Have Backpack, Will Travel

Scientists use backpacks to track Texas horned lizard

story and photos by Master Sgt. Efrain Gonzalez

Nestled among the prairie grass of Tinker's Urban Greenway nature reserve area, a group of Texas horned lizards outfitted with tiny transmitter-equipped backpacks participate in a scientific study observing their behavior in the wild. By studying the horned lizards, scientists hope to better understand the complexity of the lizards' habitat, halt their steady decline, and find ways for man and reptile to coexist peacefully.

"In order to help the lizard survive, we have to know their needs," said Raymond Moody, a natural resource biologist employed at Tinker Air Force Base, Okla. "Though many studies have been conducted on the horned lizard in Texas, very little information exists concerning the creatures found in Oklahoma, and even less is known about the ones at Tinker."

Using radio backpacks *to track the Texas horned lizard, researchers at Tinker Air Force Base, Okla., hope to better understand the tiny creature and find a way for it to coexist alongside man on the base. The lizard is currently state-listed as a "species of special concern" because of dwindling numbers. If it becomes federally listed, it could mean environmental restrictions on Tinker's mission.*

Joe Hackler's research on the Texas horned lizard's habitat *suffers a setback after he discovers one of his tiny backpacks without a lizard in sight. He modified existing transmitter-equipped backpacks for studying larger lizards to fit the smaller ones found at Tinker.*

After capturing one of his study subjects, *Mr. Hackler records data such as weight, size and location of capture before releasing it. Although not a conclusive finding, researchers have noticed that the lizards follow Tinker's jogging and paved trails instead of traveling over the grass and are continuing their research in hopes of learning why.*

While some scientists study the environmental impact of urban growth and development, others, like Mr. Moody and Joe Hackler, a graduate of Oklahoma State University, concentrate on studying the lizard habitat. And they're enlisting the services of the horned lizard to carry their part of the research load.

Radio backpacks are strapped onto the horned lizards to monitor their comings and goings. The effort is a partnership among Tinker, the Williams Companies Inc., the Department of Agriculture Wildlife Services, University of Oklahoma, Virginia Tech, Oklahoma State University and Mr. Hackler's grandmother.

The knowledge they gain could prevent the Texas horned lizard from wandering onto the federal protection list. Currently the creature is state-listed as a "species of special concern" due to its dwindling numbers. If the species becomes federally listed, it could place environmental restrictions on the mission at Tinker.

"Preventing the lizard from being federally listed helps the Air Force avoid more restrictions," Mr. Moody said.

However, finding a subject for the study whose primary defense is camouflage isn't easy, he explained.

"They're cryptic creatures that blend very well with their environment and are not easy to trap. It takes a trained eye to spot them. To catch one you need fast feet."

Once caught, the lizards are tagged with tiny microchips and outfitted with transmitter-equipped backpacks that Mr. Hackler and his grandmother make from canvas scraps. Working from his grandmother's basement, he modifies existing backpacks used for studying larger lizards in Texas to fit the smaller lizards they found in the approximately 210-acre habitat in the southwestern section of the base.

Using a large television-like antenna and radio signal receiver, the team tracks the backpack-equipped lizards by periodically recapturing them and recording habitat types, changes in weight, growth and behaviors.

So far they've been able to successfully capture, equip, release and monitor 50 lizards. Initial findings reveal the lizards found at Tinker are smaller than those in Texas and live in a wider variety of habitats. Though this may seem trivial, it's an intriguing find for scientists as they pursue further answers to habitat questions. And with the aid of the radio backpack-equipped horned lizards, they hope to uncover further data to help man and nature live in harmony. ✪

Using a radio frequency antenna, *a receiver and headsets, Mr. Hackler searches for study subjects along the grassy fields of Tinker's Urban Greenway nature reserve area. So far his team has outfitted 50 lizards with the transmitter-equipped backpacks as part of ongoing research to better understand their habitat.*