

ISSN 1027-2992

CAT news

N° 68 | Autumn 2018





CATnews is the newsletter of the Cat Specialist Group, a component of the Species Survival Commission SSC of the International Union for Conservation of Nature (IUCN). It is published twice a year, and is available to members and the Friends of the Cat Group.

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CATnews is produced with financial assistance from the Friends of the Cat Group.

Design: barbara surber, werk'sdesign gmbh

Layout: Tabea Lanz und Christine Breitenmoser

Print: Stämpfli Publikationen AG, Bern, Switzerland

ISSN 1027-2992 © IUCN/SSC Cat Specialist Group

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Observations on fighting among fishing cats from Godavari mangroves, India

Fishing cat *Prionailurus viverrinus* is an elusive and poorly known small cat species of the world, which is threatened due to various levels of anthropogenic pressures. The mangroves and surrounding habitats of the Godavari Delta are an important conservation area, which supports a viable fishing cat population. Herewith, we describe a direct observation of an aggressive inter-sexual interaction of fishing cat and we believe that this observation will add to the knowledge of its behaviour in the wild.

Fishing cat is a highly threatened species inhabiting inland and coastal wetlands of South and South-east Asia (Pocock 1939, Nowell & Jackson 1996, Macdonald et al. 2010). The fishing cat is now categorised as Vulnerable by the IUCN Red List of Threatened Species (Mukherjee et al. 2016). On the eastern coast of India, fishing cats occur mostly in the mangrove forests and along coastal wetlands (Acharjyo & Misra 1975, Mukherjee et al. 2012). The Godavari delta comprises of an array of coastal habitats including a riverine estuary, sandbars, beaches, a bay as well as large stretches of mangrove forests of which 235.7 km² is protected as Coringa Wildlife Sanctuary (Ravishankar et al. 2004). These mangroves are home to unique fauna including the fishing cat which is an elusive and poorly known small cat species of the world (Kolipaka 2006, Malla 2016; Fig. 1).

A long-term study was conducted in Coringa Wildlife Sanctuary and its surrounding mangroves between 2014 and 2017 to study the changes in the landscape and its biodiversity due to climate change. As part of this study, significant information was gathered on fishing cats that included its habitat use in the delta, population status, and threats. We

had direct sightings of the species on several occasions giving us the opportunity to record its behaviour. In this paper, we describe one direct encounter wherein a fight between two individuals of fishing cats was observed. This encounter occurred between a male and a female fishing cat along a sub-tidal creek just outside the sanctuary area on 5 February 2017 at 20:00 h. The fight sequence continued for nearly five minutes. At first, a solitary female was seen walking along the creek in search for food during the low tide hours. While she was foraging at a spot something alerted her. Suddenly a male fishing cat appeared out of the mangrove forests and approached the female fishing cat. At this sudden and close approach, both pounced on each other, striking and hissing at each other. This sent both rolling on the exposed mudflats. Immediately after this both took an aggressive stance staring at each other's face. The male raised its head towards one side of the female, while the female's head and body were lower. For both the cats, hair along the middle of the back and on the tail was erected. The female also made low-frequency growling calls at the male. This initial encounter between the two was observed for a duration of 22 seconds.

The female subsequently showed a defensive behaviour with her tail bent downwards below her hind limbs, but she occasionally raised her foreleg towards the male. She tried to strike the male fishing cat making a loud hissing sound, but the latter managed to move away. They resumed their body postures again with mouths wide open, ears and whiskers bent backwards. At this stage, they were showing full aggressive behaviour to each other. At a slight movement by the male fishing cat, the female again tried to strike him. This posturing continued for more than 60 seconds when the male pounced on the female, again sending both rolling on the mud. Both individuals were making hissing and growling calls.

Subsequently, the male resumed his position and turned towards the female in a curved body posture lifting its right forelimb in a bent manner, its head pulled up and swinging sideways without a pause. The female, on the other hand, appeared to be in a submissive mode (Fig. 2). She was still on the ground, only slightly lifting her right forelimb and growling at the male but at a lower frequency now. This continued for another 2 minutes. The male finally moved away from the female and walked into the mangrove forest. However, the female remained at the site for a few more seconds, after which she continued walking along the creek and foraging for food. This observation of a fight between two fishing cats matches the description given by Leyhausen (1979). He described the 'mobile-threat display', 'right-angle threat display' and the sideways head-swinging behaviour in the cats of the genus *Prionailurus*, which we also observed in the two fishing cats during their fight. In the wild, small cat species are mainly solitary and they interact at infrequent intervals, mainly for mating or for establishing territories (Kitchener 1991). Since this was a



Fig. 1. Female fishing cat seen foraging and hunting fish in the intertidal creeks of Godavari mangroves (Photo G. Malla).



Fig. 2. Fight between male and female fishing cat in the intertidal creeks of Godavari mangroves (Photo G. Malla).

single observation, we cannot hypothesise on the possible reasons for their aggressive behaviour. Nevertheless, we believe this account of a fight between a male and female fishing cat is an important observation and will help in studies aimed at understanding its behaviour in the wild.

Acknowledgements

This observation was made during a survey which was part of a UNDP-GEF-MoEF&CC project 'Establishment of Knowledge based Management System in the East Godavari River Estuarine Ecosystem (EGREE Project)' of the Wildlife Institute of India and funded by MBZ Species Conservation Grant for "Godavari Fishing Cat Project". We would like to thank the Director and Dean of our institute for providing us the infrastructure and guidance. We would also like to acknowledge the support of Andhra Pradesh Forest Department who provided us with necessary permissions to carry out the study.

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