



## STUDY ON RUSTY-SPOTTED CAT (*PRIONAILURUS RUBIGINOSUS*) PRESENCE THROUGH CAMERA TRAP IN KATARNIAGHAT WILDLIFE SANCTUARY IN UTTAR PRADESH, INDIA.

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### ABSTRACT:

On 22 June 2007 at 3.32 am night one of the Rusty spotted cat (*Prionailurus rubiginosus*) was photo captured in Deer Cam make trap camera at river bank road to Katarniaghat range. Less importance was given to smaller animals as the number of tiger through photo capture method was a great challenge at that time. Later study reveals the rare cat presences in the sanctuary and their population is still declining.

### KEYWORDS:

RUSTY SPOTTED CAT, CAMERA TRAP, PHOTO CAPTURE, KATARNIAGHAT WILDLIFE SANCTUARY.

### 1. INTRODUCTION

The Rusty-spotted Cat (*Prionailurus rubiginosus*) is the smallest wild cat species that occurs only in India and Sri Lanka. In Sri Lanka, the cat has been recorded from montane and lowland rainforest. It is the smallest cat in the world and measures about half to three quarters of a size of domestic cat. The Rusty spotted cat has a fawn coat with rusty brown spots arranged in lines of the back portion of the body. The fore head has two longitudinal black edged white stripes. (Menon V. 2005) this fore head region is the distinctive zones to differ individuals of same size as there are not so marked coat patches in the flank. Its eyes are ringed with white and its lips, chin and undersides are also white. It is not a dense forest creature and it is rarely seen. It is tolerant to human habitations. Available information relies on a few sightings across its range and the species is thought to be rare. It is discovered that there is breeding population of rusty spotted cats from a human-dominated agricultural landscape in W. Maharashtra.

Katarniaghat wildlife sanctuary is a good representative of Terai region and situated in Bagraich district of Uttar Pradesh along the Indo-Nepal border between latitude 28° 6' to 28° 24' N and longitude 81° 24' to 81°19' E . The Sanctuary was established on 31st May 1976 and in 1987, it was brought under the purview of the 'Project Tiger', and together with the Kishanpur Wildlife Sanctuary and the Dudhwa National Park it forms the Dudhwa Tiger Reserve. Girwa & Kodiala Rivers which join together and are later known as Ghaghra, traverse the sanctuary. Its fragile Terai ecosystem comprises a mesmerizing mosaic of Sal and Teak forests, lush grasslands, steaming swamps and wetlands (Bajpai *et al.*, 2012a). It is shelter for the number of endangered and critically endangered species.

### 2. MATERIALS AND METHODS

An intensive survey and deployment of camera trap for

photo capture of large cats like leopard and tiger was conducted for a period of 8 months in Katarniaghat wildlife Sanctuary, Uttar Pradesh, India. This paper deals with the results obtained from the camera trap photo captures including small cats those are believed most important endangered cat species in India. All the five forest ranges of Katarniaghat WS viz. Katarniaghat, Nishangara, Murtiha, Kakraha and Motipur was surveyed for carnivore sign survey, transect survey for herbivores and vegetation types and for camera trap. Maximum importance was given to the core are of the sanctuary in Katarniaghat and Nisangada range. Additional data on prey base, co-predators, and other faunal composition was marked even through camera trap studies during the all India tiger monitoring works. Lesser cats come to account during direct photo capture in heat sensor (Deer Cam Make) Camera trap equipments during the study. Survey camps are conducted in two locations in Katarania and Nishangada range office campus for field trip, survey, transect walk and deployment of Deer cam make Camera traps. A total of 20 camera pairs were deployed in phase wise covering 40 square km in Important wildlife sighting arias having forest trails and meadows locally called as phanta of Katarniaghat wild life sanctuary. The camera set free to operate day and night in interior locations and only in night in human movement areas. The camera trap is applied in a wooden poles carved to fit the case of the camera and camouflage as a wooden pole and looks like a pole for avoiding trap shyness to tiger and other animals. It was decided to keep minimum of 2 kms distance from one working unit to the other and a range of 4 sq km to be covered by one unit of camera in the forest (Jhala *et al.* 2013, Karanth *et al.* 2000). In order to avoid trap shyness by animals, in a particular location, the camera had to be shifted a little distance in the same trails or in the same water body or salt lick area. This, actually helped more captures of the same or new animals providing more results in the capture- recapture procedures (Das *et al.*

2016). The pole is focused to cut the forest trail or the road and covers the height from ground level to 12 feet tall high area and a span of 25 feet area side wide. Paired camera was deployed to operate in trap locations to avoid capture loss and instant working of the camera with in a fraction of few seconds. The period of survey was from February Nov of 2007. Very earlier it was detected in camera trap in April 2007 that reported elsewhere in India through camera trap. But after publications in so many of literatures from the different parts of the India, I supposed to be to publish the old documented camera trap photos.

The rusty-spotted cat is one of the cat family's smallest members, of which historical records are known only from India and Sri Lanka. There are two subspecies are recognized-the Indian (*Pr. rubiginosus*) and Sri Lankan (*Pr. phillipsi*). In 2012, it was also recorded in the western Terai of Nepal.

### 3. RESULTS AND DISCUSSION

Lesser cats come to account during direct photo capture in heat sensor Deer Cam Make Camera trap equipment. Only one photo capture was recorded in Katarniaghat range of the wildlife sanctuary on 22 June 2007 at 3.32 am night. Only one occasion the Rusty spotted cat was encountered during late evening when we the team returned from Bichhia small urban market on the way River bank road to Katarniaghat range. Other animals trapped in camera are tigers, leopards, nigari, wild pig, barking deer numerous spotted deer, langurs, rhesus monkeys and even migrating elephants.

Distribution Range close to Katraniaghat wildlife sanctuary: - Previously, it was believed to be confined to Peninsular India and Sri Lanka. Recent records, however, indicate that it is found throughout much of the subcontinent. It has been camera trapped in Pilibhit and Corbett Tiger Reserves, in the Indian Terai, as well as in Bardia National Park in Nepal. Earlier it was believed that in India, the rusty spotted cat is found mainly in the Western Ghats, some parts of Jammu and central India but camera trap studies prevails its continuous presence in Odisha (Similipal) Jharkhand, Bihar and Uttar Pradesh and lower parts of Uttarakhand.

Comparing to the physical features and body size, it is the world's smallest wild cat, along with the African black-footed cat. It measures about 35-48 cm in length, with a long tail which is 15-30 m long and weighs only 0.9-1.6 kg. It has short grey fur, with rusty spots over back and flanks, hence the name. The life span is upto 18 years and litter size 1-3 cubs

(<http://www.catsg.org/index.php?id=120>).

The underbelly is white with dark spots, whereas the tail is almost spotless. There are 6 dark streaks on each side of the head. Very little is known about the rusty spotted cat's reproduction and all the information comes from captive individuals. Estrus cycle lasts for 5 days and the gestation period for around 65-69 days.



Photo-1 Deer Cam- make capture photo of Rusty spotted cat in Katarniaghat Range on 22 June 2007 at 3.32 AM night

It is little difficult to distinguish the lesser wild felids from scat morphology and texture. Most of the scat samples resemble that with jungle cats and genetic analysis is required do differentiate the scats of rusty spotted cat to other lesser cats like jungle cat, marbled cat, leopard cat etc. There is no proper study on additional sign survey like scent marks, scat, and hide outs of such lesser cats in its natural habitat. More research is need for the conservation of this species.

Camera trap locations lat N 28 deg 19min 29.25sec E 081deg 07 min20.8sec forest riverbank road back of Katarniaghat range.

The Rusty spotted cat is primarily nocturnal, but also active during the day. It is an excellent climber, which allows it to catch birds. It also preys on rodents, lizards, frogs and insects. In spite of its small size, it is a territorial animal, and captive specimens have been known to use scent-marking. It covers the agricultural fields from forest fringe for feed on rodents and control the pests. It habited in moist and dry deciduous forests as well as scrub and grasslands. It is found in a wide range of habitats, with the exception of evergreen forest.

The particular cat species is endemic to India and Sri Lanka. Population in wild in Global scenario is very few and suggested a total global population of less than 10,000 (Past record and 2,000 Present record) individuals presently. Being a cryptic species, population estimations of the Rusty-Spotted Cat are difficult to carry out. The Indian population of Rusty spotted cat (*Prionailurus rubiginosus*) is highly endangered and has been accorded the highest statutory protection under schedule I of the Wildlife (Protection) Act, 1972, besides appendix I of the Convention on International Trade in Endangered Species (CITES). Since 2016, the global wild population is listed as Near Threatened (NT) on the IUCN Red List as it is fragmented and affected by loss and destruction habitat in deciduous forest. The Indian Population is listed on CITES Appendix I. The animal is Prior to 2016, the cat was listed as Vulnerable(VU) on the Red List, the current rating of

"Near Threatened" (NT) does not suggest a population increase. The species occurs in very low densities throughout its range. The Population trend is supposed to be decreasing. Its fur is in great demand and thus the animal is constantly hunted down by poachers.

**ECOLOGY AND BEHAVIOUR:** There is little information available on the behaviour and the ecology of the rusty-spotted cat. The rusty-spotted cat seems to be nocturnal as most observations have been at night. During hours of sunshine it lies in a hollow log, tree or thicket in small woods of heavy timber or in thick scrub-jungles. The rusty-spotted cat is described as very active and agile and as a good climber. It is frequently seen in trees and was observed pouncing down from tree branches when hunting prey. However, it probably hunts mainly on the ground. When the rusty-spotted cat is threatened it flees into the trees or takes shelter in gaps of big boulders or stones. The rusty-spotted cat also seems to be cave dwelling in some parts of its distribution range.

The rare cat spotted at Corbett National Park (Downloaded from web) The cat was spotted twice through the camera trappings, once on 28 July and again on 3rd August. The team of the Wildlife Institute of India for photographing rusty spotted cat inside the Corbett tiger reserve. Rodents are abundant in agricultural landscapes allowing these cat species to take up residence even outside Protected Areas in India.

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**ABBREVIATIONS:** TS-Tiger Reserve, WS Wildlife Sanctuary, N.P national Park., WII- wildlife Institute of India, Dehradun, DFO- Divisional forest officer

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