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# Journal of Threatened Taxa

Building evidence for conservation globally

[www.threatenedtaxa.org](http://www.threatenedtaxa.org)

ISSN 0974-7907 (Online) | ISSN 0974-7893 (Print)

## COMMUNICATION

### STATUS DISTRIBUTION AND FEEDING HABIT OF WILD BOAR *SUS SCROFA* (MAMMALIA: ARTIODACTYLA: SUIDAE) IN PENCH TIGER RESERVE, MADHYA PRADESH, INDIA

Shaheer Khan & Orus Ilyas

26 October 2018 | Vol. 10 | No. 11 | Pages: 12459-12463

10.11609/jott.3544.10.11.12459-12463



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# STATUS DISTRIBUTION AND FEEDING HABIT OF WILD BOAR *SUS SCROFA* (MAMMALIA: ARTIODACTYLA: SUIDAE) IN PENCH TIGER RESERVE, MADHYA PRADESH, INDIA

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ISSN 0974-7907 (Online)  
ISSN 0974-7893 (Print)

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**Abstract:** The Wild Boar *Sus scrofa* is omnivorous, serves as the prey base for large carnivores, performs the role of a natural scavenger, and is often involved in crop raiding. The species is included in Schedule V of the Indian Wildlife (Protection) Act, 1972, meaning hunting of the species may be allowed by the Chief Wildlife Warden in instances where individuals of the species are considered dangerous to human life or property. Faecal samples of Wild Boar in Pench Tiger Reserve, Madhya Pradesh, India, were collected from January to June 2013 to assess the distribution of Wild Boar in Karmajhiri range. The density of Wild Boar in Sapath and Tikadi beat was  $25.5 \pm 0.29$  and  $23.9 \pm 0.33$  per hectare, respectively, and was the lowest in Teliya at  $1.6 \pm 0.05$  per hectare. Sixteen different beats were sampled and surveyed to understand the diet of Wild Boar during the winter season. Ingested items included stones, roots, grass, fruits and seeds, hairs, earthworms, flowers, and green plant material. Out of these, the most frequent item was grass, followed by roots and stones.

**Keywords:** Density, distribution, feeding habit, India, Karmajhiri range, Madhya Pradesh, Pench Tiger Reserve, scavenger, *Sus scrofa*, Wild Boar.

**DOI:** <https://doi.org/10.11609/jott.3544.10.11.12459-12463> | **ZooBank:** urn:lsid:zoobank.org:pub:2253C957-3334-4DEA-A955-3FE2300EAE74

**Editor:** L.A.K. Singh, Bhubaneswar, Odisha, India.

**Date of publication:** 26 October 2018 (online & print)

**Manuscript details:** Ms # 3544 | Received 06 June 2017 | Final received 13 September 2018 | Finally accepted 15 October 2018

**Citation:** Khan, S. & O. Ilyas (2018). Status distribution and feeding habit of Wild Boar *Sus scrofa* (Mammalia: Artiodactyla: Suidae) in Pench Tiger Reserve, Madhya Pradesh, India. *Journal of Threatened Taxa* 10(11): 12459–12463; <https://doi.org/10.11609/jott.3544.10.11.12459-12463>

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**Funding:** Science and Engineering Research Board, Department of Science and Technology, Govt. of India.

**Competing interests:** The authors declare no competing interests.

**Author Details:** SHAHEER KHAN did his masters in Wildlife Sciences from Aligarh Muslim University, followed by an M.Phil. on the ecology of wild boar in Pench Tiger Reserve, Madhya Pradesh. Presently, he is working as Senior Research Fellow in Wildlife Institute of India, and is pursuing his Ph.D. on “Indian gray wolves in Human Dominated Landscape of Maharashtra: Movement, space use and foraging”. DR. ORUS ILYAS, is working as Assistant Professor in the Department of Wildlife Sciences, Aligarh Muslim University, Aligarh-202202. She is working on different aspects of Ungulates community of Uttarakhand Himalayas as well as Central highlands. She has worked on different projects funded by DST-Fast track, DST-SERB, UGC, CSIR, WWF-India, Wildlife SOS, CAPART etc. She is also an Asia coordinator of Deer Specialist group of SSC/IUCN.

**Author Contribution:** OI and SK conceived the ideas and designed methodology; SK collected the data and analysed the data; SK and OI led the writing of the manuscript. Both the authors contributed critically to the drafts and gave final approval for publication.

**Acknowledgements:** We thank DST SERB, Govt of India for providing financial support for the study. We also express our gratitude to CCF, CF, ACF and other forest officials of PTR, Madhya Pradesh for logistics support. We are grateful to Chairman Department of Wildlife Sciences, AMU, Aligarh for encouragement and support. We are sincerely thankful to Dr. Abdul Haleem for helping us during fieldwork and writing. We are grateful to the anonymous reviewers and the Subject Editor for their critical comments and useful inputs.

## INTRODUCTION

Wild Boar *Sus scrofa* is one of the eight species of ungulates present in Pench Tiger Reserve (PTR) in Madhya Pradesh in central India. It is an omnivore, is included in Schedule V of Wildlife (Protection) Act, 1972 (WPA), and belongs to the family Suidae. The Wild Boar is widely distributed all across the world, extending from western Europe to southeastern Asia (Bratton 1975; Massei & Genov 1981). In recent years, their numbers have increased globally (Baubet et al. 2004). Wild Boar is very active and feeds upon almost all kinds of plant material and animal matter. It plays the role of a scavenger in the forest and forms a good prey base for large cats like tiger and leopard, thus balancing the ecosystem (Barwal 2013). The boars habitually group together and mostly feed at night (Stegemen 1938). They are known to impact a variety of ecosystems throughout the world by dispersing seeds, disturbing the soil, feeding upon invertebrates and small vertebrates, contending with large vertebrates and often causing damages due to crop-raiding (Bratton 1975; Genov 1981; Alexiou 1983; Welander 1995). These damages cause retaliation and Wild Boar population come under threats from human beings. Wild Boar is one of the most studied species throughout the world but somehow not many studies have been carried out in India (Srivastava & Khan 2009; Barwal 2013).

Study on the feeding habit of Wild Boar is important in perspectives of conservation (Sih 1993) for determining the necessities of the species and for improving its management (Kruuk & Parish 1981). The estimations of the population sizes, densities, and home ranges for any species are important aspects that help in guiding better management and conservation of the species (Burnham et al. 1980). Wild Boar populations have high growth rate due to high fecundity and early onset of sexual maturation (Coblentz & Baber 1987) and therefore need to be evaluated from time to time for better management of the species and the habitats.

Several studies have been conducted on the diversity of flora and fauna of PTR (Dwivedi & Shukla 1988; Shukla 1990; Karanth & Nichols 1998; Sankar et al. 2000). Most of the faunal studies are concentrated on tigers (Karanth & Nichols 1998; Biswas & Sankar 2002) and on Sambar and Chital (Sankar et al. 2000; Pasha et al. 2002). The present study was carried out to supplement the existing knowledge on Wild Boar of PTR.

## STUDY AREA

The PTR spans the Seoni and Chhindwara districts of Madhya Pradesh in central India and consists of three forest ranges, namely, Karmajhiri, Guntara, and Kurai. The reserve gets its name from the river Pench that flows 74km through it from north to south. The river bisects PTR into nearly equal parts: the 147.61km<sup>2</sup> of the western block in the Guntara range of the Chhindwara Forest division and the 145.24km<sup>2</sup> of the eastern block in the Karmajhiri range of the Seoni Forest division. The total area of PTR is 757.89km<sup>2</sup>.

The central Indian highlands have a tropical continental climate, with a distinct monsoon (July–September), winter (November–February), and summer (April–June). The mean annual rainfall is around 1,400mm, with the southwest monsoon accounting for most of the rainfall in the region. For the dry season, (November–May), the mean rainfall is 59.5mm. The temperature in PTR varies from a minimum of 0°C in winter to a maximum of 45°C in summer (Sankar et al. 2000).

PTR belongs to the Indo-Malayan phytogeographical region. Teak *Tectona grandis* and its associated species such as *Madhuca indica*, *Diospyros melanoxylon*, *Terminalia tomentosa*, *Buchanania lanzan*, *Lagerstroemia parviflora*, *Ougeinia dalbergoides*, *Miliusa velutina*, and *Lannea coromandalica* occur on the flat terrain. The undulating terrain and hill slopes have patches of mixed forest dominated by *Boswellia serrata* and *Anogeissus latifolia*. Species like *Sterculia urens* and *Gardenia latifolia* are found scattered on rocky slopes. Bamboo forests occur in the hill slopes and along streams. Some of the open patches of PTR are covered with tall grass interspersed with *Butea monosperma* and *Zizyphus mauritiana*. Evergreen tree species like *Terminalia arjuna*, *Syzygium cumini*, and *Ixora parviflora* are found in riparian vegetation along streams and river banks. Dominant patches of *Cleistanthus collinus* are also found in some parts of PTR.

## METHODS

The study area in PTR was divided into 16 different management beats and in each beat two line transects of 2km length were laid. On each transect, a circular plot was laid at every 200m and a total of 320 plots were sampled. The radius of each circular plot measured 10m. The preliminary status and population assessment were done by assessing the faecal matter present in each plot.

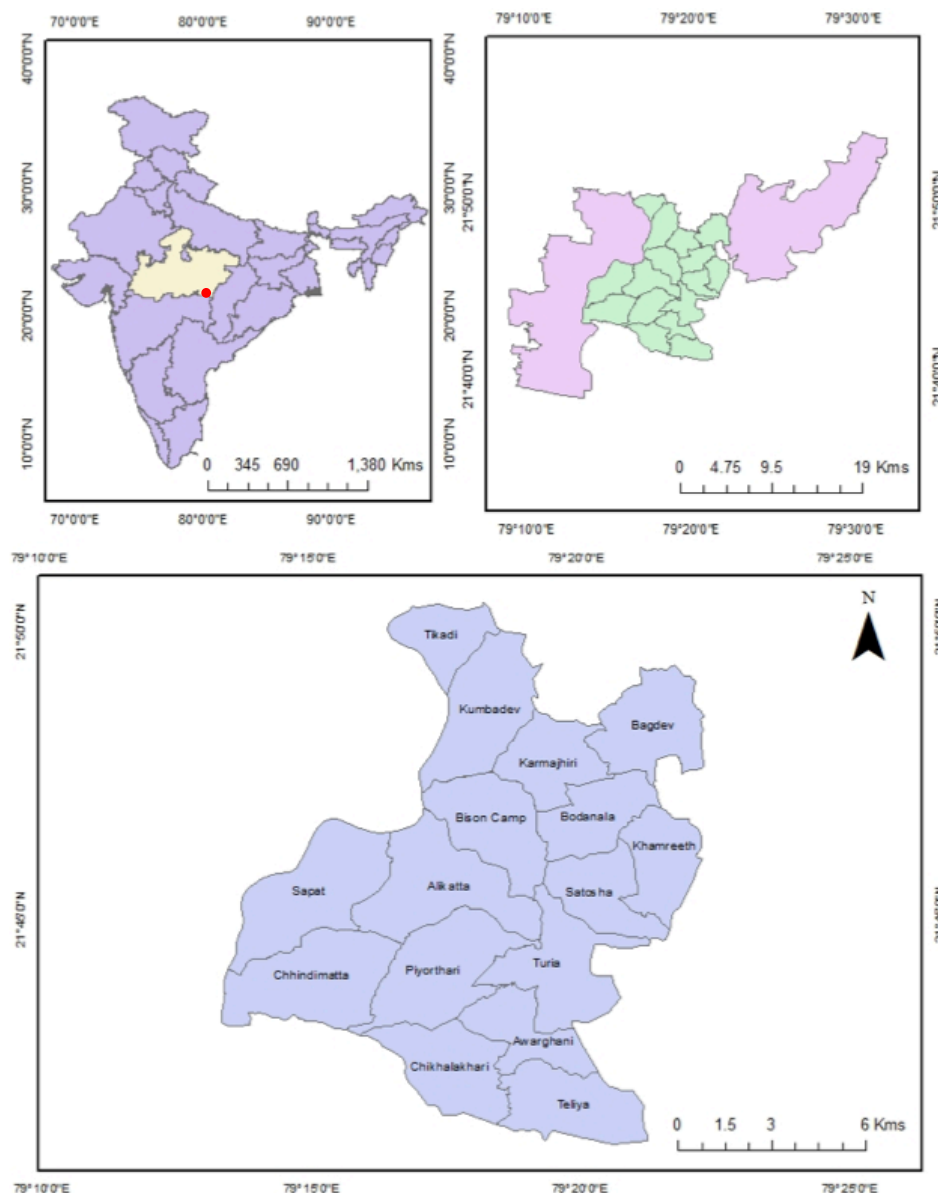


Figure 1. Map of the study area. Top left - the map of India with Madhya Pradesh State and study area (spot) bordering, top right. top right - the map of Karmajhiri range of Pench Tiger Reserve in Madhya Pradesh, bottom - sampled beats of Karmajhiri Range

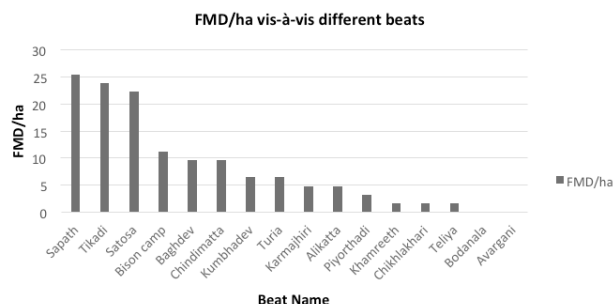
Faecal matter from the plots was collected from January to June 2013 for feeding analysis.

A total of 83 faecal matter samples, collected from 320 circular plots, were deposited in air-tight bags. The samples were then randomized by dividing these into four equal parts. Out of the four, two diagonal halves were selected for further study (Baubet et al. 2004). After completing the process, a total of 33 faecal samples were taken for feeding analysis. The air-dried faecal matter was washed in flowing water through a fine nylon sieve (Fournier-Chambrillon 1995). Samples were first oven-dried for about 24hr and then placed on filter paper. Five small portions were randomly selected and placed on another piece of paper. Again,

five semi-digested materials were randomly picked up from each portion. Plant and animal fragments found in the samples were separated and identified to the lowest possible taxa using reference collections established prior to the study and were evaluated for the percentage of occurrence.

## RESULTS

The overall faecal matter density (FMD) of Wild Boar was found to be 8.2FMD/ha. FMD was assessed in different management beats of Karmajhiri range. The highest FMD of Wild Boar was found in Sapath



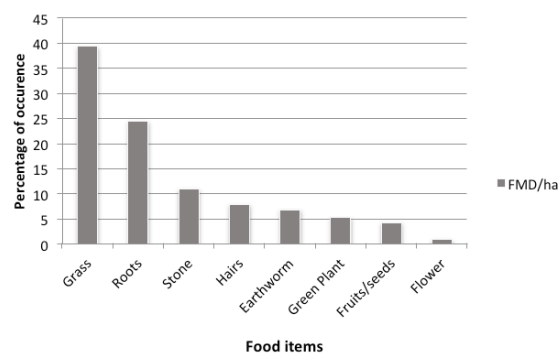
**Figure 2.** Overall faecal matter density (FMD) of Wild Boar species in different beats of Karmajhiri range of Pench Tiger Reserve, Madhya Pradesh

beat with  $25.5 \pm 0.29/\text{ha}$ , followed by beats Tikadi with  $23.9 \pm 0.33/\text{ha}$ , Satosa with  $22.3 \pm 0.7/\text{ha}$ , and Bison camp with  $11.1 \pm 0.18/\text{ha}$ . In Bodanala and Avarghani beats no faecal matter of Wild Boar were found during the study period. The lowest FMD was recorded in Khamreeth, Chikhlakhari, and Teliya beats with  $1.6 \pm 0.05/\text{ha}$ . The FMD of Baghdev beat was recorded at  $9.6 \pm 0.16/\text{ha}$ , followed by that of beats Chindimatta at  $9.6 \pm 0.16/\text{ha}$ , Kumbhadev at  $6.4 \pm 0.15/\text{ha}$ , Turia at  $3.2 \pm 0.06/\text{ha}$ , Alikatta at  $4.8 \pm 0.10/\text{ha}$ , Karmajhiri  $4.8 \pm 0.10/\text{ha}$ , and Piyorthadi at  $3.2 \pm 0.06/\text{ha}$  (Fig. 2). Kruskal Wallis One Way ANOVA and post hoc Scheffe's performed for comparing the nature of different sample sizes showed that the results were not significant ( $F_{15, 314} = 1.357$ ,  $P > 0.05$ ), indicating that the samples were not universal or that there is a wide variation in Wild Boar density.

This study provides a general idea of the average dietary spectrum of Wild Boar in PTR. It indicates that 75% of the diet of the species consisted of plant matter and the remaining 25% of animal matter, stones, and earthworm setae. The most commonly detected item was grass, which represented up to 39.37% of the diet (Fig. 3). The second most frequent item was subterranean parts of plants, mainly roots and bulbs, which represented up to 24.5% of the samples (Fig. 3). This was followed by stones (11%), animal hairs (7.8%), and earthworm setae (6.8%). Green plant materials accounted for 5.25%, while fruits & seeds and flowers accounted for 4.25% and 0.8%, respectively.

## DISCUSSION

Wild Boar are omnivorous and their depredation on certain forest tree seedlings, saplings, and agricultural crops is known to result in rampant human-animal negative interactions that cause grave concern to



**Figure 3.** Percent of occurrence of various ingested items as per evidence in scats of Wild Boar in Karmajhiri range of Pench Tiger Reserve, Madhya Pradesh

foresters and farmers (Wood & Barrett 1979).

The faecal matter of Wild Boar in PTR comprised mainly on plant matter and significant amount of animal matter such as earthworm setae. Among plant matter, the presence of monocots, i.e., grass (39.3%) was the highest, followed by roots and tubers (24.5%). The consumption of earthworm accounted for 6.87% of the total ingested material.

Studies carried out in different geographical regions show that earthworms are the most preferred animal matter for Wild Boar because of its high protein content (Howe et al. 1981; Fournier-Chambrillon et al. 1995; Massei et al. 1996; Baubet et al. 2004). The consumption of earthworm, however, appears to be very low in this study, which may be due to reduced availability of earthworms during low temperatures of the study period. Earthworms remain inactive when the temperature is very low and probably remain buried deep in the ground (Baubet et al. 2003).

The present study showed that the FMD of Wild Boar in PTR was 8.2/ha, and the densities were high in beats that are situated adjacent to human habitation and are potential sites for human-animal negative interactions. The maximum density was in Sapath beat followed by beats Tikadi and minimum in Turia beat.

The Wild Boar is a Protected species in India under WPA, 1972, however, hunting of the species may be allowed by the Chief Wildlife Warden in instances where individuals of the species are considered dangerous to human life or property. In spite of such a provision in the Act, it is necessary to prevent the persecution of Wild Boar through education and awareness among agriculturists for adopting crop protection measures and avoiding retaliation against depredation by the Wild Boar.



## REFERENCES

- Alexiou, P.N. (1983). Effect of feral pigs (*Sus scrofa*) on subalpine vegetation at Smokers Gap, ACT. *Proceedings of the Ecological Society of Australia* 12: 135–142.
- Barwal, K.S. (2013). Ecology of wild pig (*Sus scrofa*) and human-wild pig conflict in and around Ranthambore Tiger Reserve, Rajasthan. PhD Thesis. Wildlife Sciences, Saurashtra University, 396pp
- Baubet, E., C. Bonenfant & S. Brandt (2004). Diet of the Wild Boar in the French Alps. *Galemys* 16: 99–111.
- Baubet, E., Y. Ropert-Coudert & S. Brandt (2003). Seasonal and annual variations in earthworm consumption by Wild Boar (*Sus scrofa* L.). *Wildlife Research* 30: 179–186.
- Biswas, S. & K. Sankar (2002). Prey abundance and food habit of tigers (*Panthera tigris tigris*) in Pench National Park, Madhya Pradesh, India. *Journal of Zoology* 256: 411–420.
- Bratton, P. (1975). The effect of the European Wild Boar, *Sus scrofa*, on Grey Beech Forest in the Great Smoky Mountains. *Ecology* 56(6): 1356–1366.
- Burnham, K.P., D.R. Anderson & J.L. Laake (1980). Estimation of density from line transect sampling of biological populations. *Wildlife Monographs* 72: 3–202.
- Coblentz, B.E. & D.W. Baber (1987). Biology and control of feral pigs on Isla Santiago, Galapagos Ecuador. *Journal of Applied Ecology* 24: 403–418.
- Dwivedi, G.D. & R. Shukla (1988). The Pench Bison - an ecological and behavioural study. *Cheetal* 29(1): 28–31.
- Fournier-Chambrillon, C., D. Maillard & P. Fournier. (1995). Diet of the wild boar (*Sus scrofa* L.) inhabiting the Montpellier Garrigue. *Ibex* 3: 174–179
- Genov, P. (1981). Food composition of Wild Boar in northeastern and western Poland. *Acta Theriologica* 26: 185–205.
- Howe, T.D., F.J. Singer & B.B. Ackerman (1981). Forage relationships of European Wild Boar invading northern hardwood forest. *Journal of Wildlife Management* 45(3): 748–754.
- Karanth, K.U. & J.D. Nichols (1998). Estimation of tiger densities in India using photographic captures and recaptures. *Ecology* 79: 2852–2862.
- Kruuk, H. & T. Parish (1981). Feeding specialization of European Badger *Meles meles* in Scotland. *Journal of Animal Ecology* 50: 773–788.
- Massei, G. & P.V. Genov (1981). The Environmental Impact of Wild Boar. *Galemys*, 16 (n° especial): 135–145
- Massei, G., P.V. Genov, & B.W. Staines (1996). Diet, food availability and reproduction of wild boar in a Mediterranean coastal area. *Acta Theriologica* 41: 307–320.
- Pasha, M.K.S., G. Areendran, K. Sankar & Q. Qureshi (2002). Debarking of Teak (*Tectona grandis*) Linn. F. by Gaur *Bos gaurus* H. Smith during summer in a tropical dry deciduous habitat of Central India. *Journal of the Bombay Natural History Society* 99(2): 238–244.
- Sankar, K., Q. Qureshi, M.K.S. Pasha & G. Areendran (2000). Ecology of Gaur *Bos gaurus* in Pench Tiger Reserve, Madhya Pradesh. Final Report. Wildlife Institute of India, Dehra Dun, 27pp.
- Shukla, R. (1990). An ecological study of interactions between wild animals and vegetation in Pench Wildlife Sanctuary and its environs. PhD Thesis, Wildlife Sciences, Dr. Harisingh Gour Vishwavidyalaya, Sagar, 249pp.
- Sih, A. (1993). Effect of ecological interaction of forager diet: competition, predation risk, parasitism and prey behavior. In: Hughes, R.N. (ed.). *Diet Selection: An Interdisciplinary Approach to Foraging Behavior*. Blackwell Scientist Publication, Oxford 82–211
- Srivastava, T. & A. Khan (2009). Population status and habitat use of wild pigs *Sus scrofa* in Keoladeo National Park, Bharatpur, Rajasthan, India. *Journal of the Bombay Natural History Society* 106(3): 298–304.
- Stegeman, L.C. (1938). The European Wild Boar in the Cherokee National Forest, Tennessee. *Journal of Mammalogy* 19(3): 279–290.
- Welander, J. (1995). Are Wild Boar a future threat to the Swedish flora? *IBEX Journal of Mountain Ecology* 3: 165–167.
- Wood, G.W. & R.H. Barrett (1979). Status of wild pigs in the United States. *Wildlife Society Bulletin* 7(4): 237–246.







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ISSN 0974-7907 (Online); ISSN 0974-7893 (Print)

October 2018 | Vol. 10 | No. 11 | Pages: 12443–12618

Date of Publication: 26 October 2018 (Online & Print)

DOI: 10.11609/jott.2018.10.11.12443-12618

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