CONSERVATION RESEARCH REPORTS

Prescribed Fire and the Herpetofauna of Mississippi Pine Savanna

Few of us have not encountered Smokey the Bear and his anti-fire message over the years. Research over the last few decades, however, consistently shows that fire is important to many ecosystems, and that preventing it leads to both ecological consequences and more severe fires. Because of the historical importance of fire in some ecosystems, prescribed burning has become a common and important tool for ecosystem management. The southeastern United States is one of the most fire-dependent ecosystems. However, past research has typically focused on plants, mammals, and birds. Research in historic pine savanna communities led to the conclusion that frequent fire is necessary to prevent hardwood encroachment and remove understory vegetation associated with anthropogenic fire exclusion. Little information exists on the effects of prescribed burning on amphibians and reptiles.

Langford et al. (2007. *Herpetological Conservation and Biology* 2: 135–143) examined the effects of a restoration burn on an amphibian and reptile community within a wet pine savanna in Grand Bay National Estuarine Research Reserve and surrounding U.S. Fish and Wildlife Service's Grand Bay National Wildlife Refuge. Prescribed fire was predicted to have a positive effect on the herpetofaunal community. To test this hypothesis, the authors recorded abundance, species diversity, evenness, and species richness of amphibians and reptiles. They found 429 individuals and 29 species during the study period. Although species diversity was equal between burned and unburned treatments, the authors found greater numbers in burned than in unburned areas.

HECTOR GADSDEN ESPARZA

Anthropogenic habitat transformations and climate change could result in a 40% reduction of the range of *Uma exsul* by 2020.

Climate Change and Lizards in the Genus *Uma*

Global climate change is likely to affect diverse aspects of our lives over the next century or more. Concerns are growing about its biological impacts on other species as well, including reptiles. According to the Intergovernmental Panel on Climate Change, the warming trend is expected to continue at even higher rates during the 21st century, and is likely to affect species with higher environmental specialization and more restricted distributional ranges. To address this, **Ballestteros-Barrera et al.** (2007. *Journal of Herpetology* 41: 733–740) studied two species of Fringe-Toed Lizards, *Uma exsul* and *Uma paraphygas,* in Coahuila, Mexico. Habitat conversion by humans has had an impact on both species, resulting in a reduction of population sizes and leading to a high degree of inbreeding. Both species exhibit low genetic variation, reduced vagility, and low effective population sizes.

Strong climatic changes are projected to occur in the central Chihuahuan Desert, particularly in the period 2020–2050. The combination of anthropogenic habitat transformation and climate change is expected to be severe for both species. One model predicts a 40% reduction in the range of *U. exsul* and 60% in that of *U. paraphygas* by 2020. By 2050, the ranges of both species are expected to be completely eliminated. Both species may be extinct in our lifetimes.

SUZANNE L. COLLINS, CNAH

The Rough Green Snake (*Opheodrys aestivus*) was one species found only in Mississippi savanna habitats that had been subjected to prescribed burns.

Fungal and Viral Pathogens in Costa Rican Amphibians

Amphibians are declining globally at rates far above historical levels, leading to major concerns about both the taxonomic group and what its ongoing disappearance may presage for other taxa. Two hypotheses for enigmatic declines in Neotropical

DEVON EDMONDS

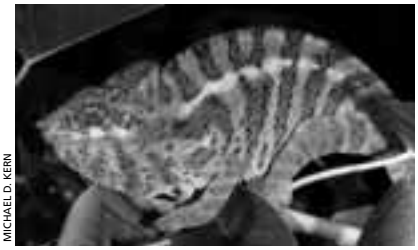
The Golden Palm Treefrog (*Hyla ebreccata*, recently reassigned to the genus *Dendropsophus*) was one of five of 16 sampled species that tested positive for the Chytrid Fungus (*Batrachochytrium dendrobatidis*) in Costa Rica.

amphibians include disease and climate change. One amphibian pathogen, *Batrachochytrium dendrobatidis* (often abbreviated Bd), has been detected at many sites of declines, and is implicated as the main cause of enigmatic Central American amphibian declines. **Picco and Collins** (2007. *Journal of Herpetology* 41: 746–749) examined amphibian declines attributable to Bd, as well as another implicated pathogen called "ranavirus," which has also been suspected to cause amphibian population declines.

Bd was detected in amphibian populations at two Costa Rican study sites with histories of amphibian declines. Of the 16 species tested in this study, five (*Hyla ebraccata, Centrolenella prosoblepon, Hyla pseudopuma, Eleutherodactylus underwoodi,* and *Duellmanohyla rufioculus*) were positive for Bd infection. Ranaviruses were not detected at either study site.

Amphibians and Reptiles in Madagascar

Madagascar is a center of herpetological diversity, but little research has been conducted in the Montagne des Français. **D'Cruse et al.** (2007. *Herpetological Conservation and Biology* 2: 87–99) surveyed the amphibians and reptiles of the area in order to document the geographical, ecological, and seasonal distribution of the species found within the massif, highlight the herpetological importance of this area and reinforce the need for its protection, and create an effective management plan. Research conducted over one year consisted of four sampling periods (two wet and two dry seasons).



MICHAEL D. KERN

The Panther Chameleon (*Furcifer pardalis*) is one of only 16 (of 52) species recorded from both relatively undisturbed forests and anthropogenically disturbed habitats in northern Madagascar.

Of the 61 species found, 37 (61%) occurred only in relatively undisturbed forest. Human-dominated landscapes contained only five species. Because most of the species appear to be dependent on undisturbed forest habitat, conservation of this area is crucial.

Post-Nesting Migrations of Leatherback Turtles

The Leatherback Turtle (*Dermochelys coriacea*) has the largest geographic range of any living marine reptile. Protecting these turtles requires a better understanding of their movement patterns. **Benson et al.** (2007. *Chelonian Conservation and Biology* 6: 150–154) tracked nine Leatherback Turtles from one of the largest remaining western Pacific Leatherback nesting beaches in Jamursba-Medi, Papua, Indonesia. Satellite-linked transmitters were attached to nesting females to track distances traveled over 111–695 days. Turtles moved into tropical waters of the Philippines and Malaysia, into the Sea of Japan, and across the equatorial Pacific to temperate waters off North America, providing the first record of a trans-Pacific migration by a Leatherback. The longest distance traveled by a single turtle was 12,744 miles. The track between New Guinea and shelf waters off Oregon (USA) may represent the longest known migration between breeding and foraging areas of any marine vertebrate.

DOUG PERRINE, SEAPICS.COM

Leatherback Turtles (*Dermochelys coriacea*) may complete extensive migrations in both the Atlantic and Pacific oceans.