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Preliminary Survey of Population Status of Diurnal Primates in the Giritale Nature Reserve, Sri Lanka

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Abstract

Declines in the numbers of many primate species have resulted from habitat destruction, human predation, capture of live animals for research, pet trade, or exhibition. Positive actions must be taken in order to assure the long-term survival of wild populations of primates. Population surveys of primates are central importance to many conservation actions. The aim of this preliminary study was to estimate population densities of three species of diurnal primates in the Giritale Nature Reserve. Surveys were conducted from December 2017 to January 2018 using the Reconnaissance Transect method. All three-monkey species live sympatrically in the nature reserve resembling their multi-male multi-female troop structure. Mean troop sizes were recorded as 9.00 ± 1.73 , 21.60 ± 6.73 and 24.50 ± 16.3 for *Semnopithecus vetulus philbricki*, *Semnopithecus priam thersites* and *Macaca sinica sinica* respectively. Highest individual density recorded in *M. s. sinica*, which was 172.94 Individuals/km², whereas lowest was 31.76 Individuals/km² for *S. v. philbricki*. Male to female ratio was 1:1 in *M. s. sinica* ($\chi^2=0.0363$; $df=1$; $p=3.841$) whereas, in *S. p. thersites* it was 3:7 ($\chi^2=3.071$; $df=1$; $p=3.841$) and in *S. v. philbricki* it was 2:3 ($\chi^2=3.071$; $df=1$; $p=3.841$). The maximum recruitment rate index (RRI) is shown by *M. s. sinica* (0.12) whereas the minimum is shown by *S. p. thersites* (0.05). Variations of ratios of male-female and RRI depends on conditions like infanticide, mother or sisterhood care, predator pressure and physiological state of the young ones. The survey was provided new, broad and accurate information on population density and troop structure to assess the status of these three monkey species in the nature reserve. Threat analysis and ecological studies can be conducted as future implements. This can be vital to implement conservation priorities and create management plans for the populations on a larger scale.

Keywords: Population status, Diurnal primates, Giritale Nature Reserve