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Distribution of honey badger *(Mellivora capensis)* in Similipal Tiger Reserve, Odisha, India

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ABSTRACT

The distribution of Ratel or Honey Badger, *Mellivora capensis*, is poorly known within the Asian portion of its global range. Targeted camera-trapping produced the first known records of this species from Similipal Tiger Reserve (STR) in Odisha, India. During the exercise the tiger reserve was divided into different block. In the I block total 126 cameras were fixed within the four ranges. Similarly in the Block II total 187 cameras was fixed in seven ranges. In the Block III total 214 and Block IV 131 camera were fixed within the six ranges and four ranges respectively. Total nineteen ratels were captured from three divisions. Out of the three divisions, the highest number of ratels were captured in Kaptipada range of Baripada division (N =13) followed by Pithabata range (N=03), Chahala range (N=01), Nawana North (N=01) of Similipal core division and Manada range of Rairangpur division (N=01) only one ratel was captured. It shows that the maximum photos were captured in Buffer division of the Similipal Tiger Reserve.

Key words: Camera trap, distribution, honey badger, Similipal Tiger Reserve

INTRODUCTION

The Ratel, *Mellivora capensis*, is widely distributed throughout Africa, the Middle East, and South Asia (Begg et al., 2008; Do Linh San et al., 2016), including most of India (Prater, 1980; Menon and Daniel, 2003). Although their status and distribution have been well-documented in parts of Africa and the Middle East (Krunkand Mills, 1983; Begg et al., 2003) there have been relatively few records from India, with most published records from Central India and the Western Ghats (Kumara and Singh, 2006; Gupta et al., 2012; Gubbi et al., 2014; Krishnan et al., 2016). It has a very wide habitat tolerance occurring from sea level to > 2500 m and from desert steeps to rain forests but prefers drier arid landscapes. The current note presents the first known camera-trap records of ratel from Similipal Tiger Reserve in Odisha.

Study area

Similipal Tiger Reserve is in the Mayurbhanj District of Odisha and spreads over 2750 km^2 of the Chotanagpur plateau (Fig. 1). The park is surrounded by high plateaus and hills, the highest peak being the twin peaks of Khairiburu and Meghashani (1515 above mean sea level). Twelve rivers cut across the reserve, all of which drain into the Bay of Bengal. These are Budhabalanga, Palpala, Bandan, Salandi, Khairi, Khadkei, Budhabalanga, West Deo and East Deo rivers. The reserve forms parts of the Eastern Ghats and the main habitat type is moist deciduous forest. Sal (*Shorea robusta*) trees are the most dominant tree species (Sahoo et al., 2016).

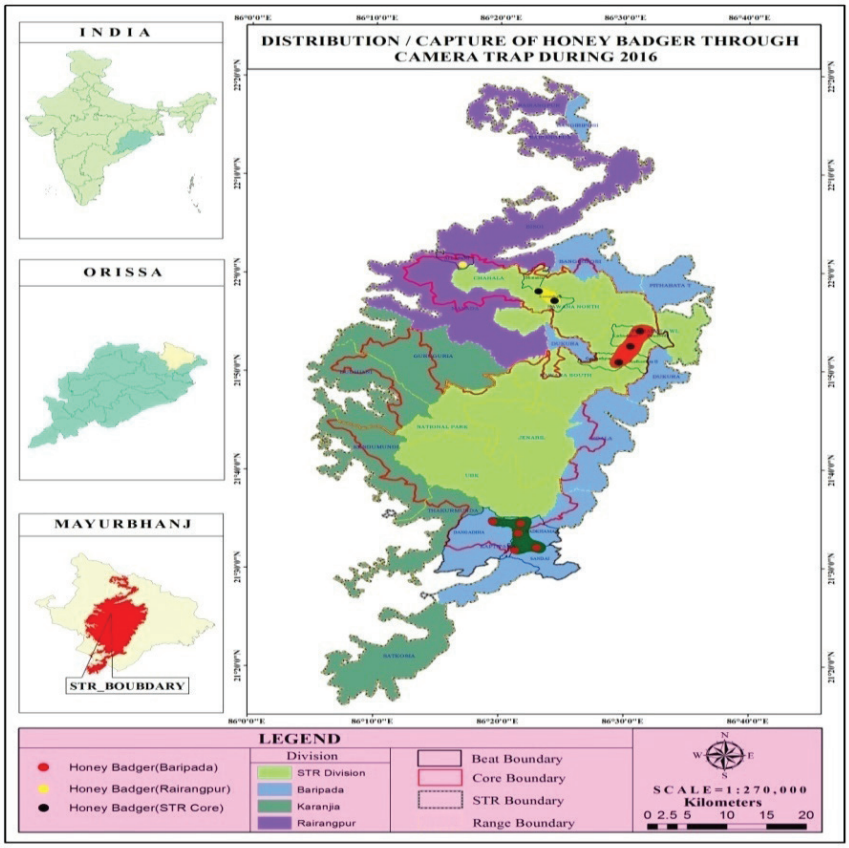

Fig. 1. Distribution pattern of honey badger during camera trapping

MATERIALS AND METHODS

In 2016 the Odisha Forest Department has undertaken camera trapped method in the reserve to study the status of tiger *(Panthera tigris)*. The camera traps were set in locations that would maximize tiger detections (e.g., by recent kills, Pug mark and other signs). The Camera-trapping exercise lasted from February 2016 to May 2016 for 120 days. Total area was divided into four blocks and the sampling period was 35-47 days. Camera trapping is a non-invasive technique for wildlife and landscapes monitoring. Along with the rapid assessment of modern ecological analysis and modeling tools, camera trapping is being a vital role in wildlife research at various levels. Mean while along with improvements in techniques decreasing cost and increasing application interest this practice is adopted by many researchers and wild life managers in the protected area. The camera traps were used to survey the nocturnal animals in the study area.

RESULTS AND DISCUSSION

During the camera trap exercise from February 2016 to May 2016 each block was sampled for 30 days. The cameras were active for 24h period that accounted for one sampling occasion. Each camera was assigned a unique identification number, date, time, and camera ID was recorded for every capture. The locations of each photo-capture of honey badger were recorded and mapped to understand their geographic distribution in the study area. Although primarily this exercise was taken up mainly for the purpose of the phase-IV Tiger monitoring in STR the authors could take privilege to study the distribution pattern of honey badger in the process. During the exercise the tiger reserve was divided into different blocks. In the I block total 126 cameras were fixed within the four ranges. Similarly in the Block II total 187 cameras were fixed in seven ranges. In the Block III total 214 and Block IV 131 camera were fixed within the

six ranges and four ranges respectively. A total of nineteen ratels were captured from three divisions (Table 1; Fig. 1, 2a, 2b). Out of the three divisions the highest number of ratels were captured in Kaptipada range of Baripada division (N=13) followed by Pithabata range (N=03), Chahala range (N=01), Nawana North (N=01) of Similipal Core division and Manada range of Rairangpur division (N=01) only one ratel was captured. It shows the maximum photos were captured in Buffer division of the Similipal Tiger Reserve (Table 1). The study revealed that the primary habitat of the ratel happened to be the types of deciduous forest (both dry and moist) and ever green forest. The study area varied from dry deciduous, moist deciduous, semi ever green to ever green forest. There is a need to develop management plans that look in to and beyond protected area. Present study can give an insight to develop requisite management plans for sustenance of the population of honey badgers. Further studies may be undertaken on their exact status, population density, ecology, connectivity, and threats in the said reserve to facilitate developing strategies for conservation of the species.

Fig. 2(a). Honey badger captured through camera trapping in Kaptipada range

Fig. 2(b). Honey badger captured through camera trapping in Manada range

Table 1. Location of camera-trapped images

Sl.	Division	Range	Longitude	Latitude	No. of photo capture
1	STR(core)	Pithabata	86°29'33.0"	21°50'56.7"	1
2	STR(core)	Pithabata	86°30'29.7"	21°52'33.0"	1
3	STR(core)	Pithabata	86°31'15.4"	21°54'05.5"	1
4	STR(core)	Chahala	86°23'06.4"	21°58'07.4"	1
5	STR(core)	Nawana (N)	86°24'22.3"	21°57'10.6"	1
6	Baripada	Kaptipada	86°21'45.0"	21°34'32.9"	2
7	Baripada	Kaptipada	86°21'33.4"	21°33'32.3"	1
8	Baripada	Kaptipada	86°21'33.0"	21°33'32.2"	1
9	Baripada	Kaptipada	86°23'01.9"	21°32'05.5"	2
10	Baripada	Kaptipada	86°21'17.0"	21°31'48.5"	4
11	Baripada	Kaptipada	86°19'31.6"	21°34'44.1"	3
12	Rairangpur	Manda	86° 23' 05.3"	21° 58' 03.1"	1

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REFERENCES

Begg, C.M., Begg, K.S., du Toit, J.T. and, Mills, M.G.L. 2008. Spatial organization of the honey badger *Mellivora capensis* in the Southern Kalahari: home-range size and movement patterns. *J. Zool.* **265**: 23-35.

Begg, C.M., Begg, K.S., du Toit, J.T. and Mills, M.G.L. 2003. Marking behavior of the honey badger *Mellivora capensis* (Mustellidae) in the southern Kalahari. *Anim. Behav.* **66** (5): 917-929.

Do Linh San, E.C, Begg, C. Begg, K. and Abramov, A.V. 2016. *Mellivora capensis*. *The IUCN Redlist of Threatened Species* **2016** *:* eT41629A45210107.

Gubbi, S., Reddy, V., Nagashettihalli, H., Bhat, R. and Madhusudan, M.D. 2014. Photographic records of the Ratel, *Mellivora capensis* from the Southern India state of Karnataka. *Small Carniv. Conserv.* **50**: 42-44.

Gupta, S., Mondal, K., Sankar, K. and Qureshi, Q. 2012. Abundance and habitat suitability model for Ratel *(Mellivora capensis)* in Sariska Tiger Reserve, Western India. *Wildl. Biol. Pract*. **8** (1): 13-22.

Heptner, V.G., Naumov, N.P., Yurgenson, P.B., Sludsky, A.A., Chirkova, A. and Bannikov, A.G. (eds). 1967. *[Mammals of Soviet Union,* Vol 2. Part la. Sirenia and Carnivora]. Vysshaya Shkola. Moscow, U.S.S.R (In Russian).

Krishnan, A.S., Panwar, A., Gayathri, S., Phalke, N. and Venkateshaiah, D.A. 2016. A badger in Bannerghatta an opportunistic record of the Ratel *Mellivora capensis* (Schreber, 1776) (Mammalia: Carnivora : Mustelidae) from Karnataka, India. *J. Threat. Taxa* **8** (5): 8820-8823.

Krunk, H. and Mills., M.G.L. 1983. Notes on food and feeding of the honey badger, *Mellivora capensis* in the Kalahari Gemsbok National park. *Koedoe* **26**: 153-157.

Kumara, H.N. and Singh, M. 2006. Small carnivores of Karnataka: distribution and sight records. *J. Bombay Nat. Hist. Soc*. **104** (2): 155-162.

Menon, V. and Daniel., J.C. 2003. *Field Guide to Indian Mammals*. Dorling Kindersley, India, Penguin Book, India. p. 200.

Prater, S.H. 1980. *The Book of Indian Animals*, Bombay Natural History Society, Oxford University press. p. 324

Sahoo, H.K, Mishra, R.C. and Mukherjee, A.K. 2016. Wild edible fruits traditionally used by tribes of Similipal Biosphere Reserve, Odisha, India. *e-planet* **14** (2): 45-56.