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225

Morphology and behaviour of the larva of C*alindoea trifascialis* (Lepidoptera: Thyrididae), a chemically-defended retreat-building caterpillar from Vietnam

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Abstract

The final- instar larva of *Calindoea trifascialis* is described and illustrated for the first time, including chaetotaxy. All instars have paired fleshy lateral protuberances associated with large exocrine glands on the first abdominal segment. When disturbed, the larvae secrete defensive allomones that deter ants. The larvae construct tent-like feeding retreats and skeletonize the leaves of *Dipterocarpus tuberculatus* while concealed within the retreat; retreats of increasing size are constructed throughout larval development. When feeding is completed, the final-instar larva constructs a pupation retreat. This leaf roll falls from the plant and is capable of movement prior to pupation. The morphology and larval retreats of an unidentified species of thyridid from Queensland, Australia are also illustrated and discussed in the context of the new information concerning *C. trifascialis*.

Key words: abdominal protuberances, allomones, exocrine glands, defense, Dipterocarpaceae, weaver ants, Vietnam, Australia

Introduction

Thyrididae are mainly tropical and subtropical moths with about 760 described species currently classified in 4 subfamilies (Dugdale *et al.*, 1999). The biology and phylogenetic affinities of this family are poorly understood. Although thyridids are often associated with the Pyraloidea (e.g., Neunzig, 1987), no synapomorphies have been identified that support this assignment (Scoble, 1995; Dugdale *et al.*, 1999). Thyridid specimens are

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