Zootaxa 3682 (2): 371–384
www.mapress.com/zootaxa/
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Article

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

http://dx.doi.org/10.11646/zootaxa.3682.2.9
http://zoobank.org/urn:lsid:zoobank.org:pub:FCCE5B34-7DEB-4B8E-B111-35501EC37A1C

Redescription of *Dicranoses capsulifex* Kieffer and Jörgensen (Lepidoptera: Cecidosidae) with description of the immature stages and biology

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Abstract

Dicranoses capsulifex Kieffer and Jörgensen (Lepidoptera: Cecidosidae) is a gall inducing moth associated with *Schinus fasciculatus* (Griseb.) (Anacardiaceae), with a known distribution restricted to Argentina. It undergoes a one year life cycle (univoltine), with leaf-like galls, and adult with only a half day life span. Male, female, pupa, and gall are redescribed, and the genitalia of both sexes, larva, and life cycle are described herein for the first time using light and scanning electron microscopy. The life cycle is documented from samples consisting of 15 larvae and/or pupae taken every 15 days during the year (from July, 2011, to July, 2012).

Key words: life cycle, immature stages, cecidogenic moth, plant gall, South America

Introduction

Kieffer and Jörgensen (1910) proposed the monotypic genus *Dicranoses* to include the new species *Dicranoses capsulifex*. They assigned the genus to the family Yponomeutidae. Davis (1984) later included *Dicranoses* in the family Cecidosidae Bréthes.

Dicranoses capsulifex is a small dark cecidogenic moth whose larva develops within cylindrical leaf-like galls. According to the literature, the hosts are either *Schinus polygamus* (Cav.) or *Duvana* (=*Schinus) dependens* Ortega, depending on the subspecies or variety (not mentioned in the literature) both could be synonyms of *Schinus fasciculatus* (Griseb.) (Anacardiaceae) (Steibel & Troiani 2008). We collected this species on *S. fasciculatus* and *S. johnstonii* Barkley.

Kieffer and Jörgensen (1910) described the gall, pupa, adult, and a new species of parasitoid wasp associated with *D. capsulifex*. Jörgensen (1917) summarized the information available at that time for the species and Davis (1998) reviewed the family Cecidosidae. However, the larva of *D. capsulifex* was never described and the biology of the species was never explored.

The objective of this work is to redescribe the adult, pupa, and gall of *D. capsulifex*, and to describe the larva and provide information on its biology.

Material and methods

Adults were reared from *Schinus fasciculatus* at Chacras de Coria, Luján de Cuyo, Mendoza, Argentina. To study adult behavior, a cage made of tulle fabric and transparent plastic was placed on stems containing galls. Immature stages were obtained by dissecting galls every 15 days for a year (from July 2011, to July 2012). For each sample day, 15 larvae and/or pupae were collected, from galls of various sizes. The length of the gall and larva were measured for each sample. The head of each larva was then separated from the body and mounted in Euparal for head width measurements. For morphological studies, larvae were fixed in boiling water and then preserved in

Accepted by J-F. Landry: 30 May 2013; published: 27 Jun. 2013