



## OBSERVATIONS ON INDIAN HARE OR BLACK -NAPED HARE (*LEPUS NIGRICOLLIS* F. CUVIER, 1823) IN AND AROUND TROPICAL FOREST RESEARCH INSTITUTE, CAMPUS, JABALPUR, MADHYA PRADESH

SANJAY PAUNIKAR

T-III/13, Tropical Forest Research institute,  
PO. RFRC, Mandla Road, Jabalpur-482021 (Madhya Pradesh)

### INTRODUCTION

The Tropical Forest Research Institute (TFRI), Jabalpur is one of the nine institutes under the Indian Council of Forestry Research & Education (ICFRE), Dehra Dun. It lies at the bank of the Gour River on Mandla Road (79°59'23.50°E and 21°08'54.30°N) about 10 km south east of Jabalpur. The campus is spread over an area of 109 ha amidst picture-sque surroundings. The area enjoys semi-arid type of climate with mean annual precipitation of 1358 mm. The more than 57 shrub and tree species are either planted or naturally occur in the institute. The TFRI has several forest nurseries, experimental fields and plantations sites. The campus is surrounded by agricultural field with rural inhabitation. The water reservoir and the vegetation planted around the institute have created a very good habitat and source of attraction for many faunal species like insects, reptiles, birds and mammals. Recent years, several species of insects, amphibian, reptiles, birds and mammals were reported from TFRI Campus (Paunikar, 2011; Tiple *et al.*, 2010, 2012).

Among the several wild animals found in and around the TFRI Campus, Indian Hare is one of them. The Indian Hare or Black- Naped Hare (*Lepus nigricollis*, F. Cuvier, 1823) is small mammal belongs to order- Lagomorpha, Family- Leporidae (Hares). The order Lagomorpha is represented by 13 genera and 93 species belonging to 3 families (Ochotonidae, Leporidae, and

Prolagidae) in the world. The family Leporidae (hares, rabbits, and jackrabbits) is composed of 11 genera and 61 species. The genus *Lepus* L., 1758 is represented by 32 species in the world (Wilson and Reeder, 2005). The 14 species of Lagomorphs belong to three genera in two families, Leporidae, Fishcher 1817 (with five species in two genera) and Ochotonidae Thomas, 1897 (with nine species with one genus) known to occur in south Asia (Srinivasulu *et al.*, 2004). It is large grayish-brown animal with long well developed ears and short tail. The hind legs are strong, elongated for speedy bounding gait while running.

They are most common herbivorous small mammal's species of Indian subcontinent. It is found mainly South Asian countries like India, Sri Lanka, Nepal, Bangladesh and Pakistan (Prater, 1965; Alfred *et al.*, 2002, 2006; Pradhan and Talmale, 2012). In India, they are found all places from foothills of Himalaya to Western Ghats and from Thar Desert of Rajasthan to north-east regions of the country (Srinivasulu and Srinivasulu 2012; Sharma *et al.*, 2013). In Madhya Pradesh, they are found in national parks, wild life sanctuaries, biosphere reserves, protected, unprotected forest areas and agricultural fields (Harshey and Chandra 2002; Chandra 2006; Paunikar 2010).

The Indian hare is important member of food chain as a prey of numbers of predators like big cats, Lion, Tiger, Cheetah, Leopards and many small cats. They are also the prey of dog family

members like Jackal, Fox, Dog and others big and small carnivorous animals and predatory birds like Hawks and Eagles (Kirk and Racey, 1992). They are also recognized vertebrate pests of many forestry, agricultural and plantations crops (Hussain *et al.*, 1991; Joyson, 1999).

### MATERIAL AND METHODS

The regular survey of Indian hare on its activities were conducted in forest nurseries, plantations sites, experimental and agricultural fields in and around the TFRI, campus throughout years in 2011 and 2012 by pair of Binoculars 10X50. The observations were taken, whenever sighted hare in the field on their different activities like feeding habits, damage potential to seedlings/saplings, breeding areas and behavior during the presence of predators and hunters were also made in day and night. Each record in the field was photographed by Nikon. Coolpix L 100 (Wide 15 x Optical Zoom).

### OBSERVATION AND DISCUSSION

The Indian hare are one of most common small mammal's species of the TFRI campus after Squirrel, *Funambulus pennanti* and Mongoose *Herpestes edwardsii* (Paunekar 2010). It was observed that they are mostly active at forest nurseries as compared to experimental fields and plantations site due to sowing, germinated seeds, small seedling plants and grasses, where they easily reached and feed. It was observed that they are mostly feeds on the germinated seeds and soft leaves of seedlings of different forest trees species like, Bamboo sp., *Dalbergia latifolia*, *Dalbergia sissoo*, *Delonix regia*, *Moringa oliefera* *Cassia* spp., *Albizia* spp., *Terminalia* spp., etc and medicinal plants like *Asparagus recemosus*, *Annona squamosa*, *Emblica officinalis* *Withania somnifera*, *Gloriosa superba*, *Andrographis paniculata*, *Ranwolfia serpentine*. They caused extensive damage to sowing and germinated seeds, forest tree species, medicinal plants and green vegetations. They were also found surrounding

agricultural fields and near Gour River and mostly feeds on agricultural crops, vegetables and other waste materials of the fields. They cut the seedlings/saplings from the root by their longer incisor and ultimately the plant die. Due to their cutting habitat caused heavy damage to planting stocks of the nursery.

There are several hiding places like slopes, holes near walls and big trees and dense vegetation in and around TFRI campus. These places are used by Indian hare for the breeding purpose and breeds throughout year in the areas. Wherever, the Hare is coming out from their hiding places to search the food in and around the campus. They were always beware after coming out the open areas to their predators. They carefully watched surrounding areas if and no one found, they go for feeding.

In the campus there are several natural enemies of the hare. Their main predators and hunters are Indian Jackal (*Canis aureus indicus*), Jungle cat (*Felis chaus*) and local dogs (*Canis lupis familiaris*). When their hunters and predators and human (*Homo sapiens*) passing through their hiding places or sightings anywhere in and around campus, they suddenly running very fast towards the dense vegetations to took shelter and escaped from hunters and predators. They took shelter in the dense and dried vegetation of the campus, once they entered in the dense vegetations; they were not easily spotted due to their body colour matches with surrounding grasses and vegetations. It was also observed several times, if the dense vegetations were not found by Hispid Hare to nearby areas, they took shelters dried grasses or under trees and remained in standing position in their strong hind. During the period they shiver due to presence of their hunters and predators and they relaxed after their enemies going away from those places on legs (Figs. 1 & 2).

Recent years, it was observed that the population of Indian Hare is declining in and around TFRI campus due to overhunting by their predators,



**Fig. 1.** The Indian Hare shivering due to presence of predator nearby area.



**Fig. 2.** The Indian Hare relaxed position after predators moves on other side.

rapid urbanization, destruction of habitat, dense forest areas and grassland ultimately reducing their feeding and breeding ground in the areas. It is needed to save the species by taking all possible control measures.

### SUMMARY

The Indian hare, *Lepus nigricollis* is one of the most common species of Indian subcontinents. They are most important member of food chain as a prey of number of carnivorous animals. The detailed activities Indian hare were observed in and around Tropical Forest Research Institute, campus, Jabalpur during 2011 and 2012. They are found in forest nurseries, plantation sites, experimental and agricultural fields. They caused extensive damage to nursery stock, other forest tree species and medical plants. Their feeding habits, damage potential to seedlings/saplings, breeding areas and behavior during the presence of predators and hunters were also observed in and around TFRI, Campus, Jabalpur.

### ACKNOWLEDGMENTS

The author is thankful to Dr. Kailash Chandra, Scientist-‘F’ Zoological Survey of India, Kolkata, for identification of the species and provided the literature.

### REFERENCES

- Alfred, J.R.B., Das, A.K. and Sanyal, A.K. 2006. Animals of India, ENVIS-Zool. Surv. India, Kolkata: **1**: 26.
- Alfred, J.R.B., Sinha, N.K. and Chakraborty, S. 2002. *Checklist of Mammals of India*. Published by Director, Zool. Surv. India, Kolkata. *Rec. zool. Surv. India, Occ. Paper*, **199**: 1-289.
- Chandra, K. 2006. Threatened Animals of Madhya Pradesh and Chhattisgarh. *Indian Journal of Tropical Biodiversity*, **14**(2): 97-122.
- Harshey, D.K. and Chandra, K. 2002. Mammals of Madhya Pradesh and Chhattishgarh. *Zoos Print Journal*, **16**(12): 659-668.
- Hussain, I., Brooks, J.E., Ahmad, E. and Munir, S. 1991. Vertebrate pests of groundnut and their control. *Progressive Farming*, **11**(2): 30-38.
- Joyson, E.A. 1999. Studies on crop damage by wild animals in Kerala and evaluation of control measures. KPRI Research Report 169, P-48.

- Kirk, D., P. Racey. 1992. Effects of the introduced black-naped hare, *Lepus nigricollis nigricollis* on the vegetation of Cousin Island, Seychilles and possible implications for avifauna. *Biological Conservation*, **61**: 171-179.
- Paunikar, S. 2010. Mammals diversity of Tropical Forest Research Institute, Campus, Jabalpur, Madhya Pradesh, Central India. Paper presented in “National Conference on Biodiversity & Biotechnology Biodiversity Resources Management & Sustainable Development “November 16th-17th, 2010 at Rewa (M.P.). (Abstract) Pp. 65.11.
- Paunikar, S. 2011. Observation of Jungle cat (*Felis chaus*) at Tropical Forest Research Institute, Campus, Jabalpur, Madhya Pradesh. *Rec. zool. Surv. India* **112**(4): 25-27.
- Pradhan, M.S. and Talmale, S.S. 2012. Indian Mammals: Checklist with Comments on Type locality, Distribution, Conservation Status and Taxonomy. Published by Nature Book of India, New Delhi. 564 pages.
- Prater, S. 1965. *Book of Indian Animals, 2nd edition*. Bombay: Bombay Natural History Society.
- Sharma, G. Kamalakannan M. and Venkataraman, K. 2013. A Checklist of Mammals of India with their distribution and conservation status. *ZSI e-publication. Published by the Director, Zool. Surv. India, Kolkata-700 053, India*. 121 pp.
- Srinivasulu, C. and Srinivasulu, B. 2012. *South Asian Mammals their Diversity, Distribution, and Status*, Springer Verlag (XI). 467pp.
- Srinivasulu, C., Srinivasulu, B., Chakraborty, S., Pradhan, M.S. and Nameer, P.O. 2004. Checklist of Logomorphs (Mammalia: Logomorpha) of South Asia. *Zoos'Print Journal*, **19**(2): 1375-1380.
- Tiple, A., Kulkarni, N., Paunikar, S. and Joshi K.C. 2010. Avian fauna of Tropical Forest Research Institute, Jabalpur central India. *Indian Journal of Tropical Biodiversity*, **18**(1): 165-171.
- Tiple, A., Paunikar S. and Talmale S.S. 2012. Dragonfly and damselfly (Odonata: Insect) of Tropical Forest Research Institute, Jabalpur, Madhya Pradesh (Central India). *Journal of Threatened Taxa*, **4**(4): 2529-2533.
- Wilson, D.E. and Reeder, D.M. 2005. *Mammals Species of the World: A Taxonomic and Geographic Reference*. 3rd ed. The Johns Hopkins University Press, Baltimore.