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**Evidence for Presence, Home Range Mapping, and Conservation Threats of Fishing Cats (*Prionailurus viverrinus*) in Kirala-Kele Sanctuary, Southern Sri Lanka**

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**Abstract**

The fishing cat (*Prionailurus viverrinus*) is a medium-sized globally vulnerable wild cat present in South and Southeast Asia. It is considered the second-largest wild cat inhabiting hill country wet zone and dry zone forests in Sri Lanka. Only a handful of studies have been conducted about them in Sri Lanka due to the practical difficulties in studying behavioural attributes and rarity. Present study was conducted in the Kirala Kele Sanctuary (KKS) (5°58'38" N, 80°31'27" E) which covers an area of 1800 ha of Matara District, Southern Sri Lanka. Sampling was done weekly from August 2023 to October 2023. A random sampling method was used along the road network of the KKS to monitor the presence, population size, home range, and conservation threats. Camera traps were used to recognize the presence of fishing cats and their behaviour. Meanwhile, GPS locations of the scat and pug marks were used to identify the home range distribution and habitat utilization. Further, community-based interviews were used to detect the potential threats to the fishing cats in the KKS. A total of 576 camera trapping hours by three camera traps recorded the presence of only two fishing cats in the KKS between 07.00 p.m. and 05.00 a.m. Camera traps recorded their regular behaviours such as feeding, roaming, and defending. Scat samples (N=57) were found on the road network adjacent to the wetlands together with sparse forests, stream-line forests, and grassland areas. Mapped GPS locations of scat, and pug marks proved that fishing cats use distinctive paths as their daily trails during the same time intervals of the night while showing their home ranges in KKS. Community-based interviews and personal observations revealed that overfishing, usage of the sanctuary as a huge garbage dumping ground, unauthorized settlements in the area, and public unawareness are crucial threats to fishing cats. They have become a nuisance to the surrounding community due to their predatory attacks on domestic and farm animals. Restoration of wetland habitats, enhancement of fish densities in the wetlands, and conservation awareness programs focusing on fishing cat distribution sites are priorities to ensure their survival. Camera trapping and observations at the adjacent human settlements and genetic level studies are in progress to further recognize the conservation priorities.

**Keywords:** GPS mapping, Habitat utilization, Protected areas, Scat analysis, Species distribution

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