CONSERVATION RESEARCH REPORTS

Herpetofaunal Use of Riparian Buffer Zones in South Africa

Habitat transformation is a growing threat to global biodiversity. Many species in South Africa, including reptiles and amphibians, are threatened by broad-scale habitat transformation as habitats are converted to agricultural uses. Understanding how wildlife uses these landscapes is critical for effective land management and for predicting how populations might react to further changes in habitat quality. MARITZ AND ALEXANDER (2007. *African Journal of Herpetology* 56:163–169) surveyed herpetofaunal species richness and abundance in riparian and non-riparian habitats to determine how these animals utilize different habitats within agricultural landscapes near Mtunzini, KwaZulu-Natal, South Africa. Riparian areas had a higher mean species richness and abundance than adjacent agricultural areas, and hosted 80% of all herpetofaunal species detected. Ten species were unique to riparian areas, including snakes, lizards, and frogs. In contrast, non-riparian areas hosted only four unique species. These results indicate that conversion to agriculture is not desirable from a herpetological conservation perspective, and that preserved riparian areas can serve as corridors for herpetofaunal species to survive and migrate through otherwise less hospitable terrain.

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Amblyodipsas polylepis, *Lycodonomorphus rufulus*, and *Philothamnus hoplogaster* (from top) were captured in riparian areas only, whereas *Mehelya nyassae* (bottom) was detected in both habitat types.

Habitat Disturbances Affect Growth Rates in Turtles

Disturbances often help structure ecological communities, and their effects may have consequences on population dynamics and long-term species persistence. Should disturbances affect resources, a trade-off may result between reproduction and individual growth, which could affect the timing of sexual maturity in animals dependent on reaching a requisite size for the onset of maturation. DODD AND DRESLIK (2008. *Journal of Zoology* 275:18–25) used a 14-year mark-recapture dataset to determine the effects of catastrophic storms and the removal of nonindigenous vegetation on individual growth rates of a long-lived turtle, *Terrapene carolina bauri*. Adult male growth rates increased 19% after the disturbances, whereas female growth rates decreased by a similar percentage. Juvenile growth rates briefly increased, but as these animals became subadults, their growth rates slowed after disturbance, a change more pronounced in females than males. After the disturbances, the onset of male sexual maturity decreased by about 1 year (from 10.8 to 9.5 years), female maturity was delayed by 2.5 years (from 8.5 to 11.0 years), and the subadult life stage was extended from 2 to 3.5 years. With resources and habitats similarly available to adults, the authors suggested that adult females diverted resources from growth to reproduction, whereas males allocated available resources to growth. Subadult growth rates decreased regardless of sex, implying that fewer or lower quality prey were available to smaller turtles in the years following disturbance. The results of this study suggest that habitat disturbances affected individual growth rates differently according to sex and life stage, which affected the timing of maturation. In long-lived vertebrates, such perturbations on life-history traits such as growth rates likely affect population recovery, and may help to explain why turtle populations recover slowly following catastrophic disturbance, even when adult survivability is high.

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After disturbances (catastrophic storms and removal of vegetation), the onset of male sexual maturity in Florida Box Turtles (*Terrapene carolina bauri*) decreased by about 1 year, female maturity was delayed by 2.5 years, and the subadult life stage was extended by 1.5 years.

Alligator Snapping Turtles in Oklahoma and Kansas

Alligator Snapping Turtles (*Macrochelys temminckii*) historically occurred in the Arkansas, Caney, Verdigris, Neosho, and Spring river drainages of northern Oklahoma and southern Kansas. High harvest rates in Oklahoma and river impoundments in both states have greatly reduced turtle numbers by decimating populations and impeding dispersal routes. Populations of *M. temminckii* are poorly studied in both states, but particularly so in Kansas. Management efforts for *M. temminckii* were initiated in Oklahoma in 1997 with the collection of information on distribution, habitat use, and population structure, and establishment of a captive breeding/headstart program. Management efforts in Oklahoma

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Management efforts for Alligator Snapping Turtles (*Macrochelys temminckii*) in Oklahoma could have positive repercussions for the species in Kansas.

could have positive repercussions for the species in Kansas. **RIEDLE ET AL.** (2008. *Transactions of the Kansas Academy of Science* 111:21–28) outlined current knowledge of the species in both states, provided information on management efforts for the species in Oklahoma, and made recommendations for interstate collaboration for managing the species in Kansas.

Ranching to Conserve Horsfield's Tortoises

According to CITES, ranching is a method based on the collection of eggs, incubation, and artificial hatching. Since 1997, associates of Zoocomplex (Tashkent, Uzbekistan) have studied hatching of Horsfield's Tortoises (*Agrionemys horsfieldii*) on farms at commercial levels. **BYKOVA ET AL.** (2007. *Russian Journal of Herpetology* 14: 232–236) obtained 20,000 eggs from tortoises kept in captivity, those temporarily kept in the nursery, and collected in the wild. Egg lengths varied from 36.1–56.5 mm. Survival rate of eggs was 75%. Body sizes of hatched tortoises were positively correlated with egg sizes. The size of hatched tortoises was 25.2–48.6 mm and about 20 g. During seven months of rearing, 5% of hatched tortoises died (versus 70–90% in the wild). Of 15,000 hatched tortoises, 29 twins (13 normal and 16 pairs asymmetrical) and four terato-twin abnormalities with varying levels of terato-duplication were recorded.

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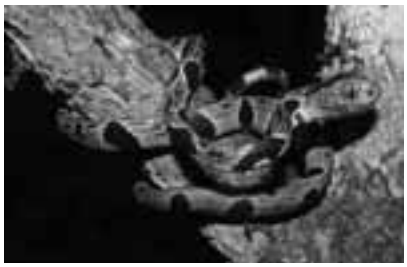
Ranching Horsfield's Tortoises (*Agrionemys horsfieldii*) in Russia has been successful and may provide a hedge against extinction in nature.



H. MAURICIO ORTEGA-ANDRADE

Dipsas andiana, a little-known dipsadid snake endemic to Ecuador, is associated with seasonal forests of the West Ecuadorian zone.

Conservation Status of the Ecuadorian Snake *Dipsas andiana*

While studying the distribution and natural history of *Dipsas andiana*, a little-known snake endemic to Ecuador, **CISNEROS-HEREDIA** (2007. *Russian Journal of Herpetology* 14:199–202) determined that the conservation status of *D. andiana* would classify for the IUCN category "Near Threatened" (NT). The ecological distribution of the species is apparently related with seasonal forests of the West Ecuadorian zone, a recently recognized biogeographic region between the very humid Choco and the dry Tumbesian zone.