

**Taxonomic Identification, Population Variation and Damage  
Assessment of Cinnamon (*Cinnamomum zeylanicum* Blume)  
Leaf Miner in Sri Lanka**

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## ABSTRACT

Cinnamon leaf miner is a common minor pest in cinnamon cultivations of Sri Lanka. Present study was undertaken to identify the larval taxonomy and adult morphology, population variation and damage assessment of cinnamon leaf miner. For the identification, the insects reared both under field and laboratory conditions were observed and published standard taxonomic keys were referred to identify the larva and external morphology of the adult was compared with the previous reports of the experts. In order to study the population variations one hundred number of tagged plants were selected with new flush and counted the number of infested leaves over a period of time until the leaves of the selected cinnamon plant were matured. For damage assessment progressive expansion of the mine created by the leaf miner was measured using grid sheets. Image J software was used to calculate infested area and for both, graphical representations were formed. The initial instars of the larva were transparent, whitish in colour and it changed to a glittering red towards the pupation. Larva was characterized by the strong and sclerotized mandibles which enable it to vigorously devour leaf tissues. Antennae were short, three segmented and located towards the front of the head. Unequal, five stemmata were located laterally and posteriorly to the antennae. Four segmented strong thoracic legs ended with a claw. Abdomen consisted of 8 segments while pseudo legs were located on the iii, iv, v and x abdominal segments. Equal crochets were in a complete circle. The larva made an irregular shaped tunnel inside the immature leaf of cinnamon and continued to grow up to a length of 5mm inside the mine before pupating in a semitransparent external cocoon of 6mm. The adult was a greyish moth of 3 to 5mm in length with a wingspan of 7 to 9mm. Wings are entire, scaled, lack stigma on front wing between C and R. Hind wings are fringed. Filiform antenna not knobbed at the tip with more than 41 segments longer than forewings. Proboscis coiled. Tibial spurs are conspicuous. Basal segment of antennae enlarged forming an eye cap. Present study confirmed that the Cinnamon leaf miner belongs to the *Acrocercops* spp. under Order Lepidoptera, Family Gracillariidae and Subfamily Gracillariinae. The leaf miner population correlated with the availability of immature leaves in the field and resulted considerable damage for Cinnamon plants both quality and quantity wise. **Keywords:** *Acrocercops* spp.; *Cinnamon zeylanicum*; Damage assessment Gracillariidae; Population variation; Taxonomy