

**A census of diurnal primates in the villages located between
Labugama-Kalatuwawa and Indikada forest reserves in Colombo
District of Sri Lanka**

P. A. B. G. Panagoda* and V. P. A. Weerasinghe

*Department of Zoology and Environmental Management, Faculty of Science,
University of Kelaniya, Sri Lanka*

**Email: gayomini1@gmail.com*

The diurnal primate populations which inhabit the villages, located between Labugama-Kalatuwawa and Indikada Forest Reserves in Colombo District of Sri Lanka, has a high conservation value due to the presence of critically endangered *Semnopithecus vetulus nestor* (Western purple-faced langur). In addition, these diurnal primate populations consisting of *S. vetulus nestor* and *Macaca sinica* (Toque macaque) have caused many human-monkey conflict incidents within the area. No studies have assessed the local populations of diurnal primates within this area in spite of its importance in both above perspectives: conservation and conflict. Therefore, this study was aimed to assess the relative density and group size of diurnal primates and to statistically compare above two estimations between the two primate species. The census was carried out within a selected stripe of villages located between the two forests. Using reconnaissance walks, five trails (2 km each) were established to represent the study area, with a systematic sampling design. The trails were walked simultaneously, by five independent trained teams each consisting of five persons, in the morning and afternoon on 3rd of December, 2016. In addition, group counts of monkeys were made during 10 opportunistic field visits, from April to December 2016. For each species, the average group size and group and individual encounter rates (as a measure of relative density) were calculated. The group sizes and encounter rates of the two species were then statistically compared using Mann-Whitney U test. Group size of *S. vetulus nestor* (mean \pm SE) was lower (4.46 ± 0.40 individuals) than that of *M. sinica* (8.29 ± 2.19 individuals), even though the median group sizes of the two species were not significantly different ($p=0.1893$). On the other hand, *S. vetulus nestor* was found to be more abundant in the area compared to *M. sinica*. The number of encounters of *S. vetulus nestor* and *M. sinica* during the census was 10 and 4 respectively. Further, the average group encounter rates (mean \pm SE) of *S. vetulus nestor* and *M. sinica*, were 0.95 ± 0.31 and 0.33 ± 0.23 respectively (no. of groups/km) whereas the average individual encounter rates (mean \pm SE) of *S. vetulus nestor* and *M. sinica*, were 4.23 ± 1.38 and 2.71 ± 1.89 (no. of individuals/km) respectively. However, no significant difference was found between the median group ($p=0.470$) and individual ($p=0.4647$) encounter rates of the two species. Yet, the higher abundance of *S. vetulus nestor* over *M. sinica*, could also be observed during the opportunistic observations made throughout the whole study period (opportunistic group encounters; 22 for *S. vetulus nestor* and 9 for *M. sinica*). The reliability of the results can further be improved by censusing at different times of the year. As this study sets a baseline, future studies are recommended to identify any growth or decline of this crucial population of primates.

Keywords: Census, conservation, Diurnal primates, Indikada forest reserve, Labugama-Kalatuwawa forest reserve