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## **Habitat Selection and the Effects of Predominating Light on the Development of *Tenodara Aridifolia Sinensis***

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Poster Presentation P31

**HABITAT SELECTION AND THE EFFECTS OF PREDOMINATING LIGHT  
ON THE DEVELOPMENT OF *TENODARA ARIDIFOLIA SINENSIS***

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*Tenodara aridifolia sinensis*, also known as the Chinese praying mantid, is an introduced species in North America. With no major predators, this insect has thrived and successfully incorporated itself into ecosystems throughout the Midwest and Eastern seaboard. Juveniles of *T. aridifolia sinensis* are easy to rear in laboratory settings, making it an ideal insect for experimentation.

Specimens of *T. aridifolia sinensis* have three predominant morphological patterns with respect to exoskeleton coloration; they are green, brown, or a mixture of the two. As such, these insects are usually found in habitats similar to their color (i.e., green mantids are found on leaves, brown ones on bark). This study sought to determine whether mantis exoskeleton color was under the control of environmental influence, namely the predominating color of light in which they live. Approximately one hundred nymphs of *T. aridifolia sinensis* were reared from birth, isolated in chambers with colored light (red, blue, green, and clear). All other environmental factors were standardized. Color was quantitatively assessed using a spectrophotometer to measure reflected wavelength from the exoskeleton of each mantid.

Additionally, this study built upon previous research (Wilder 2004) with regard to factors used by specimens of *T. aridifolia sinensis* in selecting a suitable habitat. Twenty nymphs of *T. aridifolia sinensis* were subjected to a habitat selection experiment, whereby each nymph was placed in a chamber with four choice paths, each with a different habitat treatment (e.g., cricket feces, pollen, bright colors). Time-lapse photography was used to record mantis activity.