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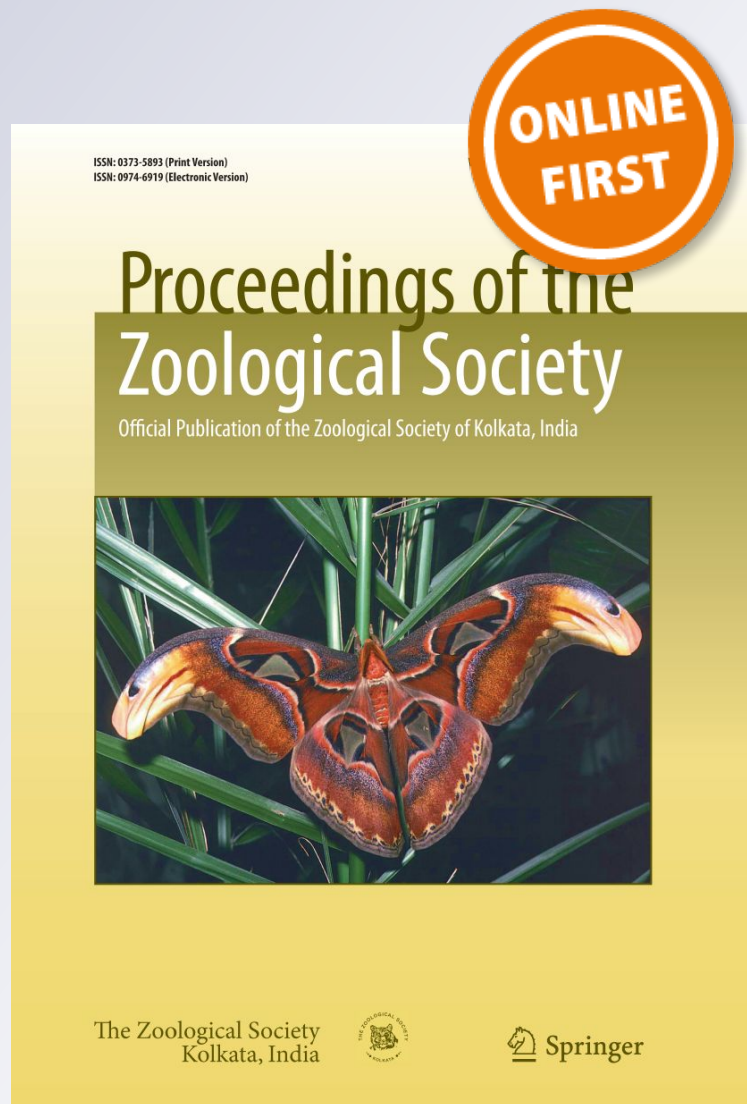
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SHORT COMMUNICATION

On the Occurrence of Rusty-spotted Cat *Prionailurus rubiginosus* (I. Geoffroy Saint-Hilaire, 1831) (Mammalia: Carnivora: Felidae) in Odisha, Eastern India

Himanshu Shekhar Palei¹ · Subrat Debata¹Received: 31 May 2017 / Revised: 7 August 2017 / Accepted: 28 August 2017
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Abstract Lack of scientific information encourages biased understanding on status and distribution of different species. The Rusty-spotted Cat *Prionailurus rubiginosus* is the world's smallest felid endemic to India, Nepal and Sri Lanka. As much of its distributional range is falling outside protected area network, it is more vulnerable to loss and degradation of the habitat from anthropogenic activities. So, region specific baseline information is essential to reassess its status. In the present study, based on the Forest Department rescue records, we have reported its wide spread distribution in Odisha, eastern India. So, further targeted study in the identified localities is needed to generate baseline information on its status and ecology to develop appropriate conservation plans for future.

Keywords Rusty-spotted Cat · *Prionailurus rubiginosus* · Distribution · Odisha

Introduction

Small cats, although contributes more than 60% to the wild felid diversity of India, they are the least studied group and received inadequate attention in terms of conservation compared to the large and medium sized congeners. The Rusty-spotted Cat *Prionailurus rubiginosus* is the world's smallest felid weighing around 1.1–1.6 kg at the adult stage (Prater 2005) and endemic to India, Nepal and Sri

Lanka (Mukherjee et al. 2016). It prefers dense vegetation in moist and dry deciduous forest as well as scrub and grassland (Patel 2011). Further, there are also reports of its occurrence within agricultural areas and human settlements (Nowell and Jackson 1996; Mukherjee 1998; Nekaris 2003; Athreya 2010). Much of its distributional range fall outside the protected area network, and these habitats are vulnerable from various anthropogenic activities. It has been predicted that the global population may decline by 20–25% in the coming decades corresponding to loss and degradation of the remaining habitat (Mukherjee et al. 2016). So, it has been categorised as Near Threatened in the IUCN Red List of Threatened Species (Mukherjee et al. 2016) and legally protected under Schedule-I of the Indian Wildlife (Protection) Act, 1972. Overall, lack of detailed information on its status has designated it as one of the lesser known species throughout its distributional range. Therefore, more intensive studies on its distribution, population status and ecology have been recommended (Mukherjee et al. 2016).

In India, the Rusty-spotted Cat is distributed in an irregular manner from the extreme south of Tamil Nadu to the extreme north of Jammu and Kashmir and from extreme west of Gujarat to Odisha in east through Madhya Pradesh in the central region (Patel and Jackson 2005; Mali and Srinivasulu 2015; Nayak et al. 2017). Occurrence of the species in eastern India is very scarce and reported earlier only from two localities in Odisha and presumed to be an extremely rare species (Wright 1984; Acharjyo et al. 1997; Fig. 1). Here we present its additional records from new localities from this region, which will aid in further evaluation of its status and distributional range.

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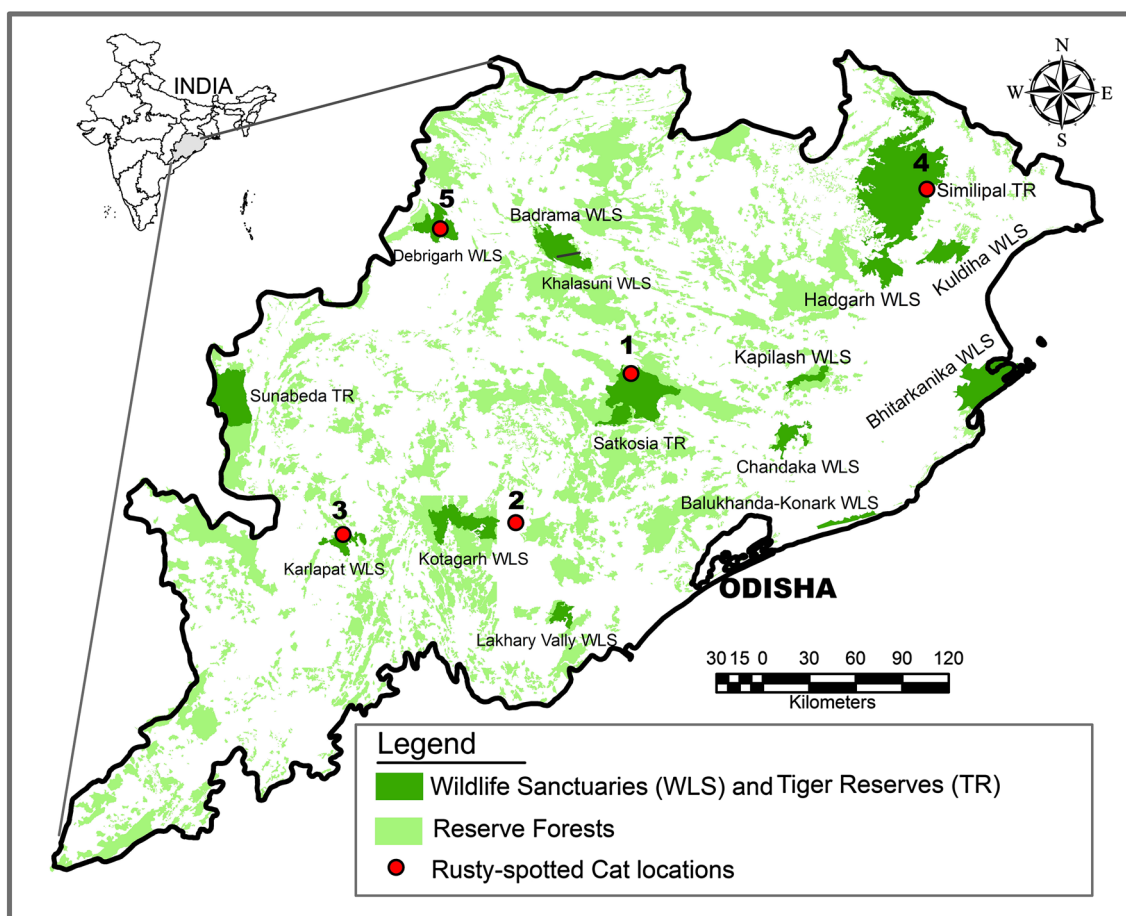


Fig. 1 Map showing the locations (*numbers refer to Table 1*) of Rusty-spotted Cat *Prionailurus rubiginosus* in Odisha, eastern India

Materials and Methods

The information was primarily collected from the available published literature, Odisha Forest Department rescue records and our field observations. Wherever possible, the available photographs of the rescued individuals was collected for identification following the keys given by Prater (2005) and Menon (2014). Further information on the habitat where the species was rescued, number of individuals including age and sex, health condition during rescue and further actions taken afterwards, was collated through discussion with the concern authority of that area. In case, the Cat was send to the rescue and rehabilitation centre of Odisha, we discussed with the concerned authority for further information.

Results

Until the present study, information on the occurrence of Rusty-spotted Cat in Odisha was reported from Satkosia Tiger Reserve (Wright 1984) and Daringibadi forest of

Baliguda Forest Division (Acharjyo et al. 1997). In the present study, we reported its occurrence from three more locations those are based on rescue records from Karlapat Wildlife Sanctuary (Fig. 2), Similipal Tiger Reserve (Fig. 3) and Debrigarh Wildlife Sanctuary (Fig. 4) of



Fig. 2 Mounted specimen of a female Rusty-spotted Cat *Prionailurus rubiginosus* at RMNH, Bhubaneswar, Odisha



Fig. 3 An adult male Rusty-spotted Cat *Prionailurus rubiginosus* rescued from Chandanpur village near Simillipal Tiger Reserve, Odisha during the year 2013



Fig. 4 An adult female Rusty-spotted Cat *Prionailurus rubiginosus* rescued and died during treatment at Debrigarh Wildlife Sanctuary, Odisha during the year 2014

Odisha in between 2010 and 2014 (Table 1). Out of three rescue records, in two instances the animals were later died out of poor health condition and one was released back to the natural habitat. Referring to the collected photographs taken during subsequent occasions (Figs. 2, 3, 4), the animals looked very similar to each other but distinguished from other cats by having smaller body size, unmarked tail, occurrence of Rusty-brown spots arranged in lines on the back and vertical dark stripes on the forehead. The species was then confirmed to be Rusty-spotted Cat following the identification keys given by Prater (2005) and Menon (2014). Table 1 gives detailed information on the animals, habitat and post rescue status.

Discussion

Based on the earlier reports and new locality records in Odisha (Table 1), the Rusty-spotted Cat seem to prefer both forested habitats and human habitations, which coincides with its general habitat preference (Nowell and Jackson 1996; Mukherjee 1998; Nekaris 2003; Athreya 2010; Patel 2011; Nayak et al. 2017). It is reported from different localities in northern, southern, western and central region of Odisha (Fig. 1), indicating its widespread distribution. However, recent camera trapping studies in Similipal Tiger Reserve (Palei et al. 2016) and regular camera trap monitoring in other forested regions of Odisha (Pers. Obs.) did not reveal its occurrence, thus emphasizing its extreme rare status. But, it may be possible that due to its elusive behaviour, naturally low population density (Mukherjee et al. 2016) and lack of targeted surveys, the animal might have been missed in earlier surveys.

Table 1 Detailed information on the occurrence of Rusty-spotted Cat *Prionailurus rubiginosus* (I. Geoffroy Saint-Hilaire, 1831) in Odisha, eastern India between 1969 and 2014 (Locations numbers match with numbers in Fig. 1)

Sl. no.	Years	Site description and habitat characteristic	Details of the animals	Post rescue status	References
1	1969	Tuluka reserve forest near Purunakote village of Satkosia Tiger Reserve, Angul district; Moist deciduous forest	Rescued; One kitten	Not available	Wright (1984)
2	1995	Road of Bhrmaramadi village, Daringibadi, Phulabani district; Moist deciduous forest	Rescued; Two kittens (one male and one female)	Transferred and raised in the Nandankanana Zoological Park, Odisha	Acharjyo et al. (1997)
3	2010	Karlapat Wildlife Sanctuary, Kalahandi district; Dry deciduous forest	Rescued; One adult female	Died out of poor health condition and later displayed in Regional Museum of Natural History, Odisha (Fig. 2)	Present study
4	2013	Chandanpur village, near Similipal Tiger Reserve, Mayurbhanj district; Moist deciduous forest	Rescued; One adult male	Released in Similipal Tiger Reserve (Fig. 3)	Present study
5	2014	Jhagadabehera village road, Dibrigarh Wildlife Sanctuary, Sambalpur district	Rescued; One adult female	Died out of poor health condition (Fig. 4)	Present study

Moreover, during our informal discussion with the staffs, it is revealed that the species was presumed to be a Leopard cub. It indicates lack of species level identification skill among the frontline forest staffs which could be another reason of its sporadic report in Odisha. So regular capacity building activities are vital to enhance the understanding level of the species among the frontline staffs. Although our results are based on few records, it still provides crucial information on distribution of Rusty-spotted Cat in Odisha, eastern India. Therefore, further targeted and intensive studies at the aforementioned (Table 1) and other possible localities on the population status, ecology and threats are essential to get a better understanding of this rare Cat and formulate appropriate conservation plans for its long term survival.

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