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Preliminary Annotated Checklist of Mammalian Fauna of Kishtwar Himalayas, Jammu and Kashmir, India

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Author's contribution

The sole author designed, analysed, interpreted and prepared the manuscript.

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ABSTRACT

A region-specific diversity documentation is an important resource for biodiversity conservation. A preliminary survey was carried out in Kishtwar district of Jammu Division to prepare a checklist of domesticated and wild mammalian fauna of the area. The data was collected from 60 villages of this district, lying in North- western Himalayas, ranging from an altitude of 980- 3700 meters above sea level, from May 2022 to December 2022. The survey revealed the presence of 33 species of mammals belonging to 5 orders, 12 families and 13 sub-families. Carnivora was the dominant order with 15 species followed by Artiodactyla with 10 species, Rodentia with 3 species and Perissodactyla and Primates with 3 and 2 species respectively.

Keywords: Mammalian diversity; checklist; Kishtwar; North-western Himalayas; Jammu and Kashmir.

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ABBREVIATIONS

IUCN : International Union for Conservation of Nature
VU : Vulnerable
EN : Endangered
NT : Near Threatened
LC : Least Concern

1. INTRODUCTION

Species checklist is a vital tool for researchers, interested public and the Government (Wilson and Reeder, 2005). Mammals are an indispensable taxon, often considered for data monitoring in an area because of their vulnerability to hunting and sensitivity to human activity [1]. The first complete systematic review of mammals of the world was presented by Trouessart (1897-1905), which was supplemented by the works of Simpson and Gaylord [2], Walker (1965), Nowak [6,4], Sokolov [5], Corbet and Hill [6], McKenna and Bell [7], Alteri [8], Brandon [9], Bhagwat et al. [10], Bates et al. [11] etc. In India, the pioneer work about mammals was presented as fauna of British India- Mammalia [12] (Pocock, 1941), followed by checklist of mammals of Palaearctic and Indian region [13], Prater's book of Indian animals [14], a systematic review of the mammals of Indomalayan region [15], checklist of Indian mammals [16], diversity of mammals of South Asia [17] (Srinivasalu and Srinivasalu, 2012), Indian mammals [18,19] and mammalian diversity of Darjeeling- Sikkim Himalayas [20], etc.

According to Wilson and Reeder [21], a total of 5416 species of mammals belonging to 154 families and 29 orders have been reported around the globe of which India represents total of 427 species which is 7.8% of the global mammalian species. The present checklist is envisioned as a precursor to initiate systematic documentation of mammals in the Kishtwar district of Jammu and Kashmir state and will act as a reference for new surveys in the area. In addition to the checklist supplementary data like common, local and vernacular names, features, local past and present status and the IUCN status of each species has also been discussed in the paper. This list also includes domesticated mammals of Kishtwar [22,23].

2. MATERIALS AND METHODS

Kishtwar is one of the most biodiverse regions of Jammu and Kashmir state. It is situated in the north-western Himalayan range of the state. This part of the Jammu region encompasses extraordinary biotic communities owing to the variations in altitude, temperature, and climatic conditions. Altitude ranges from 980- 4000 metres above mean sea level, and temperature varies from less than 0℃ to more than 35℃. Landscape is mostly rocky with steep gorges and snow-clad mountains.

A survey was carried out in 60 villages of the district from May 2022- December 2022. Data was collected and authenticated with the help of locals, wildlife department and forest department of the district.

3. RESULTS AND DISCUSSION

During the present study 33 species of mammals belonging to 21 genera, 12 families, 13 sub-families and 5 orders have been documented (Table 1, Fig. 1). Carnivora was the dominant order with 15 species followed by Artiodactyla with 10 species, Rodentia with 3 species and Perissodactyla and Primates with 3 and 2 species respectively. Out of these 33 species six species fall under Vulnerable category, three are Near- threatened and two of these belong to the Endangered category of IUCN (Fig. 2). Rest are categorised as Least concern and Domesticated.

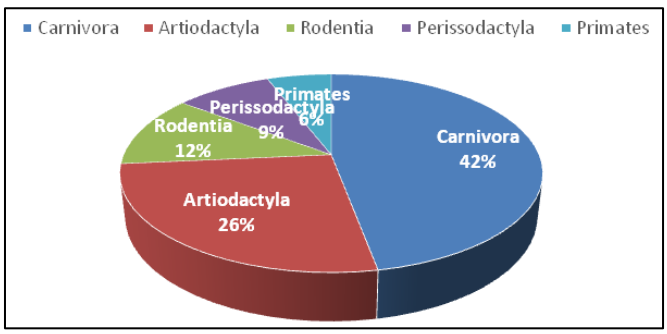

Fig. 1. Percentage frequency of different Orders

Table 1. Systematic list of Mammals of Kishtwar, Jammu and Kashmir

Order	Family	Sub-family	Scientific Name	Common, Local & Vernacular Name	Features	Local status		IUCN Status
						Past	Present	
Carnivora	Felidae	Felinae	*Prionailurus bengalensis*	Leopard cat, jungli billa	Small sized wild cat with fur and spots resembling in colour with leopard, hence the name.	Moderate	Rare	LC
			Felis chaus	Wild cat, jungli billi	Grey, light brown in colour. Common pest of poultry in the area.	Common	Common	LC
			Lynx lynx	Eurasian lynx/ Baad billa/ Bagad billa	Medium sized, cat like brownish in colour with black spots. Distinguishing feature is a tuft of hair on the ears.	Common	Moderate	LC
		Pantherinae	*Panthera uncia*	Snow leopard, chitra	Rare sightings reported in the area. Greyish white in colour with black rosettes.	Moderate	Rare	VU
			Panthera pardus	Leopard, chita, suh	Brownish yellow fur with dark rosettes. Preys upon wild and domestic livestock. Found commonly throughout the district.	Plenty	Common	VU
	Canidae	Caninae	*Canis aureus*	Jackal, gidad, gidur	Nocturnal in habit. Preys upon domestic fowl and cattle.	Plenty	Common	LC
			Canis lupus	Grey wolf, jungli kutta	Rare sightings reported by the locals. Large in size with a greyish white coat.	Moderate	Rare	LC
			Vulpes vulpes	Red fox, Fox, lomri	Medium sized, slender body with a brownish body coat and a furry black tail.	Common	Common	LC
	Ursidae	Ursinae	*Ursus americanus*	American black bear, bear, reech, bhalu, yecch, hapat	Omnivore, black in colour. A common and major pest of maize throughout the district.	Plenty	Common	LC
			Ursus arctos	Himalayan Brown Bear, lal bhalu, yecch	Brown in colour with a strong body. A major pest of maize.	Moderate	Moderate	LC
			Ursus thibetanus	Eurasian Black Bear, bhalu, yeech, reech	Omnivore, black in colour with a white spot on the chest. Pest of maize and fruits.	Common	Rare	VU
	Mustelidae	Gulionae	*Martes flavigula*	Yellow-throated marten, dinkul, kuthur, kath langri, katud, loosh	Most commonly found marten species. Fur is shiny brownish-yellow in colour with blackish head, legs and tail. A pest of poultry in the study area.	Common	Common	LC

Order	Family	Sub-family	Scientific Name	Common, Local &	Features	Local status		IUCN Status
			Martes martes	Pine martin	Commonly mistaken as mongoose, is brownish in colour with light coloured thorax.	Common	Rare	LC
		Lutrinae	*Lutra lutra*	Eurasian otter/ Oud billow/ daryayi kutta	Brownish in colour with whitish underside. Found in the river Chenab and some streams in the study area.	Common	Rare	NT
	Herpestidae		*Herpestes auropunctatus*	Small indian mongoose	Dull yellowish brown in colour with a long, thick tail.	Moderate	Moderate	LC
Artiodactyla	Bovidae	Bovinae	*Bos taurus*	Cow,Gaa, Gaay (Female)/ Ox, Bhadel, Bail (Male)	Domesticated most commonly throughout the world for milk and dung. Dung is used as a manure in fields and gardens.	Plenty	Common	Domesticated
			Bubalus bubalis	Buffalo, bhains	Varies in colour from black to dark grey. Used for milk and dung.	Moderate	Common	Domesticated
			Bos grunniens	Domestic yak, jatt chanwar	Ox like, long haired, native to the Himalayas. Used for riding, transport, hair and milk.	Common	Common	VU
			Bos mutus	Wild yak	Ancestor of domestic yak. Long haired, native to the Himalayas.	Common	Rare	VU
		Caprinae	*Ovis aries*	Sheep, daeng, bhadel, bhed	Varies in size from small to large, coat varies from rough to soft and is used as wool.	Plenty	Common	Domesticated
			Capra hircus	Goat, Bakri	Size and colour variable. Used as a source of milk and mutton.	Plenty	Moderate	Domesticated
			Ovis vignei	Pijad	Goat like with ribbed and laterally curved long horns in males and short horns in females.	Plenty	Rare	VU
			Capra sibirica	Ibex, gadmig	Male ibex is brown in colour having characteristic long, slightly curved horns, while females are greyish brown with comparatively smaller horns.	Common	Rare	NT
			Hemitragus jemlahicus	Himalayan Tahr, karth	Copper brown coloured mountain goat. Males are characterised by coarse mane over neck and chest. Horns are short wrinkled and sharp towards the anterior end.	Common	Rare	NT

Order	Family	Sub-family	Scientific Name	Common, Local &	Features	Local status		IUCN Status
	Moschidae	Moschinae	*Moschus leucogaster*	Musk deer, ronsa	Deer like with fore limbs smaller than hind limbs. Hunted for musk,commonly called kasturi and locally called “nafa”	Plenty	Rare	EN
Rodentia	Muridae	Murinae	*Mus booduga*	Field rat, chuh	Smaller in size than the house rat. Found commonly as a pest of saffron and other crops in the fields.	Plenty	Common	LC
			Hystrix indica	Porcupine, shale	Black and white in colour with long, sharp spikes on posterior side. Economic pest of saffron and other crops.	Plenty	Common	LC
	Sciuridae	Pteromyinae	*Eoglaucomys fimbriatus*	Flying squirrel, ham, een, yon	Nocturnal, greyish black in colour with a furry tail. Economic pest of walnuts in the area.	Abundant	Moderate	LC
Primates	Cercopithecidae	Cercopithecinae	*Rhesus macaque*	Monkey, makkad	Brownish in colour, highly invasive, serious economic pest of fruits and vegetables. Causes great loss to the farmers.	Plenty	Plenty	LC
			Semnopithecus ajax	Kashmir grey langur, makkad	Greyish with black face and ears. Economic pest of crops and fruits.	Common	Moderate	EN
Perissodactyla	Equidae	Equinae	*Equus caballus*	Horse, Ghoda, kudd	Large strong animals, reaching 60 - 70 inches in height. Used for riding and transport.	Common	Moderate	Domesticated
			Equus mulus	Mule, Khacchar	Generally brown, grey or black in colour, 55 to 65 inches in height. Used as draught and pack animal.	Common	Moderate	Domesticated
			Equus asinus	Donkey, Gadha, khota	White, black or grey in colour, smaller than a horse. Used as a beast of burden.	Common	Common	Domesticated

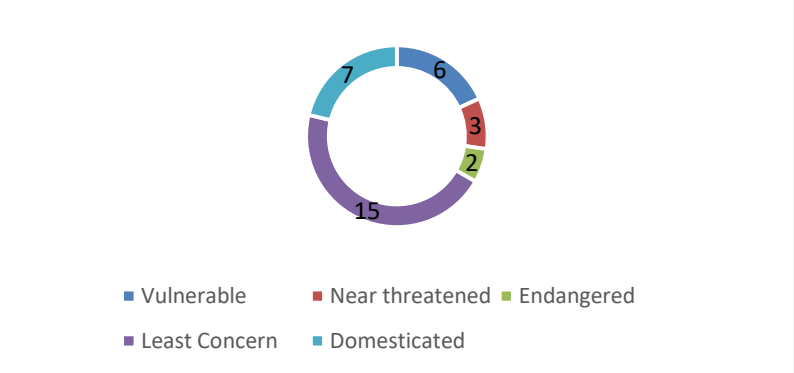

Fig. 2. Total number of species listed under different categories of the IUCN

4. CONCLUSION

The diversity and number of species of District Kishtwar have changed drastically in the past. The major cause is anthropogenic activities like construction of roads and dams, illegal poaching, uncontrolled hunting, habitat degradation, tourism, etc. Roads are being constructed in the remotest of areas leading to human pressure and human-animal conflict in the region. Lack of awareness about the environment is also one of the reasons for decline of biodiversity in this area. People need to be educated and made aware of their intentional and unintentional daily activities like hunting for food or sport, collecting forest produce for food and other needs which have a huge impact on their surroundings and environment. The diversity of any particular region needs to be updated periodically since the species and their numbers keep changing due to new discoveries, taxonomic revisions and molecular phylogenetic studies [21]. However, this is the first time such checklist is presented from this area. This would help researchers, state forest and wildlife departments in planning future conservation strategies in this biodiversity rich district of Kishtwar.

COMPETING INTERESTS

Author has declared that no competing interests exist.

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