

CAT

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news





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Original contributions and short notes about wild cats are welcome

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Recent records of fishing cat and its conservation in coastal South India

In coastal South India, the first published records of confirmed evidence-based observations of fishing cats *Prionailurus viverrinus* were in 2006, and then again in 2012 and 2014, all from the Coringa Wildlife Sanctuary in the state of Andhra Pradesh. With the use of recent local news articles, interviews with local people, field tracking, and camera-trap surveys outside protected areas, we recorded fishing cats in several more locations along the coastline of Andhra Pradesh from November 2013 until August 2014. We present our findings through an online, interactive map and promote the need for data sharing on fishing cats. Based on the reports and our preliminary findings, we surmise that the Krishna and Coringa Wildlife Sanctuaries and proximal mangroves probably hold the southernmost, sizeable populations of fishing cats in India. We also provide details on needed community-based measures for the long-term conservation of fishing cats in this region.

The fishing cat occurs in fragmented populations throughout its range in South and Southeast Asia, and has been globally listed as Endangered on the IUCN Red List since 2008. Wetlands throughout the known range of the fishing cat face threats such as ha-

bitat degradation, pollution, and significant reductions in area due to aquaculture and agriculture (Mukherjee et al. 2010). Additionally, fishing cats face direct threats from humans due to retaliatory killing against livestock depredation (e.g. Cutter 2009, Adhya

2011). In India, it has been known that fishing cats mainly occur in the mangrove forests of the Sundarbans, and sparsely in wetlands along the Ganga and the Brahmaputra River tributaries. They also occur around other well-known wetlands such as the Keoladeo National Park in northwestern India and the Chilika Lake in Orissa (Acharjyo & Misra 1974, Mukherjee et al. 2012, Aniruddha 2014, see also: www.fishing-cat.wild-cat.org/). The fishing cat is listed as a Schedule I species in the Indian Wildlife (Protection) Act, 1972. On the east coast of South India, only a few intact small populations of fishing cats are known to occur, supported by a few recent records (Kolipaka 2006, Mukherjee et al. 2012, Sankar 2014), and these populations are subject to severe threats due to habitat loss by aquaculture, persecution and poaching by humans for their meat (based on interviews with local communities by M. Kantimahanti, P. Sathiyaselvam, and A. Rao, pers. comm.). A recent survey effort presented a case for the potential extirpation of fishing cats on the west coast of South India (Janardhanan et al. 2014). Given the endangerment of fishing cats, it is imperative that surveys are implemented to document their occurrence through-

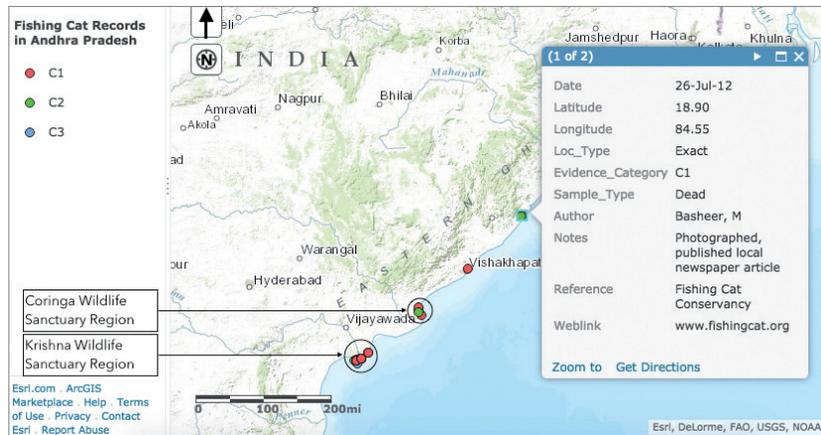


Fig. 1. Map of fishing cat records from Andhra Pradesh, India (available online at: <http://www.arcgis.com/home/item.html?id=c26ca5415e6c4d62b7e3376dc5f079a6>).

hout their range, their habitat is identified, and conservation policy measures be put into action for the long-term conservation of their remaining populations.

Methods

In November 2013, we initiated questionnaire-based interviews with local people in villages in coastal Andhra Pradesh, especially in areas from where news reports and anecdotal evidence based on verbal communications were available on fishing cats. We also performed spoor surveys in wetlands, riverbanks and mangroves outside the Krishna Wildlife Sanctuary (15°45'58.9"N/80°55'32.1"E), which lies approximately 200 km south of the Coringa Wildlife Sanctuary (16°50'02.2"N/82°16'59.2"E) along the coastline. Upon documenting tracks (also known as footprints, pugmarks or paw prints/impressions) and scats of fishing cats (identified based on authors' expertise and observations in the past), we trained local people in track-and-sign surveys and involved them in setting up motion-sensor cameras in locations with confirmed fishing cat tracks and/or scats. We restricted setup of cameras to only those areas with confirmed fishing cat tracks and/or scats outside protected areas in the Krishna Wildlife Sanctuary region (Fig. 1). We recorded our observations and associated GPS locations of tracks, scats and photographs of fishing cats. Additionally, we recorded evidence based on identification of live and dead animals, news reports, and anecdotal information such as direct and indirect observations and comments made by local people. We mapped the locations of all our confirmed records with the use of ArcGIS Online (ESRI, California, USA; www.arcgis.com) and classified evidence into three categories:

C1 – Confirmed records based on tangible evidence: live captured or trapped animals, animal carcasses or body parts (e.g. pelts, bones, other identifiable remains, etc.), photographs of individuals, DNA-based identification of scats, or other comparable evidence. This category also included previous reports or publications that consisted of C1-type evidence. C2 – Confirmed records identified by experts: information on live or dead animals, tracks, scats, hair, and direct sightings, as identified by trained personnel or experts in the field, accompanied by photographs and measurements of evidence.

C3 – Unconfirmed or questionable records: direct sightings or observations of live or dead animals or their parts, tracks, and scats, without any accompanying photographic or measurement records. This category also included articles and verbal communications about fishing cat occurrence without any supporting C1 or C2-type evidence.

Results

During November 2013 – August 2014, we confirmed the presence of fishing cats with photographic evidence of tracks, scats, and live animals from multiple locations outside the Krishna Wildlife Sanctuary, and along the coastline of Andhra Pradesh. Based on our initial reports, our evidence included 13 C1 and 22 C2 records from tracks, sightings, live and dead animals, and photographs (e.g. Figs. 2 & 3, SOM F1-F3), and one C3 record from interviews. These data are subject to being updated based on new records, and are currently available through a web-based interactive map hosted by the University of Arizona online GIS group (Fig. 1). In addition to our records confirming the presence of fishing cats, we also noted the

occurrence of fishing cats in cities, towns, and villages. Our interviews with local people and tribals in survey locations also led us to the documentation of wire-mesh traps setup for capturing fishing cats, and one incident of a fishing cat kitten captured in a trap set by a local person near the Sorlagondi village (15°51'42.1"N/80°57'59.6"E) outside the Krishna Wildlife Sanctuary. In February 2014, this fishing cat kitten was rescued and transported by Andhra Pradesh Forest Department personnel to the Nehru Zoological Park in the city of Hyderabad.

Discussion

The eastern coastline of India has a multitude of ecologically sensitive areas like the Coringa and Krishna Wildlife Sanctuary deltas. These areas include mangroves, swamp forests and other wetlands with species less known to the science and wildlife conservation community. To our knowledge, this is the first survey to yield photographic documentation of fishing cats in this region of South India. Based on our records and communications with locals, authorities and experts in the field, we speculate that the Krishna Wildlife Sanctuary and surrounding yet unprotected mangrove areas potentially harbor the southernmost sizeable population(s) of fishing cats in India documented to date. Our interviews with locals and documentation of fishing cat records in human-inhabited areas, and traps set for fishing cats, indicate the prevalence of human-fishing cat conflicts, hunting, and poaching for their meat (A. Rao, pers. comm.).

As we continue to populate the map of fishing cat records (Fig. 1), we expect to discover the presence of fishing cats in several yet unsurveyed mangroves occurring along the coastline of South India. Thus we encourage further surveys in the mangroves between the Coringa and Krishna Wildlife Sanctuaries, as well as the Sriharikota barrier island and the Pulicat Lake in Andhra Pradesh. Based on our assessments of fishing cat habitat, we also suspect the presence of fishing cats in and near the Pichavaram mangrove forest (11°26'01.4"N/79°47'47.1"E; S. Mukherjee, pers. comm.), and the Kodiakarai Sanctuary (10°18'36.8"N/79°51'14.7"E) in Tamil Nadu. In light of the need to designate protected areas for the conservation of the endangered fishing cat and its globally important mangrove habitat, we propose sharing of such data on fishing cat occurrence by researchers with local and national wild-

life authorities, and the global conservation community.

Our efforts to survey and document fishing cats in coastal South India are directed towards implementing conservation measures for their protection in some severely threatened coastal ecosystems in South India. We base our direction on the significant loss in mangrove forest cover in India, and globally, due to aquaculture and agriculture (Valiela et al. 2001, Polidoro et al. 2010). However, initiatives such as the large-scale restoration of mangroves in Krishna Wildlife Sanctuary (Ramasubramanian & Ravishankar 2004) and recent conservation efforts for fishing cats in Coringa Wildlife Sanctuary and the Godavari River delta (EGREE 2013, Sankar 2014) show promise toward conservation of the fishing cat in this region.

In January 2014, we started a community-based conservation initiative to mitigate direct threats to fishing cats and to protect their habitat especially around locations with C1-type evidence (Naidu 2014). This initiative involves capacity development for local people through education, enabling their involvement in field surveys and camera-based monitoring efforts for fishing cats. In addition to habitat protection, we observed that education and awareness events manifest interest in local communities living in proximity to fishing cats, and have the potential to turn into long-term community-managed conservation programs.

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Fig. 2. Fishing cat tracks outside the Krishna Wildlife Sanctuary, June 2014.



Fig. 3. Fishing cat outside the Krishna Wildlife Sanctuary, 30 July 2014.

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Supporting Online Material SOM Figures F1-F3 are available at www.catsg.org

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Supporting Online Material



Fig. SOM F1. Photograph of fishing cat tracks from outside Krishna Wildlife Sanctuary, June 2014.



Fig. SOM F2. Photograph of fishing cat scat from outside Krishna Wildlife Sanctuary, June 2014.



Fig. SOM F3. Motion-sensor camera photograph of fishing cat occurring outside the Krishna Wildlife Sanctuary.

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