(76)

Habitat Selection of the Grey Slender Loris (*Loris lydekkerianus*) in the Popham's Arboretum, Dambulla, Sri Lanka

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Abstract

The Popham's Arboretum, a small regenerated forest patch located in a highly urbanized setting in Dambulla, is home to a small population of the Grey Slender Loris (*Loris lydekkerianus*). Here we report on the habitat selection of the Grey Slender Loris within the arboretum. Nocturnal surveys were conducted on 20 days during three sampling sessions between September 2016 to June 2017. The majority of the 55 loris sightings made during the survey period were concentrated within the core areas of the forest. These sightings were geo-referenced and marked for habitat sampling. A total of twenty 10x10 m quadrates centered on these sightings (n=13) and additional quadrates located where no sightings were made during the survey (n=7), were used for the habitat analyses. Six habitat parameters previously shown to be important for the loris; % canopy cover, mean DBH, total abundance of plants over 10 cm GBH, species richness of plants, number of creepers and the distance to the forest edge were recorded for each quadrate. Further, temperature and relative humidity within each of the quadrates were also recorded between 1900 and 1800 hrs. Results indicate a significant differences in four of these parameters (species richness of trees, canopy cover, distance to the forest boundary and relative humidity) between areas of the forest that were used and those that were not used by the loris ($p<0.05$). Interestingly, the PC1 and PC2 explaining approximately 60 % of the variation in the habitat (derived from PCA analyses) indicates that microhabitat features within used areas were different to those that were not used. Two plant species, the creeper *Derris parviflora* (Kala Wel) and the tree *Diplodiscus verrucosus* (Dikwanna), showed up as species that were preferentially used by the loris as indicated by the Selectivity Index, where the percentage usage far exceeded their percentage availability within the forest (% availability and % usage values were 5.19 and 27.3 for *D. parviflora* and 11.58 and 29.0 for *D. verrucosus*). The preference for areas with the creeper might be explained by the fact that it eases climbing and movement of the loris. However, no explanation could be given at this stage for its preference for the *D. verrucosus* tree. The findings nevertheless suggest that enrichment with preferred plants could be used to increase habitat utilization by the loris, which would be critical to ensure their survival in small and isolated forest fragments in the dry zone of Sri Lanka.

Keywords: Dry zone forest, Habitat selection, Loris