



PRESENTATION SUMMARIES AND TAKE-HOME MESSAGES

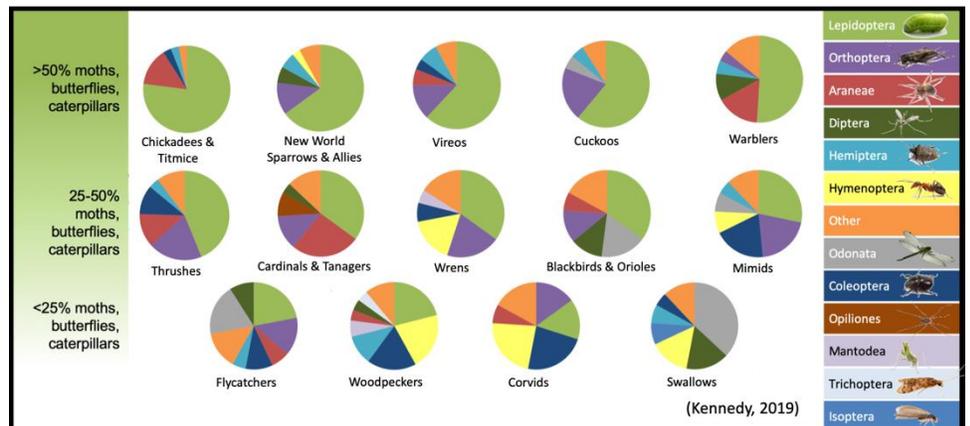
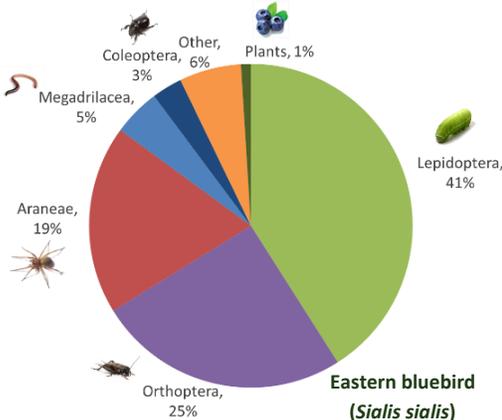
**Ashley Kennedy | What Do Birds Eat? Examining breeding bird diets to improve avian conservation efforts**

With over 430 North American bird species at risk of extinction and threats to their survival<sup>1</sup> looming larger than ever, it is critical that we ensure that remaining bird habitats provide everything they need for survival. Virtually all (96%) of North American terrestrial birds rear their young with insects; this is because they are abundant, packed full of protein and fats, and often rich in immune-boosting carotenoids. But which insects are the most important for birds?



Dr. Kennedy, who recently wrapped up her PhD at the University of Delaware studying under Doug Tallamy, tackled this question from multiple angles. Collecting data via still photography, food choice experiments, and nutritional analyses, her doctorate research described in novel detail and precision the diets of all North American bird groups, prey preferences of the eastern bluebird, and carotenoid content of over a dozen insect types.

To understand bluebird diets, she set up automatic GoPro cameras to capture images (1/sec) of adults bringing food back to the nest. This study revealed that moths/butterflies (and their caterpillars) make up the largest segment of their diet, followed by beetles (and their grubs), and spiders. A follow-up prey choice experiment suggested that these birds preferred softer-bodied insects or insects with relatively higher concentrations of carotenoids. To investigate whether these patterns held across other terrestrial North American birds, she called on amateur and professional photographers to submit images of birds holding insect prey. She found that most breeding birds (10 out of 14 groups investigated) had diets made of more than 25% moths, butterflies, and their caterpillars. Analyses of the nutritional content of 14 insect groups provided further evidence that insect groups making up a larger portion of bird diets had, on average, greater carotenoid content as well.



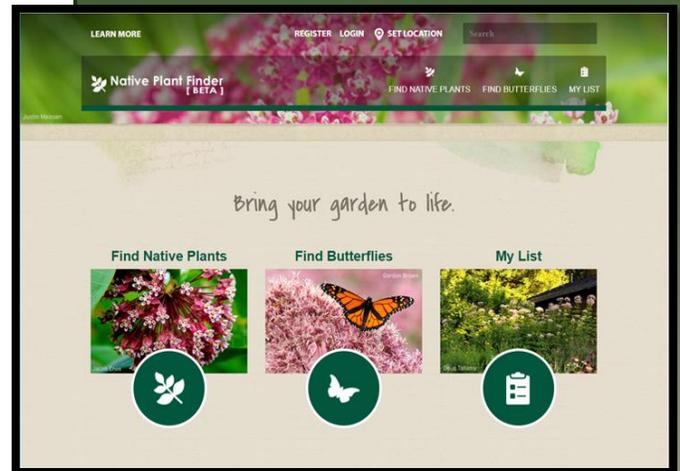
<sup>1</sup> Threats, such as habitat loss or habitat degradation, predation from domestic cats, mortality from collisions with man-made structures, and behavioral disruptions caused by persistent artificial light at night

Dr. Kennedy's talk drove home several key conclusions, the most resounding of which was that "Caterpillars Are Important!" Yet, as we already know, most caterpillars are very host-specific and need native plants on which to feed and reproduce, meaning that landscapes with non-native and invasive plants (as most human-dominated places are) cannot provide suitable habitat for caterpillars or, by extension, birds. So, to save the birds, the answer is clear: plant native, and plant variety! Gardens and landscapes filled with native plants will feed a bounty of caterpillars that can sustain the birds we love.

To learn more, check out these resources:

- **XERCES SOCIETY FOR INVERTEBRATE CONSERVATION**  
[Establishing Pollinator Meadows from Seed](#)
  - Recommendations for meadow plantings for small backyards.
- **VIRGINIA DEPT. OF GAME AND INLAND FISHERIES (VDGIF)**  
[Beyond the Bird Feeder: Attract and Support Birds with Native Plants](#)
  - An blog describing how VDGIF can help readers create wildlife habitat.
- **VIRGINIA COOPERATIVE EXTENSION & VDGIF**  
[Habitat Gardening for Wildlife](#)
  - Recommendations for creating a wildlife garden that balances beauty and utility

## Want To Find Out What's Native in Your Neck of the Woods?



### Go online! "[Native Plant Finder](#)"

*a collaborative project among the U of Delaware, Doug Tallamy, US Forest Service, and National Wildlife Federation.*

<https://www.nwf.org/NativePlantFinder/>

## Allison Otto & Maria Clinton | The Love Bugs (<http://www.thelovebugsfilm.com/>)



Entomologists Charlie and Lois O'Brien amassed more than 1 million insects from nearly 70 countries —the largest private collection in the world — during the course of their long and storied careers. Now Lois, 90, and Charlie, 85, decide to give away their drawers full of iridescent weevils and planthoppers to further science.



The Love Bugs is a light-hearted portrait of two aging but dedicated scientists that captures the tender moments, inside jokes and good-natured bickering that can only come from sharing a marriage and career for 55 years.

Virginia Working Landscapes was proud to offer an exclusive screening of this film, which is still making the rounds in festivals across the country to much critical acclaim.

