Project Update: May 2006

This is a brief update of the progress and current on-goings of the project in the last 3 months. My third visit to the field was from the second week of May. Although this was considerably a short visit, this time, I was more focused and systematic with the data collection. The project research design is taking shape, the core hypothesis of which is that the four species I have selected for the study face a distinct range of problems due to their confinement to forest fragments. These primarily include problems of seed dispersal, germination and seedling mortality possibly indicating inbreeding depression, which will need further investigations to prove. This certainly has conservation implications advocating the fact that conservation of sacred groves is not enough for the conservation of rare tree species within the groves. Conservation and management of sacred groves should therefore include measures including ex-situ propagation, rehabilitation and re-introduction to ensure the survival of the rare tree species within the groves. I hope, by the end of this project I will be able to prove my hypothesis as well as provide practical recommendations for the conservation of scared groves and the rare trees within them.

Progress of the project has been satisfactory so far. For the last 3 months, I have been able to identify areas within Ratnagiri district where the selected species are distributed by consulting taxonomists, local people, reviewing academic literature and herberia as well as visiting some of the sites to validate the information I have collected. Amongst the areas visited, specific sites have been identified where detailed studies of the species will be undertaken. A few new sites with good populations of *Saraca asoca* and *Antiaris toxicaria* have been found. Collection of data relevant to population and regeneration has begun. Although some challenging questions do arise on how the seed dispersal of *Hydnocarpus pentandra* takes place or why we still haven't been able to spot any natural regeneration of *Saraca asoca* and *Antiaris toxicaria* in the sacred groves we have visited so far.

My recent visit to the field has also been a good opportunity to collect some interesting facts and observation of the species under study. I have found that bats form important seed dispersers for Strychnos nux-vomica based on numerous seedlings found outside a bat cave. Local people have confirmed my observations by claiming to have seen bats feeding on *Strychnos* fruits. This, I believe, is a new finding since I haven't come across any such reports throughout the scientific literature I have reviewed. Similarly, Antiaris toxicaria and Saraca asoca fruits seem to be voraciously eaten and dispersed by primates which proves the importance of ecological associations between frugivorous mammals and trees within sacred groves. During my field visit in the first week of March, whilst estimating seed rain around 3 parent trees, I found Antiaris seeds defecated by the Hanuman Langur (Presbytis entellus). This does indicate the role of the Langur in seed dispersal although a detailed investigation will be necessary. Along with the ecological studies, I have also been able to collect some Ethnobotanical information relevant to the selected species. As I have mentioned in the project proposal, there is quite a lot of traditional knowledge linked to the species. Since, both Strychnos and Antiaris are known to be poisonous trees; it will be interesting to see how local people perceive these species. I believe documenting local knowledge and understanding will be further important in involving local people in the conservation of the rare trees.

I have been fortunate enough to be supported by an enthusiastic team that has a lot of experience in conducting research in the Western Ghats. The Applied Environmental Research Foundation (AERF) has been working in the northern Western Ghat region for over 10 years now and I have had the advantage of receiving expert advice as well as the use of the organisation's networks and contacts in the field.

In conclusion, it has been a good start to the project although in the coming months, the focus should be on undertaking distribution and regeneration studies, which will prove to be quite a challenge in the monsoon (rainy) season. I have also planned on mapping some of the populations for which I am referring to a number of methods manuals and waiting for the arrival of the GPS. I look forward to conducting more fieldwork in the coming months and I will be happy to answer any queries related to the project or AERF's work.



Antiaris seeds defecated by a Langur



Strychnos seedlings outside a bat cave



Sameer Punde during fieldwork