

## Conducting an Inventory of the Big Thicket

When it comes to learning about biological diversity, nothing beats “diving headfirst into nature.”

That’s the way Olivia Ragni, a senior in Rice’s Biological Diversity Lab, described her experience this October when she and her classmates joined forces with local experts to conduct an inventory of the flora and fauna of the Big Thicket National Preserve near Kountze, Texas.

The students were joined by Nancy Grieg, director of the Cockrell Butterfly Center at the Houston Museum of Natural Sciences; Cassidy Johnson, Houston toad research coordinator at the Houston Zoo; Kevin W. Conway, assistant professor and curator of fishes at Texas A&M University; Cin-Ty Lee, professor of earth science at Rice and an expert on birds; Evan Siemann, professor and chair of ecology and evolutionary biology at Rice; and David P. Lewis, president of the Gulf Coast Mycological Society.

Following a short trip to become familiar with the Turkey Creek Unit of the preserve, the students corresponded with their expert volunteers to develop a plan for the survey. Then they rolled up their sleeves and got busy doing the hard work of identifying as many species as they could over the weekend.

To complete the survey, the students worked in groups alongside their expert volunteers for an entire day searching for as many individuals

of their focal group as possible. For some, like the fungus group, this simply meant walking slowly through the forest and carefully looking for mushrooms. Others, like the butterfly and dragonfly groups, had to chase their targets with nets. The bird and mammal group had a stealthier technique. They used motion detecting “camera traps” to photograph any animal that walked or flew past their study sites. Other groups, like those surveying reptiles, amphib-

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ians and ants, used pitfall traps dug into the ground to see what accidentally fell in. The fish group had perhaps the most challenging task, wading in the chest-deep waters of Village Creek with a large net suspended between two poles.

Thanks to a Charles Duncan Award for Instruction in Natural Sciences, each group was equipped with a GPS-enabled digital camera that they used to photograph each species they encountered. Although some samples of insects, trees and mushrooms had to be brought back to the lab for more careful identification, the cameras allowed the students to complete the survey without sacrificing the lives of most of their organisms.

The students are still working on identifying their samples, but preliminary results suggest that, collectively, the group observed nearly 200 different species, including eight mammals, 25 birds, seven reptiles, three amphibians, 11 fish, 16 butterflies and moths, 10 ants, 24 trees and 84 fungi.

The students will be posting their images, along with the species’ name and the precise location where it was observed, on iNatural-

ist.org, a website that allows anyone with an interest in the natural world to document observations. Their data will contribute to the Thicket of Diversity project, an effort by the Big Thicket Association to document every living thing within the Big Thicket region of Texas.

For some students, the survey was an opportunity to do something completely new.

“Having grown up in an urban environment my entire life, it was really nice to experience what nature was like,” added senior Yakira Alford. “I was honestly afraid of being in the woods at first, but it turned out to be an enriching experience.”

Even students with more outdoors experience, like senior Sena McRory, found the project rewarding.

“I enjoyed the chance to get out in the field and collect my own samples. When doing field work you never know exactly what to expect and that element of unknown makes the experience more exciting,” McRory said. “I also enjoyed talking with the other experts about their careers and unique experiences in a more casual, nonclassroom setting.”

Senior Kelsey Wooddell agreed. “My favorite part of the experience was seeing the passion of the experts working in the field with us.”

Next year’s class plans to return to the same site and continue surveying the Big Thicket National Preserve, adding new observations to a growing compendium of biological diversity.

**SCOTT SOLOMON**

Professor in Practice  
Department of Ecology and  
Evolutionary Biology



**IN THE THICK OF THINGS:** Rice undergraduates join forces with local science experts to conduct an inventory of the flora and fauna of the Big Thicket National Preserve near Kountze, Texas.