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A fishing cat observation from northern Cambodia

A fishing cat *Prionailurus viverrinus* was photographed by a targeted camera trap in Kulen Promtep Wildlife Sanctuary, northern Cambodia in 2003. The robust build and combination of features confirm identification. It was located in deciduous dipterocarp forest, close to floodplain grassland approximately 260 m from a permanently flowing river. There are few other observations of the Endangered fishing cat in Cambodia and this may be the first observation in the wild. Other confirmed observations have been from captive individuals on the Tonle Sap lake and in the south-western forests. Identifying sites at which this species is present should be a priority as this species is poorly known.

The fishing cat is a very poorly known Endangered species (Mukherjee et al. 2008). This species is apparently declining across much of its range and has disappeared from large parts of it (Mukherjee et al. 2008). Indeed there are so few confirmed records of this species that it is unclear if it has ever been present in some regions (e.g. Lao P.D.R.: Duckworth et al. 2010; Sumatra: Duckworth et al. 2009).

Methods and Results

To improve our knowledge of this species and to highlight the need for further information, I present details of a record from Kulen Promtep Wildlife Sanctuary (KPWS), Preah Vihear province, in the Northern Plains of Cambodia. In 2003 12 camera traps were placed at Rhum Vean, central KPWS (14°05'01"N/104°35'13"E; Fig.1) based on a sighting of an unidentified cat and numerous small cat tracks along the water's edge (J. Walston, pers. comm.). Traps were placed for more than 20 days each. The camera traps were placed near a pond in deciduous dipterocarp forest, close to floodplain grassland approximately 260 m from the Sen River, the largest river in northern Preah Vihear draining most of KPWS. This river holds water year-round. On 11 March 2003 a single fishing cat was photographed by a camera trap (Fig. 2). The cat in the photograph is distinctive and there is little room for misidentification of this individual, even though the diagnostically short tail cannot be seen. It has a generally heavy build, broad head, relatively short legs, rather small ears, heavily spotted body and streaks on the forehead; and the underparts are distinctly buff or off-white, not the clean white usually shown by the most likely confusion species, leopard cat *P. bengalensis*, although the body is a warmer colour than is normally associated with fishing cats. This body tone is well within the range of leopard cat, but given the powerful build and other features, confusion is unlikely. This colour tone may be an artefact of the CamTrakker camera trap, a model which uses film.

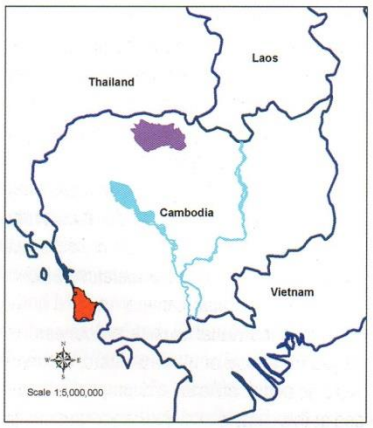

Fig. 1. Confirmed fishing cat sites in Cambodia: Kulen Promtep Wildlife Sanctuary (marked in purple), Botum-Sokor National Park (red) and the rivers feeding and exiting the Tonle Sap floodplain lake in central Cambodia (blue).

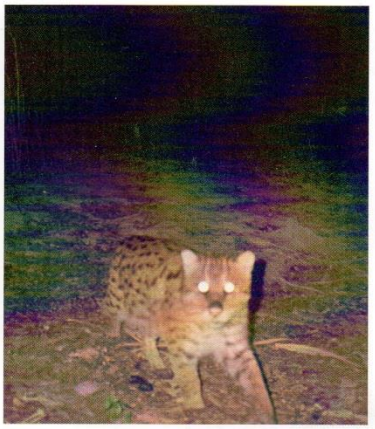

Fig. 2. Camera trap photograph of a fishing cat in KPWS: taken on 11 March 2003 (Photo WCS).

Discussion

The first confirmed observations of fishing cat from Cambodia are those of C. M. Poole and colleagues who saw a number of animals at Phnom Tamao zoo in the late 1990s (J. W. Duckworth in litt.). D. Ware and F. Goes (in Duckworth et al. 2005) kept records of captive mammals from 1999 to April 2002 and observed captive individuals on the Tonle Sap floodplain lake (F. Goes, pers. comm.). Two juveniles were found in a village adjacent to Botum-Sokor National Park, south-west Cambodia in January 2008 (Royan 2009). Aside from these definite records, there are a number of unconfirmed reports of juveniles and tracks (see Royan 2009). Fishing cats appear to be absent from many inland sites in South-East Asia (Mukherjee et al. 2008, Cutter & Cutter 2009, Duckworth et al. 2010), so the presence of this species in both the Northern Plains and the Tonle Sap is worthy of some attention. Observations of tracks without other corroborating evidence would appear to be unreliable. However, as this photograph was obtained by targeting a site where cat tracks were observed at the water's edge together with an unconfirmed sighting, it may be valuable to identify potential fishing cat sites based on tracks and subsequently camera traps should be placed to confirm the presence of fishing cats. We have been unable to trace historical records from Cambodia. However, Walston (2001) indicates that there was very limited mammal survey effort in Cambodia before the late 1990s. Thus the historical status of many mammal species are unknown and the lack of fishing cat records, meaningless.

To our knowledge, this is the only confirmed observation of the fishing cat in the wild in Cambodia. The paucity of observations in Cambodia and the fishing cat's increasing rarity elsewhere (Mukherjee et al. 2008) suggests that a priority for the conservation of this species is to identify sites in which it is present. Appropriate monitoring for this species should be prioritised at key sites in Cambodia, notably the Tonle Sap Lake, the Northern Plains, south-western forests and southern mangroves, as well as in other countries across its range. Camera trap sur-

veys in potentially suitable habitat, but also in degraded habitat where their presence is suspected (see Cutter & Cutter 2009) could provide some assessment of the presence or absence of fishing cats. Potential sites may be identified from local and scientific reports of unidentified cats and cat tracks at the water's edge. Given the apparent disappearance of this species from much of its former range, such surveys would improve our knowledge of the ecological requirements of this species and threats to its survival.

Acknowledgements

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Melanistic marbled cat from Bukit Barisan Selatan National Park, Sumatra, Indonesia

In recent decades there have been an increasing number of camera trap studies occurring throughout Southeast Asia. Although not the target species, photographs of marbled cats are occasionally recorded and may give insight to some aspects of the species' ecology. Here we report on a series of camera trap photographs that were recorded of a melanistic marbled cat *Pardofelis marmorata* in Bukit Barisan Selatan National Park (BBSNP), in southeastern Sumatra. These photos constitute the first documented indication of melanism in marbled cats.

The marbled cat remains one of the most rare and illusive felids, with relatively little documentation of their ecology and life history (Nowell & Jackson 1996, Sunquist & Sunquist 2002). To date, there have been no successful studies focused solely on this species and the majority of information on the marbled cat has come from historical accounts or anecdotal observations (Hose 1893, Holden 2001, Grassman & Tewes 2002, Grassman et al. 2005, Azlan & Sharma 2006, Morino 2009). From 1998-2006, intensive camera trapping was conducted in the 3,568 km^2 Bukit Barisan Selatan National Park BBSNP in southeastern Sumatra to assess the population density of Sumatran tigers *Panthera tigris sumatrae* in the park (Wibisono 2006). On 29 June 2001, a trap camera set in the Liwa region of BBSNP (104°8'52.969"E/5°6'41.990"S, 1089 m asl) recorded a series of photographs of a pair of marbled cats, one exhibiting melanism (Fig. 1). The camera was unbaited and had been placed on an animal trail that followed a sharp ridgeline in a relatively remote region of the park. The habitat in the area is characterized by rugged topographical features, altitudes above 1,000 m, and primary evergreen forest. The series began at 07:41 with a head-on photograph of a single, normally pigmented marbled cat. Five more photographs were taken of this individual in various positions in front of the camera over the next fourteen minutes. At 07:56, a melanistic individual appeared, apparently walking along the trail behind the normally pigmented individual. Over four hours later, at 12:21, a photograph of what we assume to be the same two individuals moving in the opposite direction along the trail was taken. This time, both the normally pigmented and melanistic marbled cat appeared together in the frame (Fig. 2). The felids proceeded to interact in front of the cameras for fourteen minutes by rolling on the ground and moving back and forth along the trail. The final picture of the pair was taken at 12:35.

A total of 45 marbled cat photographs were obtained in BBSNP over the duration of the study. The series of photos described above were the only record of a melanistic individual. The particular camera at which the melanistic individual was recorded was deployed for a total of 32 trap-nights, but there were no additional marbled cat photos recorded at this camera on subsequent trap nights. Several additional camera trapping sessions were carried out in this region of the park during ensuing years, and while photographs of marbled cats were recorded, no further photographs of melanistic individuals were observed.