Molytinae, Hylobiini, barrenador de tallos de aguacate, picudo, plaga del aguacate.

SUMMARY

The weevil *Heilipus albopictus* Champion (Coleoptera: Curculionidae) is reported for the first time damaging avocado stems in backyard orchards in the state of Mexico and its previously known distribution in Mexico is expanded.

Key words: Molytinae, Hylobiini, avocado stem borer, weevil, avocado pest.

INTRODUCTION

Heilipus albopictus Champion (1902: 9) (Coleoptera: Curculionidae: Hylobiini *sensu* Alonzo-Zarazaga & Lyal 1999) is endemic to Mexico, with a narrow distribution range in the States of Morelos and Hidalgo (O'Brien & Wibmer 1987, Morrone 2003). Many species of *Heilipus* Germar occur on host plants in the family Lauraceae, particularly avocado, *Persea americana* Mill. Muñoz-Velez (2001) reported on the stem boring species of *Heilipus* and constitutes one of the scarce publications that mention the association of *H. albopictus* with avocado.

Heilipus albopictus is closely related to other stem boring species of avocado reported from Continental America: *H. apiatus* (Olivier) (= *H. squamosus* Leconte), endemic to the United States; *H. elegans* Guérin with a wide distribution in Costa Rica, Panama, Colombia and Brazil; and *H. catagraphus* Germar and *H. rufipes* Perty, which have only been recorded from avocado in Brazil. Because the great diversity of *Heilipus* species associated with *P. americana*, they are considered one of the most important groups of insect pests associated with avocado in America (Woodruff 1963, Lourenção et al. 1984, 2003, Rubio et al. 2009).

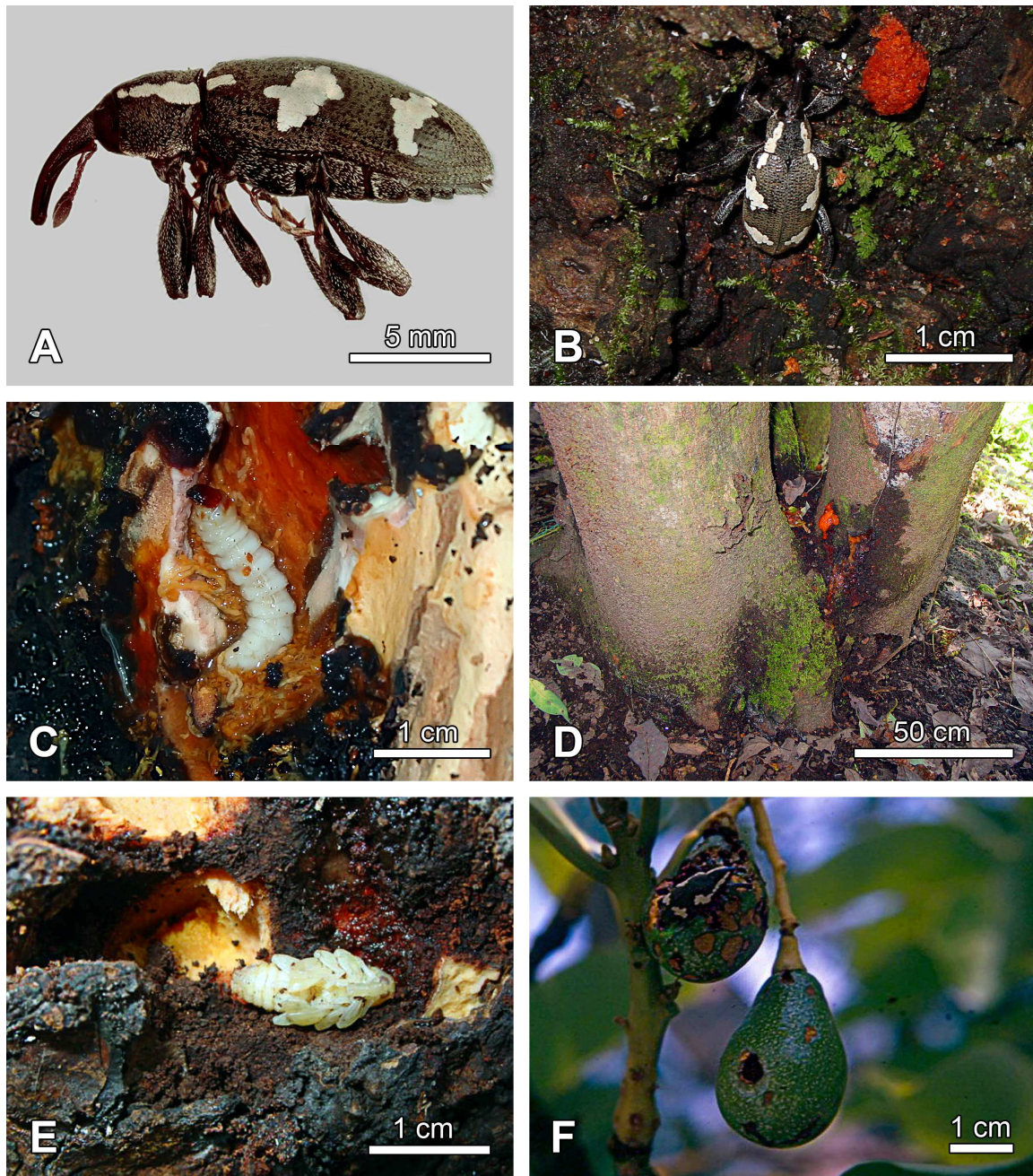


Figure 1. *Heilipus albopictus* attacking avocado trees at Ixtapan de la Sal in 2005. (A) habitus of adult in lateral view; (B) adult at the base of the stem of avocado (C) base of the stem damage caused by larvae; (D) larvae in the stem; (E) pupae in the stem; (F) adult feeding on fruit.

METHODS AND RESULTS

From March to October of 2004, 30 adult specimens of *H. albopictus* were collected perforating stems of native avocado (*P. americana* Mill. var. *drymifolia*). The collecting was done in backyard orchards of the community of Salitre, municipality of Ixtapan de la Sal, state of Mexico (N 18°49'28.2", W 99°39'50.2" LW, 1835 masl). In September 2009, in the community of Meyuca, municipality of Coatepec de Harinas (N 18°51'43.7", W 99°46'48.4", 1836 masl), an adult specimen of *H. albopictus* was collected boring a stem of the avocado cultivar Fuerte. Eight damaged trees with an age of 15 years were observed: five of the cultivar Fuerte and three of the cultivar Hass. The damage was limited to the region of the rootstock of the Mexican race (var. *drymifolia*), damages in stems and branches of the commercial cultivar were not important. Specimens were sent to Charles O'Brien at Green Valley, AZ, U.S.A. for identification and were deposited in the Entomological Collection of Colegio de Posgraduados (CEAM) and the Insect Collection of the Universidad Autónoma del Estado de México (UAE-MEX).

A morphological description of the adult (Figure 1A) can be found in Champion (1902). We observed that *H. albopictus* perforates the base of the stems to a height of 40 cm (Figure 1B). In these holes the female deposits her eggs and the larvae feed on the bark. In 10 affected trees in Salitre, we found up to five larvae in a damaged stem. The larvae feed on the bark of the stems, causing serious damage (Figure 1C). The presence of larvae is associated with a reddish colored exudate accumulation and excrement at the base of the stem (Figure 1D). Pupation occurs in cocoons formed be-

tween the bark and the wood of the tree (Figure 1E). The damage is very similar to that caused by *H. apiatus* and *H. elegans* (Wolfenbarger 1948, Woodruff 1963, Rubio et al. 2009). Also, we observed that the adults fed on buds and fruits of avocado (Figure 1F) although this damage is not deemed important to the plants' fruiting success; similar behavior has been reported for *H. catagraphus* (Lourenção et al. 1984). In Ixtapan de la Sal adults of *H. albopictus* were present from February to October. From February to May the insects were collected on trees and only two specimens were observed feeding on fruits. From June to October the adults were active at the base of the stems, making perforations for oviposition. Larvae were documented from the end of June until April; whereas pupae were only observed in April. In Colombia all stages of development of *H. elegans* occurred from May to June (Rubio et al. 2009). The larvae of *H. apiatus* were recorded in October (Wolfenbarger 1948). Stem borers of *Heilipus* that were previously associated with several native species of Lauraceae, may have now shifted to avocado. The presence of monocultured avocado throughout the year may have favored the appearance of these insects in different parts of continental America (Rubio et al. 2009). It is important to study this group of insects due to the possible economic implications that they could represent in avocado orchards.

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