



First Record of *Cydia tonosticha* (Meyrick) (Tortricidae) from Chile and a New Host Plant

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Source: The Journal of the Lepidopterists' Society, 69(4) : 331-333

Published By: The Lepidopterists' Society

URL: <https://doi.org/10.18473/lepi.69i4.a1>

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FIRST RECORD OF *CYDIA TONOSTICHA* (MEYRICK) (TORTRICIDAE) FROM CHILE AND A NEW HOST PLANT

Additional key words: *Cydia largo*, Fabaceae, Neotropical, *Prosopis alba*

Cydia Hübner, 1825 is a cosmopolitan and highly diverse genus of Tortricidae (Gilligan et al. 2014) that is currently represented in Chile by two species (Vargas & Parra 2006, Razowski & Pelz 2010): *C. pomonella* (Linnaeus, 1758) and *C. largo* Heppner, 1981. *Cydia pomonella*, commonly known as the codling moth, is a widely distributed pest of apple, pear, and walnut (Gilligan & Epstein 2012); in Chile it is a primary pest of apple (Razowski & Pelz 2010). *Cydia largo*, whose larvae are associated with Fabaceae, was described from southern Florida and was also recorded from Cuba (Heppner 1981); later it was reported from the coastal valleys of the Atacama Desert of Chile (Vargas & Parra 2006), where its larvae are florivorous on *Acacia macracantha* (Fabaceae) (Vargas & Parra 2006, 2009).

As part of a survey of Lepidoptera associated with native plants in the coastal valleys of the Atacama Desert of northern Chile, some seed-feeding larvae were detected in pods of *Prosopis alba* (Fabaceae) in October 2014 in the Lluta Valley, Arica Province. Infested pods were collected and brought to the laboratory in plastic vials and were kept at room temperature to obtain adults. Five adults were reared, and they were identified as *Cydia tonosticha* (Meyrick, 1922) based on morphology of the male and female genitalia (Lima 1952, Heppner et al. 2009, Razowski 2011) (Fig. 1–3).

Cydia tonosticha was described from Amazonas, Brazil, and apparently it is widely distributed in the Neotropics; it has been reported from Panama, Peru, and Venezuela (Heppner et al. 2009, Razowski 2011). Its synonym (*Laspeyresia cassiana* Lima, 1952) also has a Brazilian type locality in Rio de Janeiro State. Larvae of *C. tonosticha* have been recorded as seed-feeders in pods of four species of Fabaceae belonging to the genera *Cassia* and *Stryphnodendron*, based on sampling performed in Brazil and Panama (Lima 1952, Becker 1971, Nomura et al. 1976, Penteado-Dias et al. 2008, Razowski 2011). In the collection of the National Museum of Natural History, Washington, DC, USA (USNM), there are specimens of *C. tonosticha* reared from *Acacia farnesiana* (Panama), *Cassia fistula* (Brazil), *Cassia moschata* (Panama), *Cassia grandis* (Panama), *Senna bacillaris* (Brazil), and *Senna rugosa* (Brazil). Surprisingly, *Punica granatum* (Punicaceae) was recently recorded as a host for *C. tonosticha* in Peru (Heppner et al. 2009). In addition, the wasp *Pseudophanerotoma* (*Pseudophanerotoma*) *alvarengai* Zettel, 1990

(Hymenoptera: Braconidae: Cheloninae) was recorded parasitizing larvae of *C. tonosticha* in Brazil (Penteado-Dias et al. 2008).

This is the first record of *C. tonosticha* from Chile, adding one more country to the distribution range of this widespread Neotropical species. The southern limit previously reported in Peru is in Omate, Departamento de Moquegua, about 200 km north of the Lluta Valley (Heppner et al. 2009). It remains unknown whether the presence of *C. tonosticha* in Chile is a result of a recent range expansion or the species is native to the coastal valleys of the Atacama Desert. Although the original description of *C. tonosticha* was based on Brazilian specimens, its wide distribution raises the question about its evolutionary origin, as the type locality does not necessarily represent the geographic origin of the species (Gonçalves et al. 2015); molecular studies at the population level are required in order to explore this scenario (Valade et al. 2009).

This is the first record of a species of *Prosopis* as a host plant for larvae of *C. tonosticha*, adding one more genus to the family most commonly recorded for this species (Lima 1952, Becker 1971, Penteado-Dias et al. 2008, Razowski 2011). Apparently, Fabaceae is an important host plant family for Tortricidae in northern Chile (Clarke 1987, Vargas & Parra 2006, Vargas 2011).

Finally, the discovery of *C. tonosticha* in northern Chile, together with other recent additions to the Chilean Tortricidae (Vargas & Parra 2006, Vargas 2011, 2012,

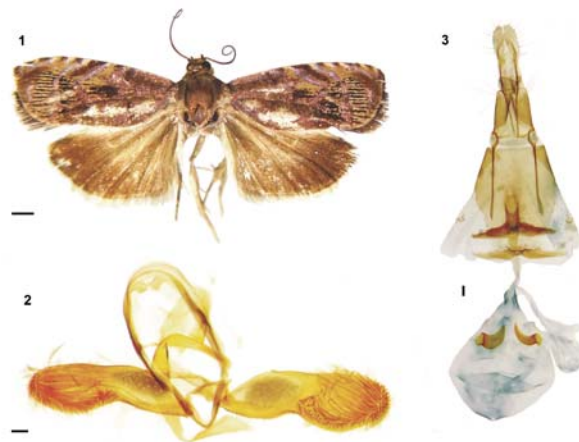


FIG. 1–3. *Cydia tonosticha* (Meyrick, 1922). 1. Female adult in dorsal view; scale bar = 1 mm. 2. Male genitalia in ventral view; scale bar = 0.1 mm. 3. Female genitalia in ventral view; scale bar = 0.1 mm.

Vargas et al. 2015), highlight the importance of surveys to understand the diversity of this family throughout these arid landscapes.

Material examined. Chile, Arica. Three males, two females: Lluta, Arica, Chile, November 2014, D. Bobadilla coll., seed-feeder larvae in pods of *Prosopis alba*, October 2014 (IDEA). Vouchers will be deposited in the Colección Entomológica de la Universidad de Tarapacá (IDEA), Arica, Chile.

ACKNOWLEDGMENTS

The authors thank John W. Brown (USNM) for important comments and suggestions on a preliminary version and for kindly provide the data on host plants of *C. tonosticha* in USNM; Clorinda Vergara-Cobian (UNALM) for sending literature; Patricia Jiménez Guarda (SAG) for encouragement to publish this record; Ricardo Mendoza Mamani (UTA) for field assistance; Marcelo Vargas-Ortiz (UTA) for editing the figures; and Lafayette Eaton for checking the English. This study was supported by project DGI 9710-14, Dirección General de Investigación, Universidad de Tarapacá.

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Submitted for publication 31 March 2015; revised and accepted 22 April 2015.

