

Jigsaw

*Advancing
Student-Active Learning in
Ecology Education*



Published by the ESA Office of Education and Diversity Programs

September 2014

Vol. 4 Issue 6

Photo from EcoEdDL: Great Blue Heron (*Ardea herodias*) capturing fish at Seney National Wildlife Refuge by Christopher Lepczyk, University of Hawai'i at Manoa, Natural Resources and Environmental Management

Special Feature: Foraging Behavior

What's new in EcoEdDL

Effects of multiple invasive species in experimental aquatic communities

By Miranda D. Redmond and Daniel L. Preston, University of Colorado

Photo by Jeremy Monroe/Freshwaters Illustrated.



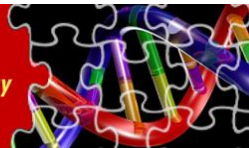
Students work in small groups to collect background information on what mosquitofish and bullfrogs consume and then modify a food web based on that knowledge. Students develop hypotheses of how these two invasive species may affect native amphibian species, snails, and zooplankton.

Announcements

LIFE DISCOVERY - DOING SCIENCE

Realizing Vision & Change, Preparing for Next Generation Biology

OCTOBER 3-4, 2014 - SAN JOSÉ STATE UNIVERSITY, SAN JOSÉ, CA



Passionate about Biology education for the next generation? Join us!
Advance Registration is available through September 15, 2014!



2nd Life Discovery – Doing Science Education Conference
October 3-4, 2014
San José State University
Advance Registration available through September 15, 2014



NSF Call for Nominations for Presidential Awards for Excellence in Science, Mathematics and Engineering Mentoring (PAESMEM)
Due October 3, 2014

EcoEdDL Stewards

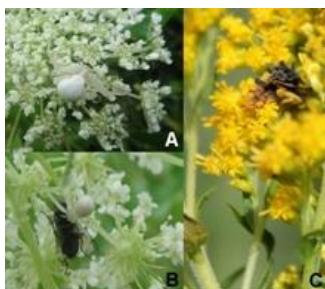
Resources



Special Feature: Foraging Behavior

Foraging behavior of insect pollinators in the presence of ambush predators

By Ivana Stehlik, University of Toronto at Scarborough and Christina Thomsen University of Toronto at Mississauga



Students investigate how ambush predators such as the common ambush bug (*Phymata americana*) or the common crab spider (*Misumena vatia*) influence the foraging behavior of insect pollinators on flowers. This project involves an experimental manipulation of predator presence and subsequent pollinator observation over the course of a single or several lab periods.

Roots as Foragers

By Stanley A. Rice, Professor of Biological Sciences, Southeastern Oklahoma State University



In this project, students can experience plants as responsive rather than passive organisms. Roots forage through heterogeneous media and proliferate in portions of the soil that have abundant nutrients. Students can see and measure this growth. Students also get to address issues of experimental design such as the sequence effect.

Acorn Foraging as a Means to Explore Human Energetics and Forge Connections to Local Forests

By Pamela Lockwood et al, Professor of Biological Sciences, Pennsylvania State University



In this unusual ecology laboratory/field exercise, students imagine themselves as a group of indigenous woodland people attempting to gather food stores that will carry them through the winter. In doing so, they grapple with issues of human energetics, foraging strategy, carrying capacity, and experimental design.

Editorial Board

Ken Klemow
Kathleen Shea

Advisory Board

David Kirschtel
Gerd Kortemeyer
Nora Bynum
Philip Bourne

Life Discovery Partners

Botanical Society of America
Society for the Study of Evolution
Society for Economic Botany

Committee on Diversity and Education (CDE)

ESA Education & Diversity programs staff

Teresa Mourad, Director of Education and Diversity Programs
Fred Abbott, Diversity Programs Coordinator
Léa Dolimier, Education Intern
Tracy Estelus, Education Intern

Education Resource Partners



ESA Education and Diversity
Like us on Facebook!

Photo from EcoEdDL: [A Male Klug's clearwing butterfly \(*Dircenna klugii klugii*\) Foraging on a Coffee Flower \(*Coffea arabica*\) in Finca Irlanda of the Soconusco Region of Chiapas, MX](#) by Stacy Philpott, National Zoological Park, Smithsonian Migratory Bird Center

Want more Foraging Behavior resources? [Click here!](#)

You are receiving this newsletter because you are either in ESA's Education Section or have been involved with ESA's Education Initiatives. [You may edit your subscription or unsubscribe here at any time.](#)

To view past issues of **Jigsaw** go to [ESA's Jigsaw home page](#)
To learn more about **EcoEd Digital Library** go to: <http://ecoed.esa.org/>
If you have any questions, e-mail ecoeddl@esa.org