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ACTIVITY PATTERN VARIATIONS OF LARGE MAMMALS DURING THE 'PAADA YAATHRA' PILGRIMAGE IN KUMANA NATIONAL PARK, SRI LANKA

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Human activities inside protected areas can have an impact on wildlife. We conducted a camera trap survey to study the temporal variation of large mammal activity during varying human disturbances within Kumana National Park (KNP). Data were collected using seven camera traps placed along the traditional road used by the pilgrims attending the "Paada Yaathra" (PY) annual pilgrimage. A systematic random sampling method was followed to install the camera traps. The study site was divided into 2 × 2 km^2 plots, and traps were placed randomly within 300 m from the road inside the plot. All traps were placed 30 cm above the ground, approximately 3 m away from animal trails. Cameras were active 24 hrs a day for 48 days, from 27th May 2023 to 13th July 2023. This period was divided into three 16-day segments; before, during and after the PY period. Activity time was collected using the timestamp on the camera trap recordings. Collected data were used to generate activity graphs (overlap package in R 4.3.3) and calculate the activity overlap of each species before and during the PY, as well as after and during the PY. The activity overlap of detected *Panthera pardus kotiya, Melursus ursinus, Elephas maximus, Cervus unicolor, Axis axis, Sus scrofa,* and *Bubalus* sp. were analysed during the study. Among them, the lowest activity overlap was recorded for *Panthera pardus kotiya* in both comparisons: an activity overlap of 0.04 before and during the PY and 0.02 after and during the PY. This indicates a change in their activity that was not recovered even after the PY. The *Axis axis*, and *E. maximus* exhibited a high activity overlap in both comparisons. However, all large mammal species displayed reduced diurnal activity and increased nocturnal activity during the PY period compared to before and after PY. Understanding these changes in activity patterns during the PY period can help implement conservation efforts to reduce the negative interactions between large mammals and human pilgrims due to temporal activity overlaps.

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