

Frogs of Coorg, Karnataka, India.

Aberdeen University Western Ghats Project 1998

Final Report

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Cover photo: *Rhacophorus lateralis*

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Dedicated to:

Dr. Kodandera C. Medappa



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2. Introduction

The forests of the Western Ghats are known to contain very diverse assemblages of amphibians. However there have been comparatively few studies of amphibian communities in the area. The facts that most of the Western Ghats amphibians are very poorly known and that the remaining forest fragments are being destroyed at an alarming rate makes studies of the region's fauna an urgent priority. This study describes the anuran communities at Lackunda Estate, a coffee plantation in Coorg, (Karnataka, India) on the border of Nagarhole National Park. The project was conducted during July and August 1998.

The aims of the project were

1. To determine the species composition of the amphibian population at Lackunda and make estimates of relative abundance and habitat use for each species
2. To produce an audio-visual guide to the amphibians of the region that will facilitate field identifications and publicise the existence and plight of the Western Ghats amphibians.
3. To document the larval stages of anurans breeding in the area.

An additional and unfulfilled aim was to compare amphibian communities in different areas of the Western Ghats. Early in the project it became apparent that, even with a large and enthusiastic team, the frog communities at Lackunda alone would be difficult to survey properly in the time available. It was decided that it was better to do justice to one site, rather than to make cursory observations at several.

Six waterbodies around the estate were surveyed with quadrats over periods of 5-20 nights to provide data on relative abundance and habitat use. Eight lines of pitfall traps were set, split between coffee plantation and an uncultivated sacred grove adjacent to the national park, to provide data on movement patterns and habitat use. The calls of all anurans heard in the area were recorded with a Sennheiser microphone and a Sony WMD6C recorder. Small samples of eggs and tadpoles were maintained and raised in captivity and drawings made of larvae at different stages. In addition, observations were made on the reptiles and birds of the area. Single voucher specimens of most anuran species were taken, identified by Dr Indraneil Das and deposited at the Zoological Survey of India, Calcutta.

In total 21 species of amphibians were found. A further four species are suspected on the grounds of differences in appearance and advertisement calls. The most abundant frogs were *Microhyla* spp. and *Limnonectes*. The rarest frogs were all *Philautus* species, that called away from breeding communities and appeared to have very specific habitat requirements. The community also includes *Rhacophorus lateralis*, apparently not seen since its description in 1883, the Malabar flying frog *Rhacophorus malabaricus* and six other tree frogs.

We suspect that Lackunda may have a richer amphibian community than other coffee estates in the region, partly because of its proximity to a large forest reserve but also because the estate has been managed sympathetically. Use of pesticides is limited, tigers,

elephants and gaur are all frequent visitors and even the cobras are left unmolested. In the long term, the continued existence of many forest-dependent species will depend on the presence of corridors through cultivated areas. The elements of habitat crucial to many amphibians species may be very cheap and easy to provide. The joy that the frogs of the Western Ghats will bring to the people there, when they are in a position to enjoy such luxuries, is immeasurable. There is a very real danger that the rarest jewels of these communities will have become extinct long before the poverty of people is eradicated. In that case we hope that the recordings accompanying this report will attest to what they have been robbed of.

The team is very grateful to Dr K. C. Medappa, his family and his employees, for their wonderful hospitality and assistance throughout the project.