Amphibian Conservation Project, Hiniduma

Sri Lanka contains a highly diverse, endemic, and threatened amphibian population - studies have so far identified 103 species. Among the vulnerable species, 35 are critically endangered and endemic. In fact 21 endemic species are already extinct due to numerous threats, particularly habitat loss. It is estimated that over 90% of the most important amphibian habitat in Sri Lanka, original moist tropical forest, has been destroyed. Interest in the classification of amphibians has seen a rise in the indiscriminate collection of animals in the hope of locating new species. Such activity has a negative impact on the sustainability of local populations and has been linked to the extinction, and increasingly threatened status, of many amphibian species.

In response, there have been calls for a new non-destructive, field-based research approach, which can help to prevent further extinctions and inform conservation efforts. In 2008, with the support of the National Geographic Society (NGS), we pioneered a unique research project to develop a non-destructive amphibian sampling technique.

Method

The research area took place over seven acres of land, in seven different habitats, on land adjoining one of the most significant biodiversity hotspots in Sri Lanka – the Kanneliya forest reserve. The study area was marked with two transects and 17 sample plots. These sites were sampled 3-4 days a week both during the day and night, over a period of one year, and all visual sightings and audio calls of amphibians were documented through photographs and acoustic recordings.

At the start of each recording period, details of the current temperature, humidity and precipitation were noted. During the initial project phase all calling amphibians were captured, measured, examined, photographed and released. This enabled us to associate each species with its unique call, and use this data throughout the study to identify each species in their natural habitat, with minimum habitat destruction.

Results

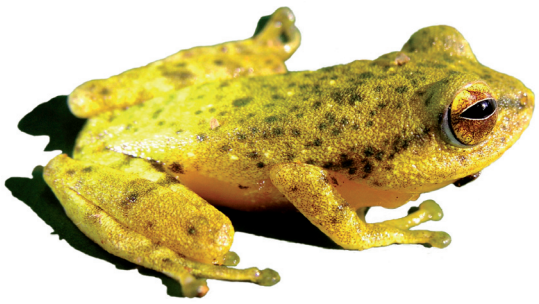
The study identified and monitored the behaviour and breeding of 17 species through their calls, habitat and the conditions they were most active in (based on humidity levels, precipitation and time of day). We also identified two types of amphibians that with additional investigation, could prove to be new species.

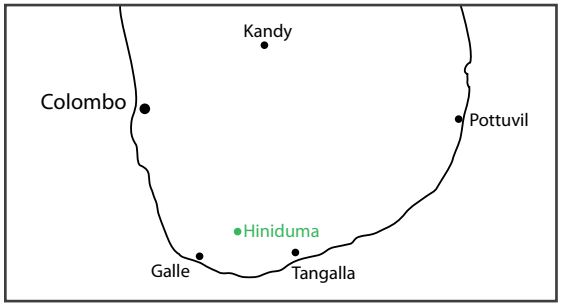
From the large quantity of data collected, a detailed practical field key, CD of calls and book of photographs have been developed, which can be used by local schools and researches to aid future conservation efforts and studies.

This project has successfully demonstrated that non-destructive sampling techniques can be used to effectively identify amphibian species. We hope in the future it can be used to gain a greater understanding of amphibian habits and needs in the changing global environment.

This project supported amphibian conservation by:

- Pioneering the use of non-destructive amphibian sampling techniques
- Improving knowledge of the distribution, habitat requirements, threats and biology of at least six poorly understood endemic/ endangered species
- Developing simple microhabitat restoration methodologies that can be easily replicated in the region
- Fostering support and active participation in amphibian conservation among local farmers and school children.





Map showing location of study area