

A Check list of important Mammalian species observed in and around Chilkiya-kota Elephant (Dhangari-Sunderkhal) Corridor, an important Wildlife corridor in Corbett Landscape in Uttarakhand, India.

The Chilkiya-Kota Elephant Corridor (Dhangari-Sunderkhal) is a vital wildlife corridor in Corbett Landscape, Uttarakhand, India facilitating connectivity between the Corbett Tiger Reserve (CTR) and Ramnagar Forest Division part of which is being blocked due to encroachment. A list of important mammalian species observed in and around this vital wildlife corridor is compiled for strengthening the need of securement and long-term conservation of this vital corridor for unhindered movement and dispersal of various wildlife.

Key words: Wildlife Corridor, Mammal, Securement

Introduction

The Chilkiya-Kota Elephant Corridor (Dhangari-Sunderkhal) forms the most critical area for connectivity and movement of wildlife between the Corbett Tiger Reserve (CTR) and Ramnagar Forest Division in Corbett Landscape, Uttarakhand, India (Kundu *et al.*, 2014). It is also a vital link for gene flow between Corbett Tiger Reserve and eastern populations of Elephants and Tigers and in Uttarakhand. This corridor is one of the 12 important corridors identified in the North-western Elephant habitat in India (Singh *et al.*, 2005) and also declared as a Priority II Elephant Corridor by Elephant Task Force, Project Elephant, Govt. of India (Rangarajan *et al.*, 2010) among total 88 elephant corridors in India (Singh *et al.*, 2005). Though observations of elephants (Singh *et al.*, 2005, Kundu *et al.*, 2014), Tigers and Leopards (Johnsingh *et al.*, 2004; Jhala *et al.*, 2011; Anwar *et al.*, 2004) are extremely common in the corridor, but some lesser known species such as Sloth Bears (Kundu *et al.*, 2012), Red Fox (Anwar *et al.*, 2014) are also reported from the corridor. In the present note, we are compiling a list of important mammalian species observed in and around this vital wildlife corridor for the need of urgent securement and long-term conservation of this corridor for unhindered movement and dispersal of various wildlife through this corridor.

Material and Methods

Study area

The Chilkiya-Kota Elephant Corridor (Dhangari-Sunderkhal Corridor) lies between N 29°30'49" to N 29°31'55" and E 79°06'38" to E 79°07'19" and presently it is about 0.7 km in length and 1.5 km wide (Singh *et al.*, 2005). Unfortunately, a major portion of this corridor has been occupied by humans (Sunderkhal settlement, about 73.84 ha) from 1974 onwards and has gradually obstructed the movement of animals at several places (Johnsingh *et al.*, 2006). The corridor is situated along the Kosi River and NH 121 between Garjia Temple and Dhangari in Dhulwa block of Kosi Range under Ramnagar Forest Division.

*Evidence of 27
different species
of mammals
prove that
Chilkiya-Kota
Corridor
(Dhangari-
Sunderkhal) is a
multi-mega
species corridor
and there is
urgent need to
conserve this
corridor to
maintain
connectivity
between Corbett
Tiger Reserve
(CTR) and
Ramnagar Forest
Division in
Corbett
Landscape,
Uttarakhand,
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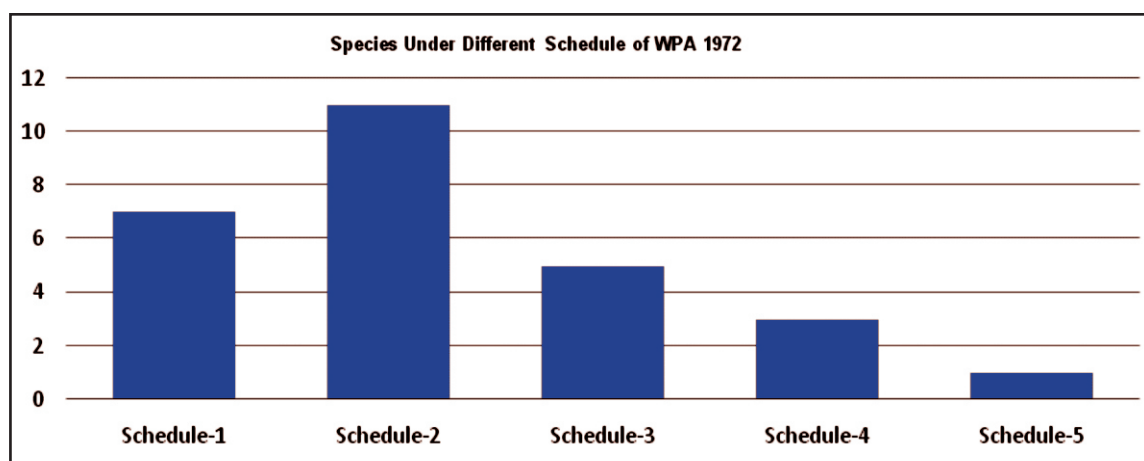
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Table1: Total Numbers of Species listed from the Chilkiya-Kota Elephant Corridor

Sl. No.	Order	Family	Common name	Scientific name	IUCN Status	WPA Schedule
1	CARNIVORA	Felidae	Tiger	<i>Panthera tigris</i> (Linnaeus, 1758)	Endangered	I
2	CARNIVORA	Felidae	Leopard	<i>Panthera pardus</i> (Linnaeus, 1758)	Near Threatened	I
3	CARNIVORA	Felidae	Jungle Cat	<i>Felis chaus</i> (Schreber, 1777)	Least Concern	II
4	CARNIVORA	Felidae	Leopard Cat	<i>Prionailurus bengalensis</i> (Kerr, 1792)	Least Concern	I
5	CARNIVORA	Felidae	Fishing Cat	<i>Prionailurus viverrinus</i> (Bennett, 1833)	Endangered	I
6	CARNIVORA	Ursidae	Sloth Bear	<i>Melursus ursinus</i> (Shaw, 1791)	Vulnerable	I
7	CARNIVORA	Canidae	Jackal	<i>Canis aureus</i> (Linnaeus, 1758)	Least Concern	II
8	CARNIVORA	Canidae	Red Fox	<i>Vulpes vulpes</i> (Linnaeus, 1758)	Least Concern	II
9	CARNIVORA	Viverridae	Small Indian Civet	<i>Viverrica indica</i> (É. Geoffroy Saint-Hilaire, 1803)	Least Concern	II
10	CARNIVORA	Viverridae	Common Palm Civet	<i>Paradoxurus hermaphroditus</i> (Pallas, 1777)	Least Concern	II
11	CARNIVORA	Viverridae	Himalayan Palm Civet	<i>Paguma larvata</i> (C.E.H. Smith, 1827)	Least Concern	II
12	CARNIVORA	Herpestidae	Grey Mongoose	<i>Herpestes edwardsii</i> (É. Geoffroy Saint-Hilaire, 1818)	Least Concern	II
13	CARNIVORA	Mustelidae	Yellow Throated Martins	<i>Martes flavigula</i> (Boddaert, 1785)	Least Concern	II
14	PROBOSCIDEA	Elephantidae	Elephant	<i>Elephas maximus</i> (Linnaeus, 1758)	Endangered	I
15	ARTIODACTYLA	Cervidae	Spotted Deer	<i>Axis axis</i> (Erxleben, 1777)	Least Concern	III
16	ARTIODACTYLA	Cervidae	Sambar Deer	<i>Cervus unicolor</i> (Kerr, 1792)	Vulnerable	III
17	ARTIODACTYLA	Cervidae	Barking Deer	<i>Muntiacus muntjak</i> (Zimmermann, 1780)	Least Concern	III
18	ARTIODACTYLA	Bovidae	Himalayan Goral	<i>Naemorhedus goral</i> (Hardwicke, 1825)	Near Threatened	III
19	ARTIODACTYLA	Suidae	Wild Pigs	<i>Sus scrofa</i> (Linnaeus, 1758)	Least Concern	III
20	RODENTIA	Sciuridae	Red Giant Flying Squirrel	<i>Petaurista petaurista</i> (Pallas, 1766)	Least Concern	II
21	RODENTIA	Sciuridae	Five Striped Palm Squirrel	<i>Funambulus pennantii</i> (Wroughton, 1905)	Least Concern	IV
22	RODENTIA	Hystriidae	Indian Porcupine	<i>Hystrix indica</i> (Kerr, 1792)	Least Concern	IV
23	PRIMATES	Cercopithecidae	Rhesus Macaque	<i>Macaca mulatta</i> (Zimmermann, 1780)	Least Concern	II
24	PRIMATES	Cercopithecidae	Hanuman Langur	<i>Semnopithecus entellus</i> (Dufresne, 1797)	Least Concern	II
25	PHOLIDOTA	Manidae	Indian Pangolin	<i>Manis crassicaudata</i> (É. Geoffroy, 1803)	Near Threatened	I
26	LAGOMORPHA	Leporidae	Indian Hare	<i>Lepus nigricollis</i> (F. Cuvier, 1823)	Least Concern	IV
27	CHIROPTERA	Pteropodidae	Indian Flying Fox	<i>Pteropus giganteus</i> (Brünnich, 1782)	Least Concern	V

**Fig. 1****Methods**

Two main methods were adopted during the study-

Direct opportunistic Sightings: Majority of the species observed and recorded through opportunistic direct sightings by the authors in and around the corridor area especially in the night along the NH 121.

Secondary Information: Secondary information on species occurrence were obtained through questionnaire survey of villagers and Forest staffs, Literature survey, newspaper reports, examining preserved samples with Forest Dept, etc. and personal communications with different research team working in the corridor. For some species, Indirect

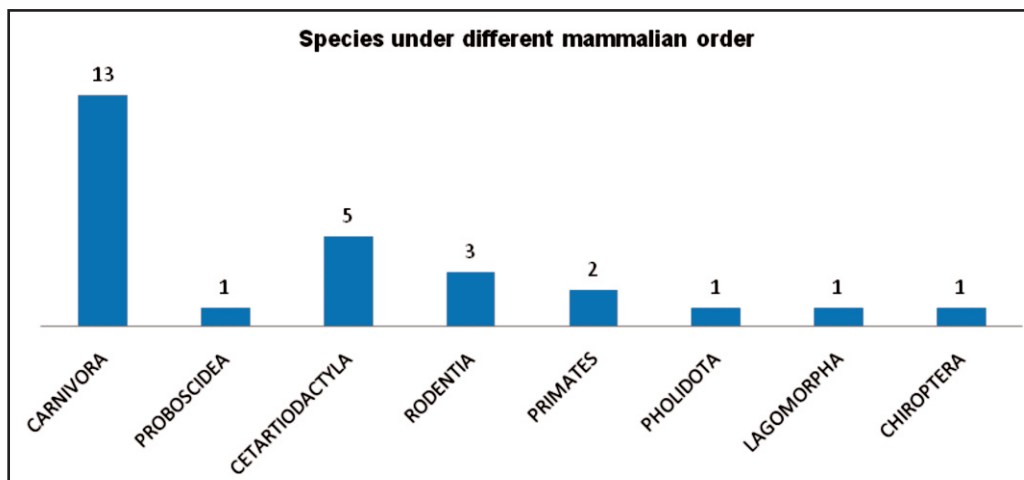


Fig. 2

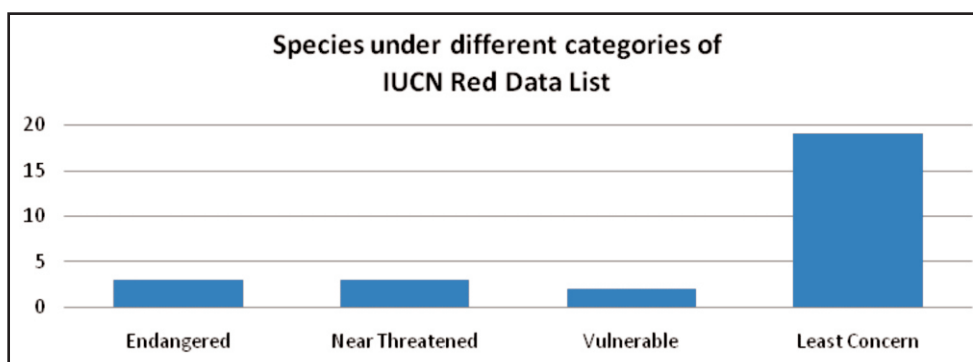


Fig. 3

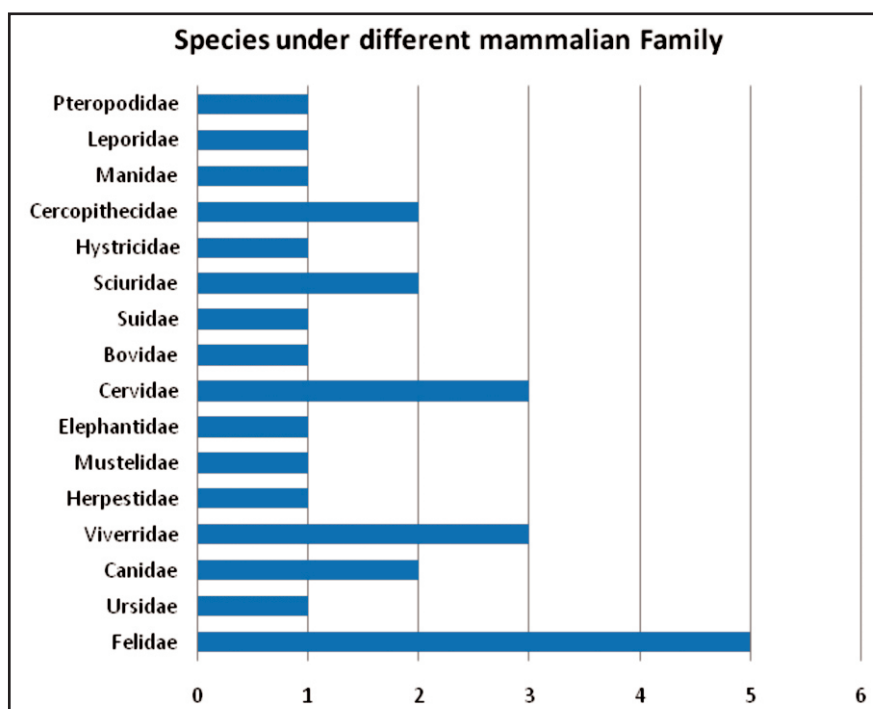


Fig. 4

evidences such as footprints and fecal matters were also studied.

Field identification of observed species was done with the help of the book "Indian Mammals- a Field Guide" (Menon 2014). Latest information about species abundance and taxonomic status were obtained from web site of IUCN and Ministry of Environment and Forest, Govt. of India.

Result and Discussion

A total of 27 important mammal species belonging to 16 families under 8 Orders are identified during the study (Table 1). Among 8 different mammalian orders, Order Carnivora has highest representation with 13 species followed by Order Artiodactyla with 5 species (Fig. 1). Among 16 different mammalian families, Felidae Family represented by 5 species followed by Cervidae Family with 3 species (Fig. 2).

Out of total 27 species listed in the study, 7 species belong to Schedule-1 and 11 species belongs to Schedule-2 (Fig. 3) of Indian Wildlife Protection Act 1972 (WPA) which receives highest degree of protection and conservation in India. According to IUCN Red List, 19 species belongs to the category of "Least Concern" followed by 3 each in Endangered and Near Threatened category (Fig. 4). Though 19 species categorized under "Least Concern" under IUCN Red Data, 1 species belongs to schedule- 1 and 10 species belongs schedule-2 of WPA.

Many species of Mice and Field Rats belonging to Muridae family were seen but could not be identified as no specimens were collected or trapped. Tiger, Leopards, Elephants, Sambar deer, Spotted Deer and Wild Pigs are in conflict with the people due to crop depredation and human life loss and cattle lifting. Many aged dwellers of Corridor surrounding villages have also reported historical sightings of "Stripped hyena" in the corridor area 12-15 years back.

Conclusion

The study shows that the Chilkiya-Kota Elephant Corridor (Dhangari-Sunderkhal) is very important wildlife corridor in terms of huge diversity of mammalian species observed in and around the corridor. Based on the present and previous studies, the corridor could be easily designated as Multi Mega Species Wildlife Corridor. The main aim of this study is to strengthen the age-old demand for securement of this vital wildlife corridor by wildlife researchers and conservation organizations and to put pressure on concerned Govt. agencies for the need. But already mentioned, that major part of the corridor is blocked due encroachment and previous studies has also recommended relocation of Sunderkhal settlement to some other suitable site (Johnsingh *et al.*, 2004 and 2006; Anwar *et al.*, 2004). The results of present study also emphasis the need of conservation and securement of this corridor under appropriate law and by rehabilitation/relocation of the Sunderkhal settlement from the corridor area to alternate site for unhindered movement of Elephant, Tiger and other important mammals in the Corbett landscape specially between Corbett Tiger Reserve and Ramnagar Forest Division.

उत्तराखण्ड, भारत में कार्बेट भूदृश्य में एक महत्वपूर्ण वन्यजीव गलियारा, चिल किया-कोटा हाथी (ढांगरी-सुन्दरखाल) गलियारे में और इसके चारों ओर प्रेक्षित महत्वपूर्ण स्तनपायी प्रजातियों की जांच सूची

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चिलकिया कोटा हाथी गलियारा (ढांगरी-सुन्दरखाल) कार्बेट भूदृश्य में एक अहम वन्यजीव गलियारा है, जो कार्बेट बाघ रिजर्व (सी टी आर) और रामनगर वन प्रभाग, जिसका कुछ भाग अतिक्रमण के कारण अवरूद्ध किया जा रहा है, के बीच संयोजकता को सुगम बनाता है। इस अहम वन्यजीव गलियारे में और इसके चारों ओर प्रेक्षित महत्वपूर्ण स्तनपायी प्रजातियों की सूची को संकलित किया गया है ताकि विभिन्न वन्यजीवों को अबाधित गतिविधि और फैलाव के लिए इस अहम गलियारे के दीर्घकालीन संरक्षण और सुरक्षा की आवश्यकता को सशक्त बनाया जा सके।

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