

CAT

N° 67 | Spring 2018

news





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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Original contributions and short notes about wild cats are welcome

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

Design: barbara surber, werk'sdesign gmbh
Layout: Christine Breitenmoser and Tabea Lanz
Print: Stämpfli Publikationen AG, Bern, Switzerland

ISSN 1027-2992 © IUCN/SSC Cat Specialist Group

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First picture and temporal activity of rusty-spotted cat from Chhattisgarh, Central India

We report here on the first camera trap pictures of the rusty-spotted cat *Prionailurus rubiginosus* from Udanti-Sitanadi Tiger Reserve USTR, State of Chhattisgarh, India. During our tiger monitoring programme from December 2016 to April 2017 we obtained 29 camera trap pictures of rusty-spotted cats at elevations between 353 and 924 m. Previously, there were no photographic evidences corroborating the presence of this species in the State of Chhattisgarh. Several human communities like Kamar, Bhunjia, Muriya, Gond and others residing in and around the tiger reserve, are known to prevalently hunt herbivores along with small carnivores for occasional consumption. Anecdotal information collected from remote forest villages indicated that rusty-spotted cat could potentially be threatened by this illegal hunting. More research is needed to understand the ecology of rusty-spotted cat including their population status, threats and required habitat parameters in the area. This information would help to improve the management and conservation of rusty-spotted cat in USTR.

Rusty-spotted cat is one of the smallest wild cats in the world. It is sporadically distributed across the Indian subcontinent. The rusty-spotted cat is more rarely documented by direct sightings and camera trap pictures than other congeners like jungle cat *Felis chaus*, leopard cat *Prionailurus bengalensis* and fishing cat *Prionailurus viverrinus* (K. Basak pers. comm.). The rusty-spotted cat is legally protected under Schedule I of the Wildlife (Protection) Act, 1972 and Appendix I of CITES (Indian population only). It is also listed as Near Threatened on the IUCN Red List (Mukherjee et al. 2016). Previously, the rusty-spotted cat was thought to be restricted to southern India (subspecies: *P. rubiginosus rubiginosus*) and Sri Lanka (subspecies: *P. rubiginosus phillipsi* and *P. rubiginosus koladivius*; Pocock 1939, Prater 1971, Kitchener et al. 2017) and to be endemic to the region. Contrarily, recent studies reported rusty-spotted cats beyond its previously known distribution range. Its range now includes Sri Lanka, 14 States and one Union Territory of India covering mostly peninsular and Central India, western semi-deserts, and parts of Himalayan foothills including Bardia National Park NP and Suklaphanta Wildlife Sanctuary WS in Nepal (Appel 2016, Lamichhane et al. 2016, Mukherjee et al. 2016). However, there was no confirmed record of rusty-spotted cat from the State of Chhattisgarh, Central India, except one record of its presence near Baruka village in Gariyaband district where, according to a local newspaper, a rusty-spotted cat kitten was rescued

and translocated to Nandan van Zoo (Jain 2016). The present study reports the presence of this elusive cat from forests of Chhattisgarh and its temporal activity pattern obtained during a camera trap study in USTR.

Study Area

USTR spreads over 1,843 km² of Gariyaband and Dhamtari Districts of the State of Chhattisgarh. This forest is famous for the tiger *Panthera tigris* and the Asiatic wild buffalo *Bubalus arnee*. The flora in USTR consists of southern tropical dry deciduous mixed forests and tropical dry peninsular sal forests (Kotwal et al. 2002). The topography of the area consists of hill ranges intercepted with plain strips. In the east, the tiger reserve is

contiguous with the proposed Sonabeda Tiger Reserve in Odisha, forming the Udanti-Sitanadi-Sonabeda Landscape. In the west, the tiger reserve is connected up to Indravati Tiger Reserve in the Bastar region and in the north, it is connected to Dhamtari and Gariyaband Forest Divisions and further to Barnawapara WS in Mahasamund District. These connectivities have an important role in the entire tiger landscape complex (Chhattisgarh-Odisha Tiger Conservation Unit) and are part of significant wildlife conservation efforts.

Methodology

A systematic camera trap study was conducted under Phase IV of the Tiger Monitoring Programme in USTR from December 2016 to April 2017 (Mondal et al. 2012, Qureshi et al. 2014). The study area was divided into three blocks covering three ranges of USTR, i.e. Kulhadighat, North Udanti and South Udanti. Camera trapping was conducted in 53, 51 and 43 2 km x 2 km grid cells, respectively. Camera traps were installed at 147 sites in forest plains to hilly terrain along the busy animal trails, nullahs as well as rocky and sandy stream beds. The time of each rusty-spotted cat picture was recorded. Each capture location was mapped to understand the geographic distribution of the species. The time of the pictures was analysed with the programme Oriana (version 4 - Kovach Computing Services, Anglesey, Wales) to study the temporal activity pattern of the rusty-spotted cat.

Results

In total, 29 pictures of rusty-spotted cats were obtained from 18 different camera trap locations (Fig. 1). In one camera trap picture, a rusty-spotted cat is chasing a rodent, one of

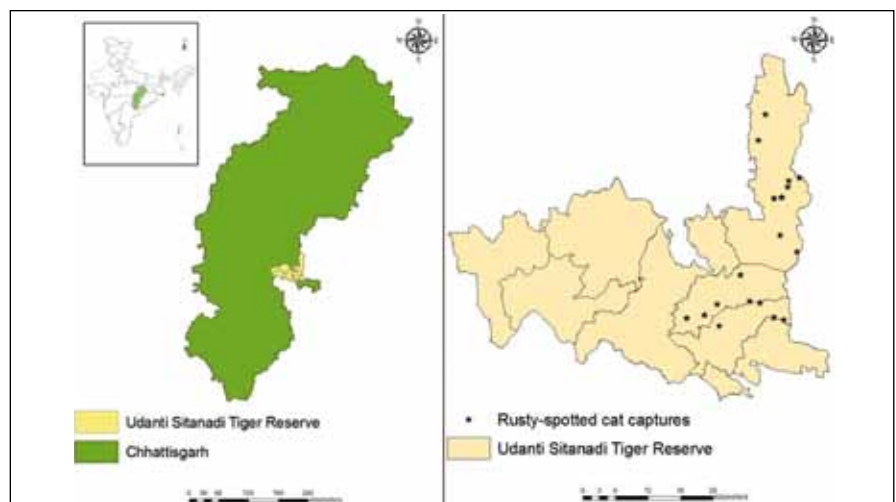


Fig. 1. Location of USTR in Chhattisgarh, Central India and the capture locations of rusty-spotted cat during our study.



Fig. 2. Camera trap picture of rusty-spotted cat chasing a rodent in USTR, Chhattisgarh, Central India (Photo Chhattisgarh Forest Department).

their primary prey species (Patel 2006, Nekaris 2003; Fig. 2, Supporting Online Material SOM Figure F1). The rusty-spotted cat was pictured in hills and plains at elevations ranging from 252 m to 924 m. Rusty-spotted cat is a nocturnal species (Mukherjee 1998, Nekaris 2003, Kittle & Watson 2004, Patel 2006, Vyas et al. 2007). The results of our study confirm this activity pattern. The species was most active from late evening to early morning (Fig. 3). The peak activity period (median) was at 01:35 h (95% Confidence interval - 00:15 h to 02:55 h; Watson U^2 test at $p < 0.005$).

Discussion

Our study reports the presence of rusty-spotted cat from forests of Chhattisgarh. The USTR is immensely biodiversity rich and seeks for effective wildlife conservation measures especially for large carnivores and herbivores along with the small known salient species. Our records of rusty-spotted cats add extra value to USTR and render it even more important for conservation efforts. Our study indicates a highly nocturnal behaviour as reported by other studies in India, too. As the primarily aim of our study was to monitor large carnivore populations in USTR, more intense camera trapping using a smaller grid size would be needed to intensively monitoring the rusty-spotted cat.

There are 37 villages inside the study area. These villages mostly belong to human communities like Kamar, Bhunjia, Muriya and Gond, who still practice hunting. In the study area, they generally hunt herbivores and small carnivores like jungle cat, common palm civet

and small Indian civet for opportunistic consumption. Local hunters reported the occasional killing of rusty-spotted cats in ground traps (baited with rodents), laid out to capture other species. The conservation measures for rusty-spotted cat may be enhanced through awareness and protective measures in the forest and villages in and around USTR. Simultaneously, strong scientific and systematic studies are needed to explore the ecology and behaviour of the species and to support conservation planning and efforts on the rusty-spotted cat in Central India and other parts of its range on the Indian subcontinent.

Acknowledgments

We would like to convey our sincere gratitude to Dr R. K. Singh, PCCF (Wildlife) & CWLW, Chhattisgarh and Mr S. K. Singh, APCCF (Wildlife), Chhattisgarh for their moral support and issuing permission to carry out the study. We would like to acknowledge Ajaz Ahmed, Avinash Mourya, Md. Irfan, Nitesh Sahu and Omprakash Nagesh for their rigorous effort during the survey. We are grateful to Chhattisgarh Forest Department for their continuous support and logistic help.

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Supporting Online Material SOM Figure F1 is available at www.catsg.org.

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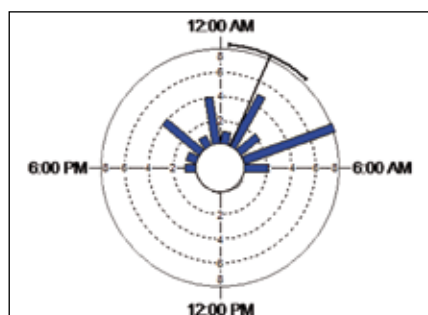


Fig. 3. Activity pattern of rusty-spotted cat in USTR, Chhattisgarh, Central India.

Basak K., Ahmed M., Suraj M., Sinha C., Reddy B. V., Yadav O. P. & Mondal K. 2018. First picture and temporal activity of rusty-spotted cat from Chhattisgarh, Central India. *Cat News* 67, 27-28. Supporting Online Material.



SOM F1 . Camera trap pictures of rusty-spotted cats in different locations of Udanti Sitanadi Tiger Reserve, Chhattisgarh, Central India.