Continuing assessment of the conservation status of Sri Lanka's Wet Zone primates, with a focus on the critically endangered purple-faced leaf monkey

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The Talangama wetland area, Sri Lanka

Summary

In this poster I present the partial results of my research on the Western purple-faced leaf monkey of Sri Lanka, *Trachypithecus vetulus nestor*. Within Sri Lanka, the endemic *T. vetulus* has four recognised subspecies (Groves, 2001), all classified as either Endangered or Critically Endangered, with *T. vetulus nestor* placed on a list as one of the World's top 25 Most Endangered Primates (Mittermeier et al., 2005). Deforestation and fragmentation through anthropomorphic disturbance are two of the major threats to Sri Lanka's wildlife, and among the species affected is the endemic *T. vetulus spp.* (Parker., 2006). Only a small proportion of the fragmented areas in which *T. vetulus nestor* is found, are actually protected. Therefore many of the monkeys found in unprotected areas are forced to live in the small patches of remaining forest and in suburban home gardens (Dela, 2004; Nekaris & Wijeyeratne, 2007). This creates conflict with landowners who see them as a pest and killing by shooting is known to occur (Parker, 2006). At present, there is a paucity of information regarding ecology, behaviour, range size and habitat use of *T. vetulus*, together with other aspects of its habitat. During my research period I was able to assemble a large amount of information within these relatively unexplored domains, and I am presently analysing this data in order to assess, and consequently, help to provide a more detailed and up to date account into the lives of this species. It is hoped that this information can then be used for conservation purposes, and ultimately help this magnificent primate species, for which I have now seen first hand, from becoming extinct.

Methods

•On arrival in Sri Lanka to the designated area of study in the Talangama wet lands region, some Sri Lankan contacts and local people were interviewed concerning the recent sightings of the monkeys.

•Once a troop of monkeys had been located, a week-long pilot study was undertaken, in order to familiarise ourselves with not only the area, but of the observational and sampling techniques required for collecting the necessary ecological data.

•Research took place from 23rd May until the 2nd of July, from 5.30am to 6pm on a daily basis.

•The troop was tracked during its daily travel. In order to help map the area and plot the routes of the troop on return to England, GPS points were taken, together with hand drawn maps and sketches of the area. This would also help to gain information on distances travelled and the different kinds of substrates used during the day.

•Behavioural data were collected by taking 15-minute scan samples, classifying whether the monkeys were feeding, resting, travelling, showing aggression or playing.

•Once familiarised with the home-range area, other kinds of data were collected, including tree species and family names, tree heights, circumference of the trunk at breast height, crown diameter, density of canopy and whether the monkeys used the trees for feeding or not.

•Male and some female vocalisations were recorded using a microphone and tape recorder.

•All of these techniques were then repeated for another bordering troop that we had encountered during observations of troop A. This was undertaken to enable a comparative study of both the sites and monkeys' behaviour.

Photos showing an adult female *T. vetulus nestor*. (Photos by R. Moore)

An adult female *T. vetulus nestor* with a newborn infant

Myself during field work

Myself with Gayani Lasanthi and her family

GIS

Maps A-D were made by uploading the collected GPS points into Arc GIS and Idrisi computer programmes. By using a satellite image of the Talangama area in Sri Lanka retrieved from Google Earth, together with information from hand-drawn maps collected at the sight, various layers could then be added. These included positions of trees, home-range perimeters and daily path lengths. The green dots on the maps represent feeding trees and the red ones non-feeding trees. The blue line depicts the outer limits of the home range witnessed during the research period. The purple and grey line is one example of the troop's daily path length on the 4th June 2007. The purple part shows where the monkeys travelled through the trees and the grey shows where they used other man made or terrestrial substrates. By plotting the data in this fashion, fairly accurate home range area sizes and daily path lengths can then be easily calculated using other functions of these programmes.

Preliminary results:

❖ Troop sizes were found to be larger than in undisturbed forest patches perhaps due forest fragmentation, forcing some troops to merge.

❖One of the troops studied was found to have a second alpha male. This is very unusual. Possibly, due to lack of access or forest pathways joining to other non-related troops, males, who usually disperse once mature, cannot find access to do this.

❖Through observational data collected, it was found that *T. vetulus nestor* had a varied and seasonal diet. This could be because its preferred food trees are in short supply and so therefore must adapt to new and other available resources.

❖Unlike undisturbed forest troops, these monkeys were found to spend approximately 30% of their daily travel on man-made structures or on the ground.

❖Home range size was found to be considerably smaller than in undisturbed forest troops.

❖Daily path lengths were calculated. However, no other relative information on other *T. vetulus* troops were found in order to make a comparative analysis.

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Map A

Map B

Map C

Map D

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