

**INVENTORY OF MOTHS (INSECTA: LEPIDOPTERA) OF PAYNES PRAIRIE PRESERVE  
STATE PARK, ALACHUA COUNTY, FLORIDA (SECOND YEAR)  
Interim Report under Research/Collection Permit Number 07070742**

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**ABSTRACT:** This is an update after the second year of the inventory of moths at Paynes Prairie Preserve State Park. After 70 nights of sampling (June 2007 to June 2009), a total of 733 species have been recorded.

## **INTRODUCTION**

The inventory of the moths of Paynes Prairie Preserve State Park continued into a second year, again focusing on the southern portion of the park at the same sites that were sampled regularly during 2007-2008 (see Austin 2008).

## **METHODS**

Inventories were conducted almost exclusively using a 40W ultraviolet light suspended on one side of a vertical white sheet (approximately  $2.0 \times 2.4$ m), supplemented irregularly with a variable number of ropes soaked in a fermented mixture of red wine and sugar and hung on twine strung between trees. Lights were set at sunset and maintained for two to nine hours (depending upon levels of activity) on forty dates from late June 2008 to early June 2009 (1 in June, 3 in July, 4 in August, 5 in September, 3 in October, 3 in November, 3 in December 2008 and 2 in January, 3 in February, 4 in March, 4 in April, 3 in May, and 2 in June 2009). Four sampling sites were used exclusively during this period, all in the southern section of the park. Those sites (parking lot adjacent to the entrance station, vicinity of Puc Puggy Campground, overflow parking lot, and trailhead to Chacala Trail) were rotated from week to week resulting in about equal sampling of each through the year. As previously, voucher specimens of all species attracted to lights and bait were collected on each visit to give an indication of site-specific richness and phenology. Those specimens, returned to the laboratory, prepared, labeled, sorted, and identified, are deposited in the collection of the McGuire Center for Lepidoptera and Biodiversity.

## **RESULTS**

Approximately 733 species of moths are now known from Paynes Prairie Preserve State Park after 70 nights of sampling over a period of two years (see Appendix). Of these, 617 have been identified to at least

the generic level. These are distributed among 33 families. The Noctuidae (206 species) and Pyralidae (155 species) not surprisingly continuing as the most species-rich families that combined comprise nearly 50% of the fauna.

## **DISCUSSION**

This two years of this investigation has established a solid foundation for understanding species richness of moths within Paynes Prairie Preserve State Park. The total of over 700 species now recorded after 70 nights of study perhaps approaches two-thirds of the richness expected for such an area in north-central Florida. As the investigation enters its third year, four additional sites have been identified for sampling. Those will increase the knowledge of spatial and potentially ecological breadth of the distributions of moths at Paynes Prairie. These will further serve to augment information on temporal distributions of the park's moths. In addition, during this third year, a second principal researcher, Matthew J. Standridge, will be included in this project. He will serve a major role in the field-based portion of this investigation.

## **ACKNOWLEDGMENTS**

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## **LITERATURE CITED**

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