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A new, prairie-restricted species of *Anacampsis* Curtis (Lepidoptera: Gelechiidae) from Illinois

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Abstract

Anacampsis wikeri (Lepidoptera: Gelechiidae), new species, is described. The larva of *A. wikeri* feeds on leaves of a prairie legume, leadplant, *Amorpha canescens* (Fabaceae). The moth is univoltine, with mature larvae occurring in late May; adults are active from early June into summer and autumn, while overwintering throughout the winter months. The adult of *A. wikeri* is externally very similar to that of another legume-feeding species, *Anacampsis psoraliella.* Sight identification of adults of these two species, especially of unreared individuals originating in the multi-state area of the Midwest in which their respective larval hostplants are sympatric, therefore is rendered problematic. Larval host plant specificity and adult genital morphology, however, allow unequivocal diagnosis. These characters are discussed, and male and female genitalia are illustrated for both species.

Key words: Microlepidoptera, taxonomy, larval hostplants, Fabaceae, *Amorpha*, *Psoralea*, *Pediomelum*, *Psoralidium*, *Orbexilum*, prairie ecology, conservation biology

Introduction

The genus *Anacampsis* Curtis (Lepidoptera: Gelechiidae) is primarily Holarctic in distribution. It is well represented in America north of Mexico, where 23 described species are known to occur (Lee *et al.* 2009). Larvae of the majority of species in the genus are monophagous or oligophagous; for example, nine out of 13 Nearctic *Anacampsis* species listed by Robinson *et al.* (2009) are recorded on plants of only one respective genus.

Dependence upon one or a few related plant species by a phytophagous insect can result in obligate association of the insect with a particular biotic community. Some communities occur as tracts that are so restricted in number and size that they have become the subject of active efforts aimed at their preservation and management. During the course of our study of microlepidoptera of one such community (tallgrass prairie), Illinois lepidopterist James R. Wiker brought to our attention a moth that he reared from a larva feeding on leaves of leadplant, *Amorpha canescens* Pursh (Fabaceae), a prairie-restricted legume. The moth proved to be an undescribed species of *Anacampsis*. The adult of the leadplant-feeding *Anacampsis* is externally very similar to that of a described species, *Anacampsis psoraliella* Barnes and Busck (1920), which similarly feeds on prairie-associated Fabaceae (namely, several species formerly ascribed to the genus *Psoralea* Linnaeus).

In developing an effective management strategy, it is advisable to be aware, to the greatest possible degree, of the ecological profiles of all biotic components that occur in the community in question. Therefore, to bring this insect to the attention of biologists who are involved with studies and/or management of prairie communities, to delineate the life history of the moth, to provide information that will allow its accurate identification, and to name the species so that communication regarding it can be facilitated, we provide a description of the leadplant-feeding *Anacampsis*.

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