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MESO-MAMMAL CARNIVORE ABUNDANCE AND ACTIVITY PATTERNS IN HORTON PLAINS NATIONAL PARK

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Abstract

Meso-mammal carnivores represent an important guild of forest vertebrates that have not attracted much research attention. This study was conducted to investigate the meso-mammal carnivore abundance and activity patterns in Horton Plains National Park (HPNP). Camera trap surveys were conducted from January 2019 to June 2020 establishing 40 camera stations with a cumulative sampling effort of 1530 trap days. Camera station locations were spatially arranged in a semi-random approach and camera locations were changed after operating 24 hours for a period of <30 days to increase the spatial coverage. Cloud forest, grassland and riparian habitats present in HPNP were represented by the spatial distribution of the camera stations. Time stamped camera trap data were utilized for the analysis of abundance and activity patterns. Seven of the 12 meso-mammal carnivores present in the island were recorded in HPNP which was a relatively lower richness value. With a capture frequency of 38 and a recording rate of 2.48 (per 100 camera-trap days) Brown mongoose (*Herpestes fuscus*) was the most abundant species followed by Ring-tailed civet (*Viverricula indica, n=33*). Rusty-spotted Cat (*Prionailurus rubiginosus, n=2*) and Fishing cat (*Prionailurus viverrinus, n=3*) were the rarest species with a recording rate of 0.07 and 0.20 respectively. Based on the activity pattern analysis Brown mongoose (*H. smithii*) and Stripe-necked mongoose (*H. viticollis*) were observed to be diurnal. Golden palm civet (*Paradoxurus zeylonensis, n=20*) and Ring-tailed civet were highly nocturnal. Both Fishing cat and Rusty-spotted Cat were recorded in early morning between 0600-0700 hrs. Meanwhile Eurasian otter (*Lutra lutra, n=6*) was active mostly in the evening time period (1600-1700 hrs). The study reveals the coexistence of meso-mammal carnivores in HPNP and its facilitation by the temporal variation in activity patterns of different carnivore species.

Keywords: Activity patterns, Montane wet zone, Camera trapping, Species abundance, Species Co-occurrence