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Revalidation of *Oliera Brèthes* (Lepidoptera: Cecidosidae) based on a redescription of *O. argentinana* and DNA analysis of Neotropical cecidosids

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Abstract

Larvae of *Oliera argentinana*, Brèthes 1916 (Lepidoptera: Cecidosidae) were rediscovered inducing spindle-shaped galls enclosed within swollen stems of *Schinus* (Anacardiaceae) in central Argentina and Rio Grande do Sul, the southernmost state of Brazil. Male, female, immature stages, and plant galls of *O. argentinana* are redescribed, using optical and scanning electron microscopy. The genus *Oliera* Brèthes, 1916, previously a junior synonym of *Cecidoses* Curtis, 1835, is revalidated, by comparing morphological characteristics within the family and through an analysis of mitochondrial (COI) DNA sequences, including putative members of the four Neotropical cecidosid genera. Information on preliminary Cecidosidae phylogeny and taxonomy is also provided.

Key words: Gall moths, *Schinus*, Anacardiaceae, Neotropics

Introduction

Cecidosidae comprise a small group of ancient, poorly known moths found in austral South America, South Africa, and New Zealand. With the exception of the recently described *Xanadoses nielsenii* Hoare & Dugdale, 2003, which is a bark-miner of several New Zealand bark trees, all are gall-makers on Anacardiaceae (Pellmyr & Leebens-Mack 1999). In South America, they are represented by four genera; *Dicranoses* Kieffer & Jörgensen, 1910 with two species; and the monotypic *Cecidoses* Curtis, 1835, *Eucecidoses* Brèthes, 1916, and *Oliera* Brèthes, 1916 (Davis 1998; Hoare & Dugdale 2003). Their galls have been reported from populations located in Chile, Argentina, Uruguay, and Southern Brazil, all associated with *Schinus* (e.g., Curtis 1835; Kieffer & Jörgensen 1910; Tavares 1915; Brèthes 1916; Jörgensen 1917; Wille 1926; Houard 1933; Biezanko *et al.* 1957; Biezanko 1961; Becker 1977; Núñez & Sáiz, 1994; Sáiz & Núñez 1997).

Apart from the detailed work carried out by Wille (1926) on the gall morphology and life history of *Cecidoses eremita* Curtis, there exists little knowledge on cecidosid biology. Taxonomic studies on South American species are largely restricted to their original descriptions provided by Curtis (1835), Kieffer & Jörgensen (1910), and Brèthes (1916). Becker (1977) and Parra (1998) proposed *Eucecidoses* and *Oliera* as synonyms of *Cecidoses*, respectively. However, these synonymies have not been universally adopted due to the lack of information on their phylogeny and possible confusion related to the life history and identity of *Oliera argentinana* Brèthes (Davis 1998; Hoare & Dugdale 2003). The present study addresses these questions, with emphasis on the latter.