

# BIODIVERSITY & CITIZEN SCIENCE



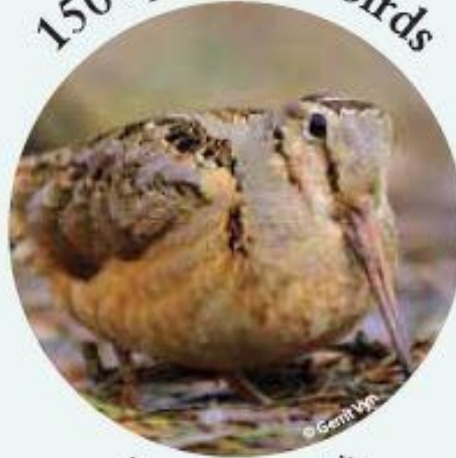
DUKE FOREST ANNUAL GATHERING  
NOVEMBER 8, 2018

# WILDLIFE ON THE DUKE FOREST

Who lives  
here anyway?

*Plus many more  
important insects!!!*

150 species of birds



American Woodcock

80 species of butterflies



Black Swallowtail

60 species of amphibians & reptiles



Eastern Rat Snake

30 species of mammals



Bobcat

# WILDLIFE MANAGEMENT

## GOAL:

Promote a diverse population of animals native to the Piedmont of North Carolina

## APPROACH:

### Objective 1 – Do No Harm:

- Promote landscape and stand level habitat diversity
- Minimize and mitigate negative impacts caused by timber management, recreational use, and other activities

### Objective 2 - Wildlife Monitoring & Baseline Establishment:

- Develop a research program that uses citizen science, class projects, theses, etc. to better understand current wildlife diversity and distribution

### Objective 3 - Using Management Interventions to Promote Wildlife:

- Use research program outputs to direct targeted management interventions that specifically promote particular species, taxa, and/or guilds



# WILDLIFE RESEARCH: CITIZEN SCIENCE

## Duke Forest's First Ever Program!

Herpetofauna (Amphibians & Reptiles)  
of the Duke Forest  
Science Advisor: Dr. Nicki Cagle

Purpose: To collect data that increases understanding of the herps in Duke Forest so we can better protect them.

- Launched program in August 2018.
- Ran through October 2018.
- Trained 22 citizen scientists.
- Monitored 6 transects each week across different habitats in the Durham Division.
- Run again March – October 2019



# HERPETOFAUNA CITIZEN SCIENCE RESULTS

Species	Count
American Toad ( <i>Bufo americanus</i> )	2
Copperhead ( <i>Agkistrodon contortrix</i> )	1
Eastern Garter Snake ( <i>Thamnophis sirtalis</i> )	1
Ground Skink ( <i>Scincella lateralis</i> )	5
Rat Snake ( <i>Elaphe obsoleta</i> )	4
Ringneck Snake ( <i>Diadophis punctatus</i> )	1
Salamander (Unidentified)	2
Skink (unidentified)	2
Smooth Earth Snake ( <i>Virginia valeriae</i> )	1
Snake (Unidentified)	1
Southern Two-lined Salamander ( <i>Eurycea cirrigera</i> )	2
Spotted Salamander ( <i>Ambystoma maculatum</i> )	2
<b>Grand Total</b>	<b>24</b>

Eastern Garter Snake



Ringneck Snake



Two-lined Salamander



Smooth Earth Snake



Ground Skink



Spotted Salamander



# WILDLIFE RESEARCH: CITIZEN SCIENCE

## North Carolina Butterfly Monitoring Project

Jeff Phippen runs a transect in the Durham Division of the Duke Forest. All of the data is contributed to a national database of butterfly survey data called the PollardBase and to the Natural Heritage database.

May 2018 – October 2018

# Butterfly species encountered: 46  
# Butterfly individuals tallied: 2,136

New species for Durham County & Duke Forest!



Byssus Skipper (*Problema byssus*)  
Duke Forest, Durham Co., NC  
11 Sep 2018



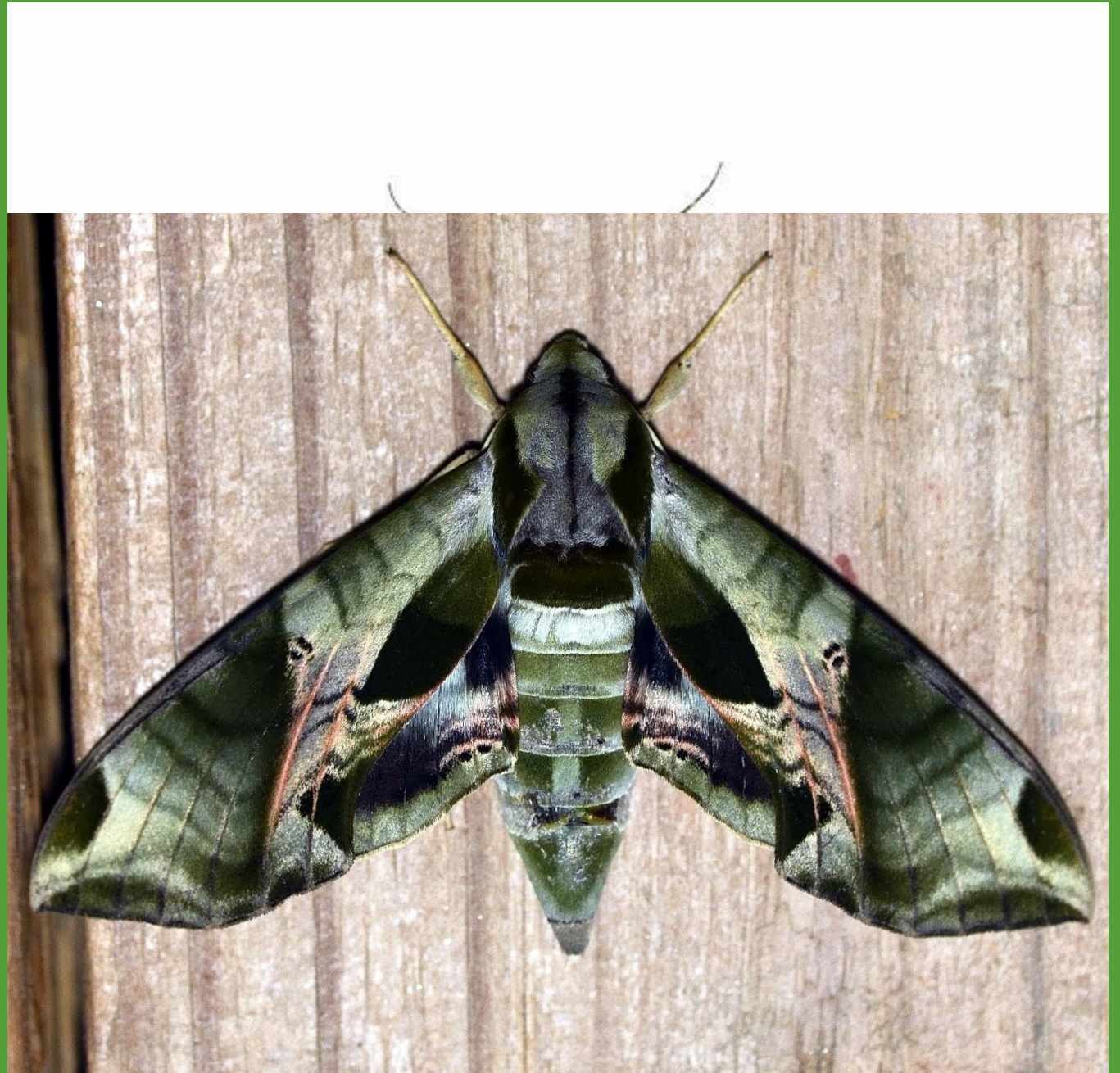
© Jeffrey S. Phippen  
Gemmed Satyr (*Cyllopsis gemma gemma*)  
Durham Co., NC  
11 Sep 2018

# WILDLIFE RESEARCH: CITIZEN SCIENCE

## Moths of North Carolina

Steve Hall has been conducting surveys of Lepidoptera (moths & butterflies) and Orthoptera (grasshoppers, crickets, and related) in the Blackwood Division of the Duke Forest since 2015. Information on Lepidoptera entered onto the Moths of North Carolina website.

Rare Moth Found: *Lytrosis permagnaria*



# TREE PHENOLOGY: CITIZEN SCIENCE

Our newest citizen science project

Science Advisor: Rebecca Dalton, Ph.D.  
Candidate

Purpose: To identify and record data about the timing of spring flowering and leaf-out of Duke Forest trees.

- These data will contribute to the National Phenology Network's tracking of how biological events may be shifting because of climate change.
- It will also help us better understand the localized impacts to the Forest.
- Launching February 2019





A dense forest of tall, thin trees, likely pines or firs, with a teal color overlay. The trees are arranged in a regular pattern, and the ground is covered with low-lying vegetation and fallen branches. The text "Clarence F. Korstian Award 2018" is centered in the middle of the image in a white, serif font.

Clarence F. Korstian Award 2018

# Clarence Korstian Award 2018

## Tom Griffin

