

INVESTIGATOR'S ANNUAL REPORT

United States Department of the Interior National Park Service OMB # (1024-0236) Exp. Date (02/28/2014) Form No. (10-226)

All or some of the information you provide may become available to the public.

Reporting Year: 2011	Park: Big Thicket N PRES				Select the type of permit this report addresses: Scientific Study		
Name of principal investigator or responsible official: Michael Pogue					Office Phone: 202-633-4566		
Mailing address: USDA/Systematic Entomology Lab Smithsonian Institution, NMNH, MRC-168 P.O. Box 37012 Washington, DC 20013-7012 USA					Office FAX Office Email		
Additional investigators or key field assistants (first name, last name, office phone, office email) Name: Mark A. Metz Phone: 202-633-4563 Email: mark.metz@ars.usda.gov							
Project Title (maximum 300 characters): A Survey of the Noctuoidea (Lepidoptera) of Big Thicket National Preserve Park-assigned Study or Activity #: Park-assigned Permit #: Permit Start Date: Permit Expiration Date:							
BITH-00086BITH-2010Scientific Study Starting Date: Oct 19, 2010Oct							
For either a Scientific Study or a Science Education Activity, the status is:			For a Scientific Study that is completed, please check each of the following that applies:				
Activity Type: Inventory Subject/Discipline:							

Invertebrates (Insects, Other)

Purpose of Scientific Study or Science Education Activity during the reporting year (maximum 4000 characters):

This year I continued a survey of the Noctuoidea of Big Thicket National Preserve, Kuntze, TX. The Noctuoidea is the largest superfamily of moths and includes the following families in the survey: Nototdontidae, Noctuidae, Nolidae, Euteliidae, and Erebidae. This survey will complement and be compared with the completed survey of Great Smoky Mountains National Park, Gatlinburg, TN and the ongoing survey of Valles Caldera National Preserve, Jemez Springs, NM. All specimens collected will be individually numbered and databased. The specimens will also be kept in a spreadsheet format that will be used to predict species richness using the Estimates program. This is a tool that will be used to determine when the survey has reached completion. All specimens will be curated according to collection management procedures outlined by the Department of Entomology, Smithsonian Institution. A synoptic collection will be provided to the Big Thicket National Preserve if requested.

Findings and status of Scientific Study (including collections made and catalog status of retained specimens and retained material originating from such specimens) or accomplishments of Science Education Activity during the reporting year (maximum 4000 characters):

The study took place from May 18-23 and from August 18-20, 2011. Collections took place in the following units: Lance Rosier, Big Sandy, Jack Gore Baygall, Lower Neches River Cooridor, and Turkey Creek. A total of 90 species were added to the list from last year and a total of 142 species have been collected. In 2011 a total of 868 specimens were collected. As with last year the Erebidae made up 65% of the species collected and the Noctuidae 34%. This is far different than the makeup of these families in North America where the Erebidae makes up 26% and the Noctuidae makes up 69% of the fauna. By the collections taken so far, I would say that the number of species present in the Preserve are substantially less than they should be. I believe that the severe drought that has taken place over the past few years has had a great impact on the number of species present. The species Gondysia telma (Sullivan) was described from the southeastern U.S. in 2010 and is associated with hydric forests in the coastal plains in North Carolina and Georgia. Two specimens of this species were taken in the Jack Gore Baygall Unit on 20 May 2011, which is a standing water forest. This species could be a good indicator species for the Baygall type habitat. Less than 15 specimens are known.

For Scientific Studies (not Science Education Activities), do you still retain any specimens collected from the park or material originating from such specimens that have not been destroyed during analysis? Yes

If "Yes", identify each institution and type of material where the specimens or material originating from such specimens currently are housed:

National Insect Collection

National Museum of Natural History

Smithsonian Institution

10th and Constitution Ave. NW

Washington, DC 20560

Funding specifically used in this park this reporting year that was provided by NPS (enter dollar amount):	Funding specifically used in this park this reporting year that was provided by all other sources (enter dollar amount):
\$0	\$2200

List any other U.S. Government Agencies supporting this study or activity and the funding each provided this reporting year:

Paperwork Reduction Act Statement: A federal agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. Public reporting for this collection of information form is estimated to average 0.25 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the forms. Direct comments regarding this burden estimate or any aspect of this form to Dr. John G. Dennis, Natural Resources (3130 MIB), National Park Service, 1849 C Street, N.W., Washington, DC 20240.

Privacy Act Notice. Scientific research, education and collecting activities within units of the National Park System that may impact parks invoke a permitting and reporting requirement per regulations at 36 CFR 1.6 (Permits), 36 CFR 2.1 (Preservation of Natural, Cultural and Archeological Resources), and 36 CFR 2.5 (Research Specimens). The National Park Service collects information about permit applicants and permittees to administer and document research, collecting, and reporting activities within parks. The information disclosed on this form is required and may result in denial of permit applications if not provided.