

Thicket of Diversity 2023 Accomplishments

The Thicket of Diversity established in 2007 is the research arm of the Big Thicket Association. The committee continued its work in 2023 collecting inventory data on species living in the Big Thicket and conducting educational outreach.

Robert Laroche of Rice University spearheaded research to explore the hidden and under explored saline habitats distributed across the Big Thicket for locally adapted populations of salt associated tiger beetles. Laroche secured a National Park Service (NPS) permit to collect *Eunota* specimens for the collection of molecular DNA data. Laroche and his team worked to identify novel species living in the Big Thicket region and to describe the genetic structure and evolutionary relations within and between tiger beetle populations. The research of Robert Laroche is especially valuable as tiger beetles are considered a good indicator species for ecological studies on biodiversity.

In October 2023, Laroche and Daniel P. Duran of Rowan University published in the Journal of Molecular Phylogenetics and Evolution “A genomic test of subspecies in the *Eunota togata* species group (Coleoptera: Cicindelidae): Morphology masks evolutionary relationships and taxonomy”.



Robert Laroche- Rice University Collects Tiger Beetles

Macro Fungi researcher David Lewis, et. al, published various papers including “*Cortinarius Watsonae*, a New Species of *Agaricomycetes* (*Cortinariaceae*) from the Gulf States.” This new mushroom species was named after the beloved Geraldine Watson. The study was printed in the Journal of the Botanical Research Institute of Texas.



Children Identify Animal Tracks with Field Guides

The Thicket of Diversity was involved in educational outreach for participants of all ages. In June youngsters at Kountze Public Library experienced a month of summer fun with reading and nature through its Summer Reading Program. Approximately 125 children participated. The final event was celebrated July 14th at the Kirby Hill House in a Big Thicket Art, History and Literacy Social. Sponsors and volunteers were presented certificates. The children’s art contest winners were awarded.

Working with the BTA’s Executive Director, Diane Thompson, the Thicket of Diversity supported Science Cafes, primarily hosted for interested adults in the relaxed atmosphere of a coffee bar. In August, Dr. Amanda Adams, Director of



Dr. Adams at the Logon Cafe

Research Coordination of Bat Conservation International, presented at the Logon Cafe. Dr. Amanda Adams is currently conducting research in the Big Thicket National Preserve. She lodged in the Big Thicket Field Research Station and Learning Center in Saratoga managed by the Big Thicket Association.

In the Fall, Chair Mary Catherine Johnston and BTA Environmental Educator Jennie Knapp coordinated local participation in Fear to Hope, a hands-on research opportunity for students Grade 7 to Community College through Christopher Newport University's (CNU) and Dr. Rob Atkinson. In 2023 the project expanded to include Texas students. The two educators recruited five teams to represent Texas. The project studies climate change as it relates to the impacts of salinity on cedar trees. Basically, participants plant 20 seedlings with 10 being the control. Useful data is collected throughout the year in a growth and survival study and shared with Dr. Rob Atkinson and his graduate students. Results are disseminated through posters, a newsletter and at the annual CNU Fear to Hope Symposium in Newport News, Va. The project is of significance as coastal flooding concerns are reaching most coastal forests. Salt water encroachment is impacting native ecosystems, trees in particular.

In December, Black Bears, *Ursus americanus*, was the subject of a Science Café, also at the Logon. Katie Krouse, Executive Director of Bears, Etc. and Vice-President of the Texas Black Bear Alliance shared information on the bears and their migration trends into Southeast Texas.



Katie Krouse at the Logon Cafe

The ToD sponsored several exhibits. The committee participated in Champions for Nature at Ford Park and had a booth at Big Thicket Day on the Neches with a canopy provided by Dr. Randy Yoder.

A virtual field trip was presented, "Service Learning for a Better World," through Leah Mulkey to approximately 200 high school students. An educational online training video was created, "Connecting Lions through Environmental Service and Citizen Science," for Lions Clubs in District 2s-1 and archived for future sharing.

The Field Research Station Learning Center offers comfortable housing, a lab, and classroom space for visiting groups. In 2023 the facility provided 543 overnight stays. Utilizing the buildings were researchers affiliated with the National Park Service's Intermountain Archeology group and Bat Conservation International. Student Conservation Association workers participating in various NPS service projects and the Nature Conservancy's fire crew also utilized the facility. Some items on the FRSLC Wish List were fulfilled. This included towels, hypoallergenic pillow covers, and some minor repairs on shower nozzles.

ToD receives its funding for research primarily from penalty monies from Texas Commission on Environmental Quality enforcement actions. For more details on the Thicket of Diversity check out the website at thicketofdiversity.org.

Submitted by: Mary C. Johnston, Chair of the Thicket of Diversity, BTA Director