CONSERVATION CORNER

By Ed Diebold, Director of Animal Collections & Conservation

The king cobra is one of the most awe-inspiring of all reptiles. It is the largest of all venomous snakes reaching an amazing 18 feet in length. It belongs to the genus Ophiophagus, which translates to "snake-eater," and snakes are, in fact, the king cobra's primary diet. In the wild, the king cobra's snake-eating habits frequently bring it into contact with humans. Rodents are attracted to areas of high human habitation because of an abundance of food. Snakes move to these areas to feed on the abundant rodents and, in turn, the presence of other snakes attracts king cobras. Because the bite of a king cobra is potentially lethal, the species' presence around villages and towns can lead to its persecution.

UNDER THE HOOD

King cobras are widespread, but not common through southern and Southeast Asia, and they prefer areas of dense highland forest. In India, it is common practice to translocate (i.e., move to another place) king cobras that enter villages and towns to less populated areas. However, there is little scientific data to determine the effectiveness of translocation as a conservation tool for the species.

Matt Goode, a Research Scientist at the University of Arizona, and Rom Whitaker, Director of the Agumbe Rainforest Research Station (ARRS) in Tamil Nadu, India, are partnering to learn more about this amazing species. They have initiated a project with the overall goal of learning as much as possible about the natural history and basic ecology of wild king cobras and using this information to better manage and conserve the species and the habitat on which it depends.

The research team is making use of both radio-telemetry and miniature surgically implanted temperature data loggers to examine the species' thermal ecology and activity patterns. This is the first-ever detailed field study of the king cobra and the first-ever radio-telemetry study of any snake species in India.

TWISTS AND TURNS

The initial study tracked two (a male and a female) translocated king cobras in March 2008 and the initial data that was gathered proved to be enlightening. Although shortly after the snakes were released, a wild king cobra killed and consumed the female, in some six months the male was found to have traveled over 73 kilometers (or 45 miles), undoubtedly a world

record for snakes. Also, during this relatively brief tracking period, the research team had the unique ability to observe several wild king cobras interacting with the study animals. They have documented an amazing array of behaviors, including male to male combat, mate guarding, courtship, mating, predation, and two instances of cannibalism.

Support from Riverbanks has allowed the team to continue to track the translocated male and to add a non-translocated individual to the study. The research team ultimately hopes to track 10 to 12 individuals (half translocated and half non-translocated) over the next several years. From a conservation perspective, the team's specific goal is to compare translocated and non-translocated cobras to see if the translocation of "rescued" or "nuisance" snakes is a viable conservation tool.

Reference - "Ecology and Conservation of King Cobras in the Western Ghats of India." Grant application for Riverbanks Zoo & Garden's Conservation Support Fund submitted by Matt Goode, Research Scientist, University of Arizona, and Rom Whitaker, Director, Agumbe Rainforest Research Station, Tamil Nadu, India.

SKIMMING THE SURFACE

The king cobra project will also provide an opportunity to educate Indian students about how to conduct scientific research, including project design and coordination, field techniques, and analysis and presentation of results. Several student interns will be stationed at the ARRS and will be directly involved in the day-to-day tracking of king cobras. Some students will be required to develop individual projects related to the research for which they will receive credit towards their college degrees.

Each year, the team at the ARRS is called upon to remove 20 to 30 king cobras from the homes of local inhabitants. The team always tries to release the snakes as close as possible to their original capture sites; however, this is not always possible due to locally different attitudes about the killing of king cobras. Fortunately, in the vicinity of Agumbe, locals worship king cobras. As a result, the snakes are protected from persecution, which allows the team to release them nearby for follow-up study. Eventually, the research team hopes to work with local communities and state forestry officials to designate the area as a king cobra preserve.

AHEAD OF THE CURVE

Riverbanks Curator of Herpetology Scott Pfaff is working with the research team to develop an educational component at the Zoo. We hope to soon develop a station at the king cobra exhibit in the Aquarium Reptile Complex (ARC) that will allow Riverbanks guests to observe the movements of these king cobras in India on a flat-screen TV monitor as well as see digital images of the team in the field and the habitat in which the snakes live. In this way, we hope to bring the project to life for our guests and enhance their understanding of these magnificent snakes. Riverbanks is proud to support this outstanding work.

All photos: Rom Whittaker and his research team radio-tracking king cobras in India