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A new avocado pest in Central America (Lepidoptera: Tortricidae) with a key to Lepidoptera larvae threatening avocados in California

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Abstract

Cryptaspasma perseana Gilligan and Brown, new species, is described and illustrated from Mexico and Guatemala. This species is a potential pest of the fruit of cultivated avocado, *Persea americana* (Lauraceae). Images of adults, male secondary structures, male and female genitalia, eggs, larvae, and pupae are provided. Details of the life history are reviewed. We provide characters to differentiate this pest from the most common avocado fruit pest in the region, *Stenoma catenifer* (Walsingham) (Elachistidae), and a key to identify Lepidoptera larvae threatening avocado in California. In addition, we provide a complete list of tortricids documented from different avocado varieties worldwide.

Key words: *Cryptaspasma*, Guatemala, Hass, Mexico, Microcorsini, *perseana*, *Persea americana*

Introduction

Cryptaspasma Walsingham is almost exclusively pan-tropical, comprising 34 described species (Brown 2005). It has been recorded from Central America, South America, southern North America, Africa, Madagascar, Australia, New Zealand, New Caledonia, the Orient, and the eastern Palearctic (Horak 2006). The genus has traditionally been considered the sole representative of the tribe Microcorsini (Diakonoff 1959, Horak and Brown 1991, Horak 1999); however, the Australian genus *Collogenes* Meyrick was recently transferred to the Microcorsini by Horak (2006). Microcorsini are hypothesized to be the most basal group in Olethreutinae (Razowski 1976, Horak 2006), and this is supported by recent phylogenetic analyses of the Tortricidae using molecular data (C. Mitter and A. Zwick, pers. comm.). The genus is currently divided into seven subgenera based on geographic distribution and structures of the male genitalia; Aarvik (2005) provided a key to the subgenera.

Species concepts and subgeneric classification in *Cryptaspasma* are poorly resolved, with Diakonoff (1959) providing the only complete revision of the genus to date. In addition to describing new species and illustrating type specimens, he defined five subgenera based primarily on male genitalic structures and geographic distribution. Kuznetsov (1970) proposed the tribe Microcorsini and elevated the five *Cryptaspasma* subgenera to genus rank. Subsequent authors have followed Diakonoff (1959) rather than Kuznetsov (1970) and treated the subgenera as such, although the taxonomic rank of these groups is largely subjective (Aarvik 2005) and questionable (Tuck, pers. comm.). Several new species were described in the later part of the 20th century from islands in the western Pacific and Indian Oceans (Clarke 1976, Bradley 1982, Diakonoff 1983). Brown and Brown (2004) described a new species of *Cryptaspasma* from the southeastern U.S. and provided the first complete world catalogue for the genus. Aarvik (2005) revised the African species of *Cryptaspasma* and proposed two new subgenera, increasing the total to seven. Horak (2006) revised the Australian *Cryptaspasma* and transferred *Collogenes* to Microcorsini. Most recently, Razowski (2011) reviewed the Neotropical Microcorsini and described a new species of *Cryptaspasma* from Costa Rica.

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