

ISSN 1027-2992

CAT

N° 51 | AUTUMN 2009

news



IUCN
The World Conservation Union

SPECIES SURVIVAL COMMISSION

CAT SPECIALIST GROUP

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Confirmation of the endangered fishing cat in Botum-Sakor National Park, Cambodia

The presence of fishing cat *Prionailurus viverrinus* was confirmed in Botum-Sakor National Park, southwest Cambodia on 20 January 2008. Two juveniles were found abandoned by a park ranger following a natural fire, and were subsequently photographed by Frontier scientists in a village within the national park boundary. The discovery of these cats suggests the presence of a wild population of the species. Botum-Sakor National Park is one of only two coastal protected areas in Cambodia and contains significant potential fishing cat habitat, including large wetland areas and a combination of forest and grassland systems. Therefore, fishing cat might well have a widespread distribution within the National Park. Threats to fishing cat include direct targeting by hunters for food or indirect targeting via snares, while the future of natural habitat within the National Park and its surrounds remains uncertain due to increasing development pressure. The fishing cat is currently listed as Endangered on the IUCN Red List of Threatened Species, and as such, areas containing significant populations need to be identified and afforded increased levels of protection.

Botum-Sakor National Park (NP) is located in the southwest of Cambodia (Fig. 1) and is one of several protected areas within the Cardamom Mountain region. The NP consists largely of lowland evergreen and semi-evergreen forests, but also contains mangrove, *Melaleuca* and grassland habitat, with an altitudinal range from sea level to approximately 400 metres. The NP is divided into four zones: protected zones, development zones, logging concessions and community protected zones,



Fig. 1. Location of Botum Sakor NP (red).

with a total area of 1,834 km². The protected zone is the largest zone, enclosing much of the forest and mangrove habitat, and is policed by Cambodian Ministry of Environment rangers supported by Wildlife Alliance, an international non-profit conservation and wildlife protection organization.

The distribution of fishing cat in Cambodia is very poorly known, with few confirmed modern records. The first published record of this species in the wild appears to be Long et al. (2000), who reported to have regularly encountered tracks, which they suspected belonged to the species in Phnom Samkos Wildlife Sanctuary and the Central Cardamoms Protected Forest, with one reported sighting obtained near the village of T'Mar Bang. Similarly, Traeholt & Lundahl (2003) identified fishing cat tracks in the Southern Cardamoms and discovered one juvenile in a local village, whose mother had been shot by a hunter. There is also some evidence to suggest that the species occurs around the Tonle Sap Biosphere Reserve with records of photographs of captive animals (C. Poole, pers. comm.) and tracks at the Prek Toal Core Zone and western Kruos Kraom (Davidson 2005). However, the reliability of these reports is questionable due to a lack of details on how identifications were obtained and confirmed as fishing cat. Therefore, these records can only be regarded as provisional, given the difficulty in identifying fishing cat tracks as well as juvenile animals due to sex, age and geographic size variations

between and within cat species. A further wild fishing cat population may occur within Kandal Province with four captive fishing cats at the Phnom Tamao Wildlife Sanctuary having been confiscated there (N. Marx pers. comm.). However, it is not possible to conclusively determine if the cats originated there or were captured elsewhere.

The presence of the species in Botum-Sakor was confirmed on 20th January 2008, when two captive juveniles were discovered by Matt Lyon in a small fishing village on the Preaek Kon Tourt River (11°09.856'N, 103°25.697'E) in the northwest of the NP. The kittens were identified by the author as fishing cat by their olive/grey fur, black stripes on the head that break up over the shoulders forming irregular shaped patches, nails which protrude from their sheaths while retracted, black fur on the posterior of the ear, short muscular tail with black rings, deep white around the eyes and nose and buffish fur around the throat (Fig. 2). Photographs were analysed and confirmed by experts to be fishing cat (J. Sanderson and N. Spooner, pers. comm.). The discovery of captive individuals suggests that fishing cat occurs in the wild. The juveniles were reportedly found by a park ranger in a cultivated area next to the village within the NP boundary, after a fire that presumably separated them from their mother.

Due to difficulty in identifying cat species from juveniles and distinguishing fishing cat and leopard cat *P. bengalensis*, there is some degree of uncertainty regarding the identification. Previous identifications of fishing cat, including the use of camera trap photographs, are dubious due to large geographical size variations in bengal cat and a lack of many modern records of fishing cat, which has prevented consistent identifying features from being documented (see Sanderson 2009). However, several features were used to identify the kittens as fishing cat, which in addition to the confirmation from two experts, suggests a very small degree of uncertainty for the identifications. Ideally, the identification of the juveniles would have been checked at a later stage in development and/or through genetic identification of biological material. However, both individuals died before efforts could be made to relocate them, and the whereabouts of the specimens is unknown.

The density and distribution of fishing cat in Botum-Sakor is not known. However, the presence of large wetlands in the lowland NP (Fig. 3) suggests that the species could potentially have a widespread distribution. The ma-

majority of local hunters and forest users report familiarity with fishing cat and describe fairly regular encounters with purported tracks. However, the reliability of local information is dubious due to difficulty of field identification even by experts. Confusion in identification may arise with the more common leopard cat or large-spotted civet, as reported previously in the Cardamoms (Holden & Neang Thy 2009). There is a need to assess the status of this species in the NP, which at this stage is impossible.

Despite Botum-Sakor NP being a protected area, there is evidence of widespread hunting of wildlife. In particular, noose snares are commonly encountered in broadleaved forested habitat and may threaten fishing cat, assuming it enters this habitat. Local poachers report that fishing cat, 'K'la trey', is easily hunted, including for food. Most of the grassland, broadleaved forest and mangrove habitat which is likely to support fishing cat populations in the NP is located within the protected area zone, however there is ongoing efforts to develop agriculture, including fruit orchards, as well as infrastructure, including a power station and tourist resorts. It is unclear the impact that this habitat loss will have on surrounding habitats, and whether development concessions will be allowed within or adjacent to the protected zone. Additionally, it is not possible to predict what impact a converted landscape will have on fishing cat populations, as there is some evidence of persistence in converted habitats, such as Java (Duckworth et al. 2009). The fishing cat is currently listed as *Endangered* and thought to be in a large decline throughout its range (Sanderson et al. 2008). Thus, it is important that fishing cat populations are identified and protected, and its confirmation in southwest Cambodia adds to our overall knowledge of the species.

Acknowledgments

Gratitude is offered to those involved with Frontier-Cambodia fieldwork, particularly Dominic Charkin, Matt Lyon, Margreet Drijfhout, Adam Godhard and Matthew Allen. Frontier-Cambodia has a project agreement with the General Department of Nature and Conservation Protection of the Cambodian Ministry of Environment and appreciates the efforts of Sy Raminey, Keo Sovannak and Pan Vat. Many thanks to Will Duckworth, Jeremy Holden, Wes Sechrest, and Mark Steer for reviewing the manuscript, Jim Sanderson and Neil Spooner for analysing photographs and Nick Marx and Colin Poole for additional information.



Fig. 2. Fishing cat being raised by a local villager (Photo M. Allen, Frontier-Cambodia).

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Fig. 3. Typical wetland habitat in the Botum Sakor National Park ideal for fishing cat (Photo A. Royan, Frontier-Cambodia).