



# A FIELD GUIDE



## **MAMMALS**

### *Phrumsengla National Park*

**A Field Guide to Mammals of Phrumsengla National Park  
2024**

Ministry of Energy and Natural Resources  
Department of Forests and Park Services  
Royal Government of Bhutan  
Tel: +97 77192125

Copyright©2024 in text: Phrumsengla National Park.  
Copyright©2024 in Photographs: Photo contributors.

Published by:  
Phrumsengla National Park  
Department of Forests and Park Services  
Tel: +97577192125 (PNP Office)

First edition

Guide prepared by:  
Jangchuk Gyeltshen (Sr.Forest Ranger)  
Yonten Norbu (Chief Forestry Officer)

Cover design, layout & edited by:  
Jangchuk Gyeltshen (PNP)  
Ugyen Lhendup (PNP)

Photo contributors:  
Jangchuk Gyeltshen (PNP)  
Balaram Mafchan (PNP)  
Ugyen Lhendup (PNP)  
Tandin Tshering (PNP)  
Sonam Pelkey (PNP)  
Phuntsho Wangdi (PNP)  
Phurba Dorji (PNP)  
Kado Rinchen (JSWNP)

ISBN: 978-99936-730-8-8

All rights reserved: No part of this publication may be reproduced or used in any form or by any means-Photographic, electronic or mechanical including photocopying, recording, taping or information storage and retrieval systems without written permission of the publisher.

Citation:  
Phrumsengla National Park (2024). *A Field Guide to Mammals of Phrumsengla National Park*. Department of Forests and Park Services, Ministry of Energy and Natural Resources, Royal Government of Bhutan, Ura; Bumthang.

## TABLE OF CONTENTS

1. Foreword.....	I
2. Introduction.....	II
3. Acknowledgement.....	III
4. Glossary/Abbreviation.....	V
5. Felid.....	1-9
6. Viverrid.....	10
7. Canid.....	11-12
8. Ursid.....	13
9. Ailurid.....	14
10. Mustelid.....	16-20
11. Lagomorph.....	21-23
12. Rodent.....	24-43
13. Shrew.....	44-53
14. Mole.....	54
15. Ungulate.....	55-61
16. Primate.....	62-63
17. Chiroptera.....	64
18. Herpestid.....	65
19. Species Index.....	68-70
20. Bibliography.....	66-67



དཔལ་ལྷན་འབྲུག་གཞུང་། རྒྱལ་ཁྲིམས་དང་རང་བཞིན་ཐོན་སྐྱེད་ལྗོངས་ལག་  
ནགས་ཚལ་དང་སྤྲིང་ཀ་ཞབས་ཏྲོག་ལས་ཁུངས།

ཕུར་སངས་ལྗོངས་རྒྱལ་ཡོངས་སྤྲིང་ཀ།

ROYAL GOVERNMENT OF BHUTAN  
Ministry of Energy and Natural Resources  
Department of Forests & Park Services

**Phrumsengla National Park**

Ura, Bumthang

*"Managing Bhutan's Natural Heritage"*



## FOREWORD

Phrumsengla National Park with an area of 906.65 km<sup>2</sup> is a treasure trove of biodiversity with a wide range of habitats from subtropical forests to alpine meadows. This rich diversity is reflected in the park's fauna with over 70 species of mammal recorded including endangered and endemic species.

The Field Guide to the Mammals of Phrumsengla National Park featuring 64 mammal species is designed to be a user-friendly resource for the readers. It has coloured photographs of each species and information on the taxonomy including species description, behaviour and ecology, diet, mating season, gestation period, litter size, lifespan and conservation status. All the information written in this guide are fetched from the latest updated available sources and other relevant field guides.

Whether you are a researcher, a conservationist, a student or simply a nature enthusiast, I hope that this guide will inspire and inform you about the incredible mammals of Phrumsengla National Park.

As you explore the park and its surroundings, I encourage you to approach your observations with a sense of wonder and respect for the natural world. Each species no matter how small or seemingly insignificant plays a vital role in the intricate web of life that sustains our planet.

I would like to express my deepest gratitude to all those who have contributed to the publication of this guide including the photographers and staff involved in camera trapping who have dedicated their time and expertise to bringing this Field Guide to the limelight.

Thank you for publishing this Field Guide for Phrumsengla National Park and I hope that this guide will serve as a valuable resource for many years to come.

Tashi Delek!

**(Lobzang Dorji)**

Director

Department of Forests and Park Services

Ministry of Energy and Natural Resources

Royal Government of Bhutan

## INTRODUCTION

Mammals are a diverse group of animals that belong to the class Mammalia within the larger group of vertebrates. They are characterized by several distinct features including the presence of mammary glands that produce milk to nourish their young, the presence of hair or fur on their bodies, and the ability to regulate their body temperature internally.

Mammals are found in a wide range of environments worldwide from the depths of the oceans to the highest mountains and everything in between. They exhibit a remarkable variety in size, shape, behavior, and adaptations, making them one of the most successful and widespread groups of animals on the earth.

There are over 6,400 known species of mammals which can be further classified into several orders including primates (such as humans, monkeys, and apes), carnivores (like lions, tigers, and wolves), rodents (such as mice, rats, and squirrels), cetaceans (including whales, dolphins, and porpoises) and many more.

Mammals display a wide range of lifestyles and reproductive strategies. Some are solitary and territorial while others form complex social groups. They can be herbivores, carnivores or omnivores depending on their diet. Mammals also exhibit various reproductive strategies ranging from laying eggs (monotremes like the platypus and echidna) to giving birth to live young (most mammals).

Mammals have played significant roles in ecosystems and have often co-evolved with other species. They serve various ecological functions such as pollination, seed dispersal and predation. Some mammals have also formed close relationships with humans serving as pets, sources of food or even partners in scientific research.

Due to their close evolutionary relationship to humans, mammals often evoke a sense of familiarity and curiosity in people. Studying mammals not only helps us understand our own biology and evolution but also contributes to our knowledge of the natural world and the importance of biodiversity conservation.

There were lot of information available on some mammals and some not. Nevertheless, the relevant and required information was included in this field guide on every page in a nutshell with coloured photographs.

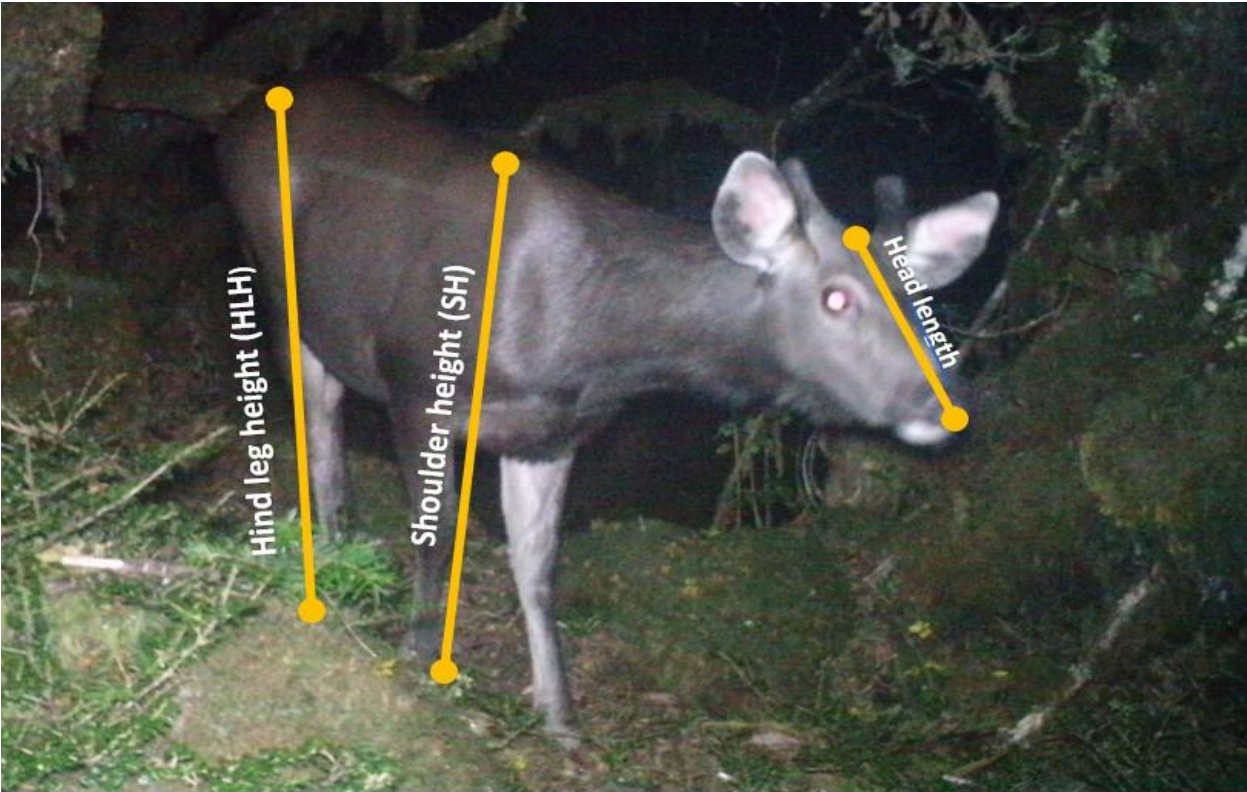
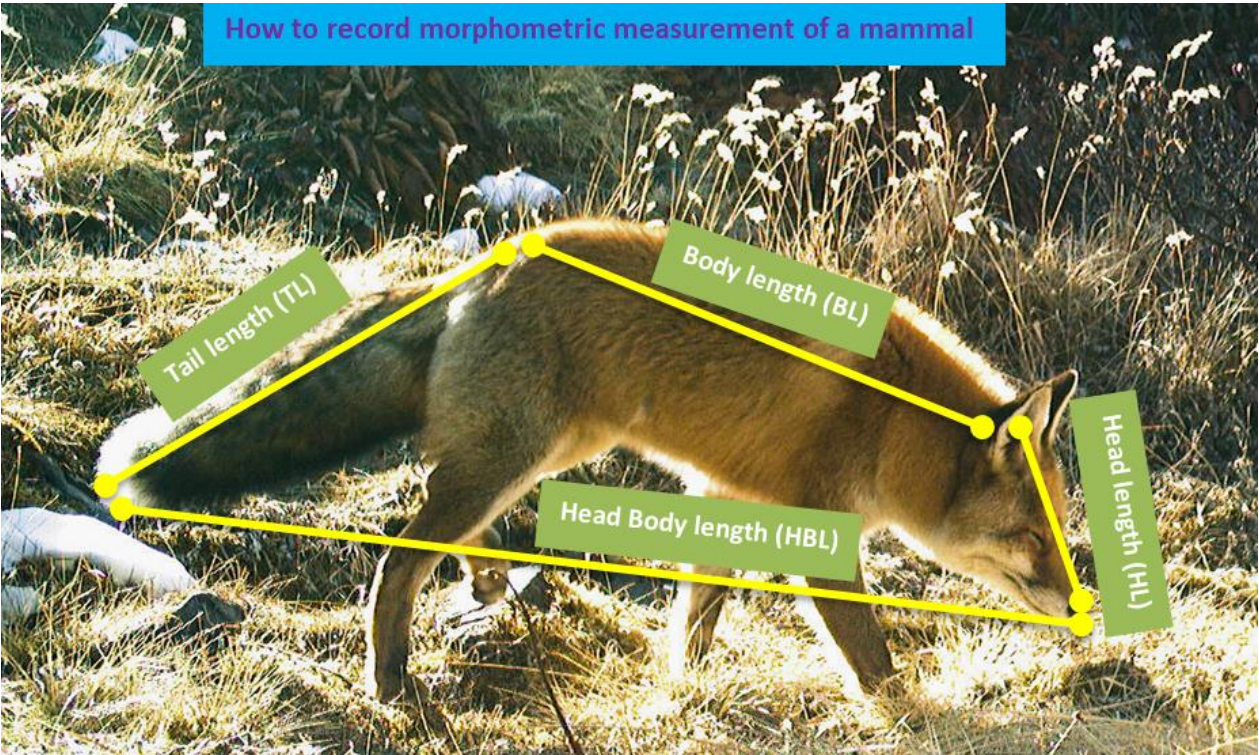
## **Acknowledgment**

The park management would like to express heartfelt gratitude to the staff who were involved in carrying out the National Tiger Survey in 2021-2022 and the Zonation Survey Team in 2016-2017 for providing opportunities to have camera-trapped images of mammals used in this Field Guide. Without their efforts, obtaining photos of mammals present in our park would be difficult. We are also thankful to Photo contributors both within and outside our park. The park management is thankful and appreciate Mr.Jangchuk Gyeltshen (Nature Conservation Section, PNP) for taking up the lead role in developing this Field Guide.

The park management is equally grateful to the staff who were involved in reviewing this field guide. Their comments and feedback shaped the format and the standard of the Field Guide.

The park management hope that this guide will inspire readers to appreciate and conserve the remarkable diversity of mammal species that inhabit the park.

How to record morphometric measurement of a mammal





## GLOSSARY

---

**Ailurid:** Any member of the family Ailuridae.

**Aquatic:** Mammals that live in water.

**Arboreal:** Mammals that spends most of their lives in trees.

**Canid:** A mammal of the dog family.

**Chiroptera:** Bats are the Chiroptera. With their forelimbs adapted as wings they are the only mammals capable of true and sustained flight.

**Cervid:** A mammal of the deer family.

**Crepuscular:** Mammals that are active primarily during twilight which are periods of dawn and dusk.

**Diurnal:** Mammals that are active during the day.

**Felid:** a mammal of the cat family ( *Felidae* ); a wild cat.

**Fossorial:** Animals adapted to digging and which lives primarily (but not solely) underground.

**Herpestid:** It's the largest subfamily within family Herpestidae.

**Invertebrate:** An invertebrate is a cold-blooded animal with no backbone.

**Lagomorph:** The lagomorphs are the members of the taxonomic order Lagomorpha.

**Mustelid:** A large widely distributed and diverse family belonging to order Mustelidae.

**Nocturnal:** Mammals that are active during the night.

**Patagium:** A membrane or fold of skin between the forelimbs and hindlimbs present in gliding mammals.

**Rodent:** Rodents are mammals of the order Rodentia.

**Secretive:** Mammals that are rare, Tshy and cryptic in behaviour.

**Solitary:** Mammals that live alone or at most in pairs. They often come together in the breeding season to mate.

**Terrestrial:** Mammals that live predominantly or entirely on land.

**Ungulate:** Mammals that are even-toed (Having hooves).

**Ursid:** Any plantigrade carnivore of the family Ursidae.

**Viverrid:** Viverridae is a family of small to medium-sized, feliform mammals.

**Vertebrate:** A vertebrate is an animal that has a backbone and a skeleton.

## ABBREVIATIONS

**Bul:** Bumthap Urup Kha (Kha: Local language/local dialect)

**Dzo:** Dzongkha

**EL:** Ear Length

**FNCA 2023:** Forest and Nature Conservation Act 2023

**HBL:** Head Body Length

**HL:** Head Length

**Lho:** Lhotsampa kha

**masl:** Mean above sea level

**SH:** Shoulder Height

**TL:** Tail Length

**Tsh:** Tshangla kha

**Kur:** Kurtoep kha



Felid

**Common Name:** Tiger (Bengal Tiger)

**Scientific name:** *Panthera tigris* (Linnaeus, 1758)

**Vernacular name:** Taag (Dzo), Memchidpo (Bul), Baag(Lho)

**Order:** Carnivora

**Family:** Felidae

**Description:** It has a powerful, muscular body with a large head and paws, a long tail and orange fur with black mostly vertical stripes. They have white spot at the back of the ears. The Bengal tiger's appearance is distinguished from other tiger subspecies by its orange coat accented by prominent brownish to black stripes. HBL: 240-310cm, TL: 85-100cm, Weight: 100-250Kg.

**Behaviour and ecology:** Diurnal, crepuscular and nocturnal. The tiger is an apex predator and preys mainly on ungulates which it takes by ambush. They are habitat generalists and have adapted to diverse habitats. Tigers are generally solitary, with adults maintaining exclusive territories or home ranges. They are solitary hunters. They mark their territory by urine spraying, scent deposition from anal glands, cheek rubbing, scraping the ground, clawing of trees and flattening vegetation by rolling. The range of a male tiger overlaps with that of multiple females with whom he mates. Females give birth to usually two or three cubs that stay with their mother for about two years. When becoming independent, they leave their mother's home range and establish their own.

**Diet:** Wild ungulates, wild pig, porcupines and primates.

**Mating season:** November-February.

**Gestation period:** 103 days.

**Litter size:** 2 (On average).

**Life span:** 10-20 years.

**Conservation status:** Endangered

**FNCA 2023:** Schedule I.



**Common Name:** Clouded Leopard  
**Scientific name:** *Neofelis nebulosa* (Griffith, 1821)  
**Vernacular name:** Gung (Dzo)  
**Order:** Carnivora  
**Family:** Felidae

**Description:** Its coat is patterned with distinctive large cloud shaped markings. The underparts and legs are spotted and the tail is marked by large, irregular and paired spots. Its legs are short, stout and paws broad. Females are slightly smaller than males. Its canines are exceptionally elongated as is its tail for a large cat. HBL: 2.25 feet, TL: 2-2.7 feet, Weight: 11-23Kg.

**Behaviour and ecology:** Nocturnal, arboreal, solitary and secretive. It is one of the most talented climbers among the cats. They use trees as daytime rest sites but also spend time on the ground when hunting at night.

**Diet:** Wild ungulates, porcupines, squirrels, pangolin, primates and birds.

**Mating season:** December-March.

**Gestation period:** 93 ± 6 days.

**Litter size:** 1-5, mostly 3.

**Life span:** 11 years.

**Conservation status:** Vulnerable

**FNCA 2023:** Schedule I.





Felid

**Common Name:** Leopard

**Scientific name:** *Panthera pardus* (Linnaeus,1758)

**Vernacular name:** Zii (Dzo), Khaila (Tsh), Ziig (Bul), Chitwaa (Lho)

**Order:** Carnivora

**Family:** Felidae

**Description:** The fur is generally soft and thick notably softer on the belly than on the back. Its skin colour varies between individuals from pale yellowish to dark golden with dark spots grouped in rosettes. Its underbelly is white and its ringed tail is shorter than its body. Its white-tipped tail is long, white underneath and with spots that form incomplete bands toward the end of the tail. HBL: 280-243cm, TL: 85-100cm, Weight: 30-77Kg.

**Behaviour and ecology:** Diurnal, nocturnal and crepuscular. A solitary and territorial animal outside the mating season and when raising cubs. Leopards are mainly active from dusk till dawn and will rest for most of the day and some hours at night in thickets among rocks or over tree branches. Black Panther is a melanistic form of leopard. Where competitors are present Leopards will cache their kills under thick vegetation or hoist their prey into the limbs of a tree. They are adept climber able to haul carcass heavier than their body weight.

**Diet:** Wild ungulates, wild pig, porcupines, birds, insects and small mammals.

**Mating season:** January (possibly at other times of the year).

**Gestation period:** 90-105 days.

**Litter size:** 2-4.

**Life span:** 12-17 years.

**Conservation status:** Vulnerable

**FNCA 2023:** Schedule II





Felid

**Common Name:** Marbled Cat

**Scientific name:** *Pardofelis marmorata* (Martin, 1837)

**Vernacular name:** Jungli biralo (Lho), Zayna (Dzo)

**Order:** Carnivora

**Family:** Felidae

**Description:** The Marbled Cat is like a miniature version of the Clouded Leopard. It has thick, soft fur which varies from brownish gray through yellow to reddish brown in color and is covered in large blotches which are paler in the center. There are black spots on its limbs and some black lines on the head and neck. The Marbled Cat has a short more rounded head than other felines with a wide forehead and large pupils. The tail is very long and bushy and well adapted to its arboreal lifestyle. HBL: 45-62cm, TL: 35-55cm, Weight: 2-5Kg.

**Behaviour and ecology:** Nocturnal, solitary. The vocalizations are comparable to the domestic cats. It is one of the most talented climbers among the cats. Its size is similar to domestic big cat.

**Diet:** Rats, birds, bats, squirrels, with the occasional reptiles, frogs and insects.

**Mating season:** They reach maturity at around 21 months.

**Gestation period:** 81 days.

**Litter size:** 1-4 young.

**Life span:** 12 years.

**Conservation status:** Near Threatened

**FNCA 2023:** Schedule II.





**Common Name:** Leopard Cat

**Scientific name:** *Prionailurus bengalensis* (Kerr,1792)

**Vernacular name:** Bja Zee (Dzo), Bja Zee (Bul), Baan Biralu (Lho)

**Order:** Carnivora

**Family:** Felidae

**Description:** Leopard Cat is about the size of a domestic cat but rather long in the legs. Colouration ranges from pale tawny to yellow, red or grey above with the underparts white and spotted. Black rosettes cover the sides of the body with solid spots running down the legs and the tail. There are usually four black stripes running down the forehead to the nape breaking up into short bands and elongate spots on the shoulders. The tail is spotted above with a few indistinct spotted rings near the buff coloured tip. HBL: 45-65cm, TL: 20-30cm, Weight: 1.6-8kg.

**Behaviour and ecology:** Diurnal, nocturnal and crepuscular. The Leopard Cat is a solitary species but can be seen in pairs or with dependent young. However, they can also be active during the day with males showing more diurnal activity than females.

**Diet:** Small mammals, squirrels, rats, mice, birds, lizards and amphibians.

**Mating season:** January-March.

**Gestation period:** 65-70 days.

**Litter size:** 1-3.

**Life span:** 15 years.

**Conservation status:** Least Concern

**FNCA 2023:** Schedule II.





**Common Name:** Asiatic Golden Cat  
**Scientific name:** *Catopuma temminckii* (Vigors & Horsfield, 1827)  
**Vernacular name:** Sonauli biralo (Lho)  
**Order:** Carnivora  
**Family:** Felidae

**Description:** The most common coat color is golden or red brown but it may also be dark brown or even grey. Melanistic individuals have been reported and may be predominant in some areas of its range. There is also a spotted form which is called an “ocelot morph” due to its ocelot-like rosettes. The most distinct features of this cat are the white lines bordered with dark brown to black running across the cheeks from the nostrils towards the cheeks, at the inner corner of the eyes and up the crown. The rounded ears have black backs with a grey spot. The legs and tail are grey to black at the distal ends. HBL: 66-105cm, TL: 42.5-57.5cm, Weight: 12-15.7kg.

**Behaviour and ecology:** Nocturnal, Territorial and solitary. They can climb trees when necessary. They spend most of their time on the ground carrying their long tail curled up at the tip.

**Diet:** Small ungulates, reptiles, small and large rodents, amphibians and insects.

**Mating season:** There appears to be no specific breeding season. Female gets sexually mature between 18 and 24 months, while males mature at 24 months. Females come into estrus every 39 days.

**Gestation period:** 78-80 days.

**Litter size:** 1-3.

**Life span:** 6 years.

**Conservation status:** Near Threatened

**FNCA 2023:** Nil



**Different colour morphs of Asiatic Golden Cats**



Common morph



Lightly rosetted morph



Spotted morph



Black morph



Gray morph

*Felid*





**Common Name:** Jungle Cat (Reed Cat, Swamp Cat)

**Scientific name:** *Felis chaus* (Schreber, 1777)

**Vernacular name:** Rejee (Dzo)

**Order:** Carnivora

**Family:** Felidae

**Description:** The jungle cat has uniformly sandy, reddish-brown or grey fur without spots. Melanistic and albino individuals are also known. Two molts can be observed in a year. The coat is rougher and lighter in summer than in winter. HBL: 60-85cm, TL: 20-30cm, 2.5-12kg.

**Behaviour and ecology:** It is solitary, except during the mating season and mother-kitten families. Its preferred prey is small mammals and birds. Adults maintain territories by urine spraying and scent marking. It hunts by stalking its prey followed by a sprint or a leap. The ears help in pinpointing the location of prey.

**Diet:** Birds, small rodents, reptiles and amphibians.

**Mating season:** January-March.

**Gestation period:** 60 days.

**Litter size:** 1-5.

**Life span:** 15-20 years.

**Conservation status:** Least Concern

**FNCA 2023:** Schedule II.





**Common Name:** Spotted Linsang (Tiger-Civet)  
**Scientific name:** *Prionodon pardicolor* (Hodgson,1842)  
**Vernacular name:** Zik-chum (Dzo), Silu biralo (Lho)  
**Order:** Carnivora  
**Suborder:** Feliformia  
**Family:** Prionodontidae

**Description:** This species has a low-slung weasel-like body and long tail. Richer in colouration than the other spotted civets. Coat ranges from the ochre-brown to deep buff and the spinal area is darker than the flanks. The black spots on its coat are set in lines off the spine while the markings on the flank vary from small spots to large patches. Legs and tail are also spotted with black and white rings. The cylindrical tail has eight or nine broad dark rings separated by narrow white rings. HBL: 35-40cm, TL: 2.5cm, Weight: 500-600gm.

**Behaviour and ecology:** Nocturnal, solitary and at least partly arboreal. It uses hollows in trees as resting and denning sites. It hunts on the ground and in trees. It has also been observed feeding on carcass. They spend the day sleeping in the nest in tree hollows or under the tree roots. Young are hidden in the trees or root hollows lined with dried vegetation where they may still stay until weaning.

**Diet:** Birds, insects, small reptiles, frogs, eggs and carrions.

**Mating season:** February, August.

**Gestation period:** 60-70 days.

**Litter size:** 1-2.

**Life span:** 10 years & 8 months (In captivity).

**Conservation status:** Least Concern

**FNCA 2023:** Schedule II.



Viverrid

**Common Name:** Himalayan Palm Civet (Masked Palm Civet/Gem-faced Civet)

**Scientific name:** *Paguma larvata* (Hamilton-Smith, 1827)

**Vernacular name:** Kasturi Biraloo (Lho)

**Order:** Carnivora

**Family:** Viverridae

**Description:** Coat is dark brown to black with grey-buff underparts. The tail is covered in a thick black hair but can have a greyish tip. The facial markings are unique to this civet with the dark “mask” clearly distinguishing it from other civet species. The lips, chin and throat are white. The species having a large repartition differences in morphological parameters can be observable in different populations. HBL: 50-60cm, TL: 40-50cm, Weight: 3-5kg.

**Behaviour and ecology:** Nocturnal, partly arboreal, frugivorous and solitary predator. Occasionally active during the day. The Masked Palm Civet occurs in forests. This species is recognized as more vegetarian than other species of civets. When alarmed, the animal sprays a secretion from its anal gland against the predator. The spray is similar in function to that of a skunk and its conspicuousness serves to deter other predators. By eating fruits, the civets play a very important role as seed dispersers through fecal material.

**Diet:** Figs, banana, mango, birds, rats, snakes, frogs and poultry.

**Mating season:** Early spring & late autumn.

**Gestation period:** 60 days.

**Litter size:** 2-5 litters.

**Life span:** 16-20 years.

**Conservation status:** Least Concern

**FNCA 2023:** Nil.





**Common Name:** Wild Dog (Dhole, Asiatic Wild Dog, Whistling Dog, Indian Wild Dog)

**Scientific name:** *Coun alpinus* (Pallas,1811)

**Vernacular name:** Phaaw (Dzo), Sawaar (Bul), Baan Kukur (Lho)

**Order:** Carnivora

**Family:** Canidae

**Description:** The general tone of the fur is reddish with the brightest hues occurring in winter. In the winter coat, the back is clothed in a saturated rusty-red to reddish colour with brownish highlights along the top of the head, neck and shoulders. The lower parts of the limbs are whitish with dark brownish bands on the anterior sides of the forelimbs. The muzzle and forehead are greyish-reddish. The tail is very luxuriant and fluffy, and is mainly of a reddish-ocherous colour with a dark brown tip. SH: 40-55cm, Weight: 15-20kg.

**Behaviour and ecology:** Dholes are primarily diurnal pack hunters. During hunting, one or more dholes may take over chasing their prey, while the rest of the pack keeps up at a steadier pace behind, taking over once the other group tires. Clans usually consist of about 12 individuals but groups of over 40 are known. They usually defecate in open areas in group.

**Diet:** Ungulates, wild pig, birds, domestic cattle, wild berries and lizard.

**Mating season:** Mid October-January.

**Gestation period:** 60-62 days.

**Litter size:** 4-6 pups.

**Life span:** 15-16 years.

**Conservation status:** Endangered

**FNCA 2023:** Schedule II.





Canid

**Common Name:** Red Fox

**Scientific name:** *Vulpes vulpes* (Linnaeus,1758)

**Vernacular name:** Ahaam (Dzo), Wooya (Bul)

**Order:** Carnivora

**Family:** Canidae

**Description:** The coat of the fox is commonly reddish above with a white under part but the long fur may also be sandy, russet, red brown, bright yellow, silver or even black. The colour varies between individuals as well as from season to season especially when the luxuriant winter coat is shed. The upper parts of the ears are velvety black and there is a black spot below each eye. The legs and white tipped tail are also dark gray to black. HBL: 50-70cm, Weight: 2-14kg.

**Behaviour and ecology:** Red foxes are omnivores with a highly varied diet. Red foxes are usually found in pairs or small groups consisting of families such as a mated pair and their young or a male with several females having kinship ties. The young of the mated pair remain with their parents to assist in caring for new kits.

**Diet:** Small rodent, squirrels, birds, reptiles, invertebrates and young ungulates. Fruit and vegetable matter is also eaten sometimes.

**Mating season:** December-February.

**Gestation period:**49-58 days.

**Litter size:** 4-6 kits

**Life span:** 3-4 years.

**Conservation status:** Least Concern

**FNCA 2023:** Schedule II.





**Common Name:** Asiatic Black Bear (Himalayan Black Bear)

**Scientific name:** *Ursus thibetanus* (G. Cuvier, 1823)

**Vernacular name:** Dhom (Dzo), Baalu (Lho), Omsa (Tsh), Waam (Bul)

**Order:** Carnivora

**Family:** Ursidae

**Description:** The Asiatic black bear has black fur, a light brown muzzle and a distinct whitish or creamy patch on the chest which is sometimes V-shaped. Its ears are bell shaped, proportionately longer than those of other bears and stick out sideways from the head. HBL: 120-150cm, TL: 11cm, Weight: 55-145kg.

**Behaviour and ecology:** Diurnal, nocturnal. It can smell buried food and can be seen digging furiously to get ants, bees and wasp. It climbs tree to obtain honey or fruits. Asiatic black bears break branches and twigs to place under themselves when feeding on trees thus causing many trees in their home ranges to have nest-like structures on their tops. Asiatic black bears prepare their dens for hibernation in mid-October and will hibernate from November until March. Pictorial evidences showed that bears are active even during winter in the park.

**Diet:** Honey, wild berries, nuts, roots and tubers.

**Mating season:** June-October.

**Gestation period:** 200-240 days.

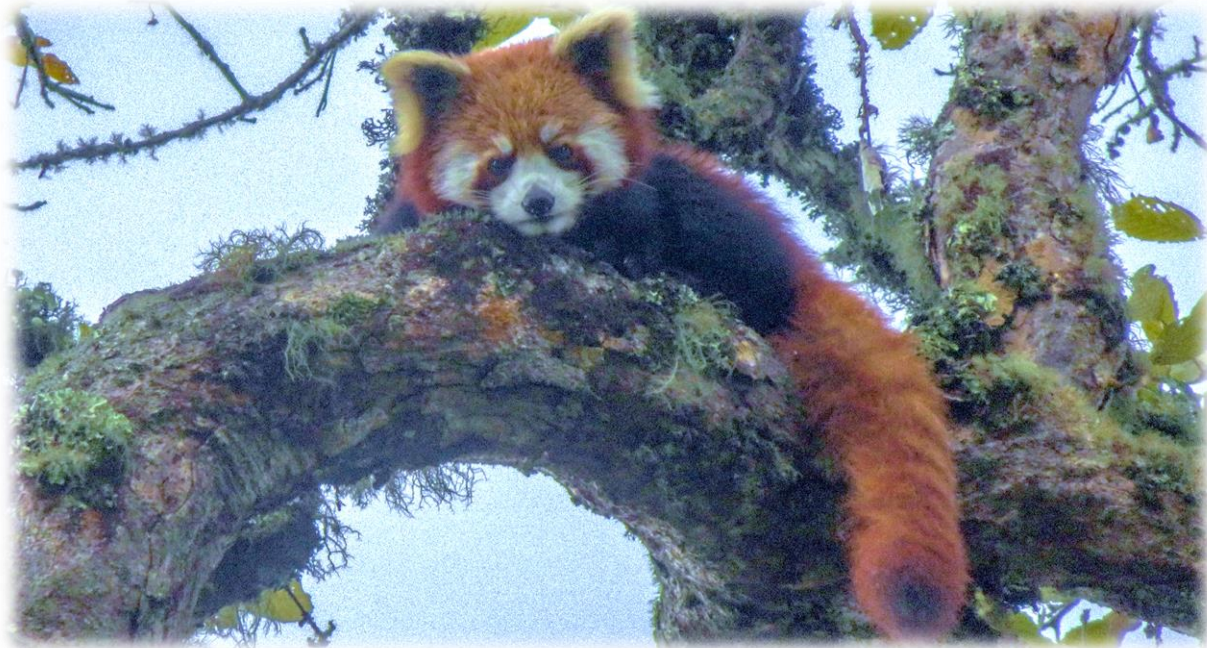
**Litter size:** 1-2 cubs.

**Life span:** 30 years.

**Conservation status:** Vulnerable

**FNCRR,2023:** Schedule II





*Ailurid*

**Common Name:** Red Panda

**Scientific name:** *Ailurus fulgens* (F.G. Cuvier, 1825)

**Vernacular name:** Acho Dongkar (Dzo), Woop (Bul)

**Order:** Carnivora

**Family:** Ailuridae

**Description:** It has dense reddish-brown fur with a black belly and legs, white-lined ears, a mostly white muzzle and a ringed tail. The hair on the soles of the paws allows the animal to walk in snow. HBL: 51–63.5 cm, TL: 28–48.5 cm, Weight: 3.2-15 kg.

**Behaviour and ecology:** Solitary, largely arboreal, nocturnal and crepuscular. The red panda inhabits coniferous forests as well as temperate broadleaf and mixed forests favouring steep slopes with dense bamboo cover close to water sources. They typically rest or sleep on trees or other elevated spaces stretched out prone on a branch with legs dangling when it is hot and curled up with its hindlimb over the face when it is cold. Red pandas observed in PNP used foremost easterly and southerly slopes with a mean slope of 34° and a canopy cover of 66% that were overgrown with bamboo about 23 m (75 ft) in height.

**Diet:** Bamboo shoots, young tree leaves, fruits, succulent grasses, acorns, lichens, bird's egg, insects and lizards.

**Mating season:** January-March.

**Gestation period:** 134 days.

**Litter size:** 1-2.

**Life span:** 12-14 years.

**Conservation status:** Endangered

**FNCA 2023:** Schedule II



**Common Name:** Eurasian Otter  
**Scientific name:** *Lutra lutra* (Linnaeus,1758)  
**Vernacular name:** Sam (Dzo), Ooth (Lho)  
**Order:** Carnivora  
**Family:** Mustelidae  
**Sub-family:** Lutrinae

**Description:** It has very dense coarse fur which is dark olive-brown on the back and lightens to a silvery brown on the throat and chest. The tail is thick and muscular at the base and tip is flat and paddle-shaped. Paws are large and webbed between digits. Nostrils are W-shaped. HBL:57-97cm, TL: 35-45cm, Weight: 7-12kg.

**Behaviour and ecology:** Eurasian Otter is predominantly nocturnal and strongly territorial. The Eurasian otter uses its feces called spraints to mark its territory and prioritize the use of resources to other group members. During summer (April - June) in the Himalayas they may ascend up to 3,660 m.

**Diet:** Fish, aquatic insects, reptiles, amphibians, birds, small mammals and crustaceans.

**Mating season:** March-April, June-July. Mating takes place year-round and in water.

**Gestation period:** 63-65 days.

**Litter size:** 1-5.

**Life span:** 5-7 years.

**Conservation status:** Near Threatened

**FNCA 2023:** Schedule II.





Mustelid

**Common Name:** Asian Small-clawed Otter

**Scientific name:** *Aonyx cinereus* (Illiger, 1815)

**Vernacular name:** Sam (Dzo)

**Order:** Carnivora

**Family:** Mustelidae

**Description:** The Asian small-clawed otter is an otter species native to South and Southeast Asia. It is mostly active after dark. It has short claws that do not extend beyond the pads of its webbed digits. It is the smallest otter species in the world. It has deep brown fur with some rufous tinge on the back but paler below. Its underfur is lighter near the base. The sides of the neck and head are brown but its cheek, upperlip, chin, throat and side of the neck are whitish. The muzzle has long coarse vibrissae on either side. The small ears are oval-shaped. The claws are short, almost erect and in some individuals even absent. HBL:40-52cm, TL: 23-33cm, Weight: 2.7-5.4kg.

**Behaviour and ecology:** They wander further away from the river than the other species between patches of reeds and river debris where crabs were more likely to be found. Asian small-clawed otters are a very vocal species and have a vocabulary of at least twelve different vocalizations.

**Diet:** Fish, crabs, mudskippers, insects, reptiles, amphibians, birds, small mammals and crustaceans.

**Mating season:** The most successful breeding occurs between 1.5-3 years old. Once they are sexually matured, they can breed year round.

**Gestation period:** 60-86 days.

**Litter size:** 2-7.

**Life span:** 11 years.

**Conservation status:** Vulnerable

**FNCA 2023:** Schedule II.



Mustelid

**Common Name:** Mountain Weasel (Pale Weasel, Altai Weasel)

**Scientific name:** *Mustela Altaica* (Pallas,1811)

**Vernacular name:** Thee Phee (Tsh)

**Order:** Carnivora

**Family:** Mustelidae

**Description:** This species undergoes seasonal molts during the spring and autumn. The summer coat consists of gray to gray-brown fur with some light yellow while the winter fur is more of a dark yellow with some brown. In both coats, the underbelly is pale yellow to creamy white. The upper head between the muzzle and ears is usually darker gray-brown. The tail may be more rufous than the back. The lips are white and the chin has grayish-brown vibrissae. HBL: 25.6 cm, TL: 13.5cm, Weight: 150-350 gm.

**Behaviour and ecology:** Nocturnal, Diurnal. It is ground-dwelling but climbing readily on rock-piles and fallen wood. Although solitary, they communicate with each other visually and vocally. They also communicate by sound to warn off possible predators to protect their territories and when mating. When threatened, they emit a loud chirring sound and excrete a foul, pungent odor from their anal glands. The mountain weasel is capable of climbing, running and swimming. They probably play an important role in regulating the population of small mammals such as mice and voles.

**Diet:** Rodents, pikas, voles, small birds, bird eggs, lizards, fish, frog and insects.

**Mating season:** February or March.

**Gestation period:**32-49 days.

**Litter size:**1-8.

**Life span:**7-10 years.

**Conservation status:** Near Threatened

**FNCA 2023:** Schedule III.





**Common Name:** Siberian Weasel (Kolonok, Himalayan Weasel)

**Scientific name:** *Mustela sibirica* (Pallas, 1773)

**Vernacular name:** Neori moussa (Lho)

**Order:** Carnivora

**Family:** Mustelidae

**Description:** It has a long stretched out body with relatively short legs. Its head is elongated, narrow and relatively small and its short ears are broad at the base. Its tail is half the length of its body. Its winter fur is very dense, soft and fluffy with guard hairs reaching 3–4 cm (1.2–1.6 in) in length. The underfur is dense and loose fitting. Are monotone in colour being bright reddish-ocherous or straw-red, though orange or peach tones are sometimes noticeable on the skin. These tones are especially bright on the back while the flanks and underbelly are paler. A dark, coffee-brown mask is present on the face. Tails are more brightly coloured than the back and are fluffier than those of other members of the genus. The lips and chins are white or slightly ochreous. The front of the muzzle is darker than the remaining parts of the head. HBL: 28-39cm, TL: 15-21 cm, Weight: 650-820 gm.

**Behaviour and ecology:** Largely diurnal. Builds its nest inside fallen logs, empty stumps, brushwood piles and exposed tree roots. Uses and enlarges the dens of other species. Adults have a permanent burrow and up to five temporary shelters which may be separated from each other by several kilometers. They build a nesting chamber in the middle or end of the burrow and line it with bird feathers and rodent hair. They are active hunters and chase prey through snow, logs, water and people's houses.

**Diet:** Voles, squirrels, small birds, mice, pika, fish, amphibians and carrions.

**Mating season:** February-March.

**Gestation period:** 38-41 days.

**Litter size:** 4-10.

**Life span:** 2.1 years.

**Conservation status:** Least Concern

**FNCA 2023:** Nil.





**Common Name:** Yellow-throated Marten

**Scientific name:** *Martes flavigula* (Boddaert, 1785)

**Vernacular name:** Acho Nee Nee (Dzo). Zhidangla (Bul), Gawongma (Tsh), Malsapro (Lho)

**Order:** Carnivora

**Family:** Mustelidae

**Description:** Yellow-throated Marten is considerably bigger than the Beech or Stone Marten. It has a black head and yellow body and long black tail. They have longer limbs than most of the members of the genus *Martes*. Non-retractile claws help animal in climbing. HBL: 40-60 cm, TL: Weight: 3-3.4kg.

**Behaviour and ecology:** Generally active during the day but may also hunt during night when near human habitation. They are usually found in pairs. The yellow-throated marten holds extensive but not permanent home-ranges. It actively patrols its territory having been known to cover over 10 to 20 km in a single day and night. They mark territory by rubbing scent gland on conspicuous trees or stones. It primarily hunts on the ground but can climb trees proficiently being capable of making jumps up to 8 to 9 meters in distance between branches.

**Diet:** Squirrels, birds, snakes, and lizards, insects, eggs, frogs, fruit and nectar.

**Mating season:** Mid February-late March, June-early August.

**Gestation period:** 222-290 days.

**Litter size:** 2-3.

**Life span:** 14 years.

**Conservation status:** Least Concern

**FNCA 2023:** Schedule III





**Common Name:** Beech Marten (Stone Marten, House Marten, White-breasted Marten)

**Scientific name:** *Martes foina* (Erxleben, 1777)

**Vernacular name:** Himali Malsampro (Lho)

**Order:** Carnivora

**Family:** Mustelidae

**Description:** Lighter coloured than other martens, chocolate to drab tawny-brown. Its throat is white to pale yellow. Legs and tails darker than the body. Males are larger than females.

**Behaviour and ecology:** Crepuscular, nocturnal. Stone Martens occur in the temperate and alpine zones of the Himalayas, deciduous forests, forest edge, open rocky hillsides and undisturbed forests. The beech marten does not dig burrows nor does it occupy those of other animals. Instead, it nests in naturally occurring fissures and clefts in rocks, spaces between stones in rock slides and inhabited or uninhabited stone structures. It may live in tree holes at a height of up to 9 m.

**Diet:** Voles, squirrels, birds, lizards, snakes, frogs, honey, nuts and fruits.

**Mating season:** June-July.

**Gestation period:** 63 days.

**Litter size:** 4-5.

**Life span:** 217.2 months.

**Conservation status:** Least Concern

**FNCA 2023:** Nil.



**Common Name:** Royle's Pika

**Scientific name:** *Ochotona roylei* (Ogilby, 1839)

**Vernacular name:** Jetse Gomchen (Dzo), Brawa (Bul)

**Order:** Lagomorpha

**Family:** Ochotonidae

**Description:** Has rounded ears, short legs and devoid of tails. They have little longer front legs than the rear ones. During summer the head, shoulders and fore part of the body are bright chestnut colored becoming darker on the throat. The remainder of the dorsal surface is dark grayish rufous. Ventral part of its body fur consists of the coloration which ranges from white to grayish white to dark gray. It has a slightly arched head with a rufous-grey body and chestnut-colored head as well as sparse hair in front of its ears. HBL: 17-22cm, Head diameter: 7cm, Weight: 100-150 gm.

**Behaviour and ecology:** Diurnal, crepuscular. It does not make its own nest rather it takes narrow creeks and existing burrow systems as its nest filling it with hay piles and pine leaves. This species generally lives at lower elevations than the Large-eared Pika (*Ochotona macrotis*). They live under rocks, fallen snags, under tree trunks and inside holes. They make pathways in different directions through grasses for feeding and escaping predators. The warning call the pika is a sharp bark or whistle with the body jerking forward and upward with each call although this pika is less vocal than other species.

**Diet:** Grasses, sedges, lichen, hay.

**Mating season:** Late spring & summer.

**Gestation period:** 30 days

**Litter size:** 4

**Life span:** 1-3 years

**Conservation status:** Least Concern

**FNCA 2023:** Nil





**Common Name:** Large-eared Pika  
**Scientific name:** *Ochotona macrotis* (Gunther,1875)  
**Vernacular name:** Jetse Gomchen.(Dzo)  
**Order:** Lagomorpha  
**Family:** Ochotonidae

**Description:** Large-eared pikas are similar physically to Royle's pika but with larger ears. HBL: 150-200mm. Weight: 120gm. It is found between elevation range of 2300-6100 masl.

**Behaviour and ecology:** Diurnal. Unlike other pikas, Large-eared pika does not hibernate during winter and do not perform hay gathering. This pika give nocturnal call and also uses pheromone to communicate each other.

**Diet:** Grasses, sedge, lichens, mosses, twigs and flowers.

**Mating season:** Late spring & early summer.

**Gestation period:** 30 days

**Litter size:** 2

**Life span:** 1-3 years

**Conservation status:** Least Concern

**FNCA 2023:** Nil



**Common Name:** Glover's Pika

**Scientific name:** *Ochotona gloveri* (Thomas,1922)

**Vernacular name:** Jetse Gomchen (Dzo)

**Order:** Lagomorpha

**Family:** Ochotonidae

**Description:** The summer dorsal pelage is grayish rufous, grayish brown or tea brown in colour. The winter pelage is similar to the summer pelage but is lighter in tone. It is found in high altitudes of northeastern Tibet, southwestern Qinghai, western Sichuan, and northwestern Yunnan.. Ears are thin haired and light chestnut, orange, or orange brown colored. **Its** endemic to China EL: 3.1-3.9 cm. HBL: 16-22 cm, Weight: 140-300 gm.

**Behaviour and ecology:** It is a generalist herbivore and is known to construct haypiles. It is typically found in high elevations ranging from 3500-4200 masl.

**Diet:** Mosses, lichens, grasses, herbs.

**Mating season:** Early Spring & Summer.

**Gestation period:** 25-30 days.

**Litter size:** 1-6.

**Life span:** 2-7 years.

**Conservation status:** Least Concern

**FNCA 2023:** Nil





**Common Name:** Hoary-bellied Squirrel (Irrawady Squirrel)

**Scientific name:** *Callosciurus pygerythrus* (I. Geoffroy Saint Hilaire, 1832)

**Vernacular name:** Tshingayta (Dzo), Totorla (Bul), Lokhorkay (Lho)

**Order:** Rodentia

**Family:** Sciuridae

**Description:** It varies in fur color; some squirrels being greyish-brown and reddish-brown with some squirrels being grizzled. Some squirrels have dark tips of their tails and pale hip patches. It can be found between elevation range of 400-1500masl. They are found in groups chasing each other during mating season. HBL:  $\pm 20$  cm, TL:  $\pm 20$  cm. Weight: approximately 45 gm.

**Behaviour and ecology:** Diurnal, arboreal. This occurs in subtropical forests in lower elevations in chirpine and broadleaved forests. They are also found in gardens, shifting cultivation fallows and plantations. Densities are higher in heavily degraded habitats than in little-encroached ones. It fetches collected water in bamboo and from young twigs. They are so vocal and chase each other during mating. 2-6 of these squirrels were found during mating season.

**Diet:** Flowers, fruits, bark, seed, leaves, insects, lichen and occasionally vertebrate.

**Mating season:** May-June.

**Gestation period:** Unknown

**Litter size:** 3-4.

**Life span:** Unknown

**Conservation status:** Least concerned

**FNCA 2023:** Nil



**Common Name:** Red-bellied Squirrel (Sulawesi giant squirrel)

**Scientific name:** *Rubrisciurus rubriventer* (Müller and Schlegel, 1844)

**Vernacular name:** Shing gayta (Dzo)

**Order:** Rodentia

**Family:** Sciuridae

**Description:** The colour of the pelt varies considerably between the many different subspecies but is generally brownish on the upper body with a more reddish tint on the belly and often with some black on the tail. HBL: 16-28cm, TL: 11-26 cm, Weight: 310-460 gm.

**Behaviour and ecology:** Diurnal, arboreal. Inhabit much of the forest canopy and construct both leaf nests above the ground and less commonly in burrows. Like many other squirrels, they have been observed to cache acorns in the autumn. They make calls to warn neighbours of predators. Males also make loud calls both prior to and after mating.

**Diet:** Leaves, flowers, seeds, fruits, insects and bird eggs.

**Mating season:** February, March.

**Gestation period:** 47-49 days.

**Litter size:** 4

**Life span:** 17 years

**Conservation status:** Least Concern

**FNCA 2023:** Nil





**Common Name:** Orange-bellied Himalayan Squirrel

**Scientific name:** *Dremomys lokriah* (Hodgson, 1836)

**Vernacular name:** Shingay gayta (Dzo)

**Order:** Rodentia

**Family:** Sciuridae

**Description:** Medium sized forest squirrel with bright orange throat, chest and belly. It has chunky body, short limbs, small ears and a pointed snout. Orange-bellied squirrel is similar in size and appearance dorsally to Red-bellied squirrel. Former can be distinguished from latter by bright yellow, red to orange coloured ventral pelage. Throat and chest are always bright yellow, red to orange coloured. The tail is a little longer than the body. HBL: 20cm.

**Behaviour and ecology:** Diurnal, arboreal. Occurs in forests including subtropical and oak-rhododendron forests and oak, bamboo, fir and pine forest patches. It lives in the holes generally low down in the trunk. It has characteristic repeated call with sharp squeaky chatters. It hides itself by lying flat along the branch of trees. It frequently comes down to ground for feeding.

**Diet:** Fruits, berries, grubs found under bark, insects and nuts.

**Mating season:** August (Suspected).

**Gestation period:** 36-40 days.

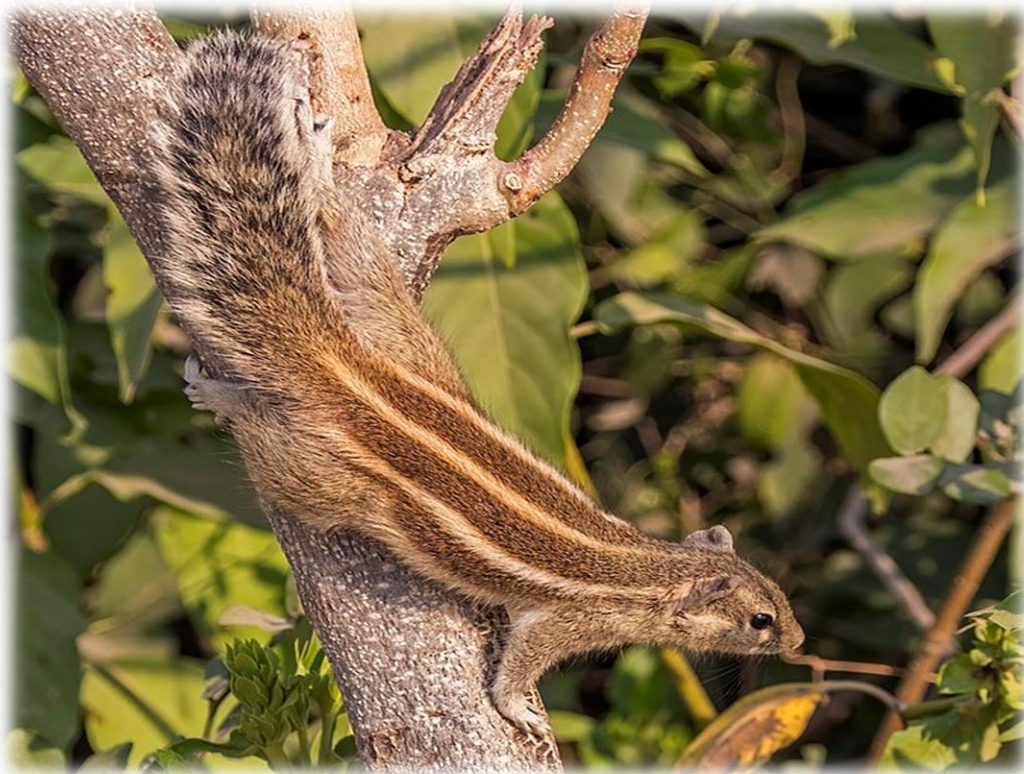
**Litter size:** 2-5

**Life span:** 85.2 months.

**Conservation status:** Least concern

**FNCA 2023:** Nil





**Common Name:** Five-striped Palm Squirrel (Northern Palm Squirrel)

**Scientific name:** *Funambulus pennantii* (Moore & Tate, 1965)

**Vernacular name:** Shing gayta (Dzo), Chulungma (Bul), Dharkay (Lho)

**Order:** Rodentia

**Family:** Sciuridae

**Description:** Tail is nearly as long as head body length or slightly more or less. Dorsal surface of the body has five light (whitish or pale) stripes separated by four dark brown bands. Head and limbs tend to be greyish but feet is pale often whitish. The pale stripes flanking on either side of the mid-dorsal stripe tend to be nearly as long. Ventral pelage is white, whitish, whitish grey to dirty white in colour. Dorsal hairs of hoary tail are whitish or greyish white flecked with black or blackish alternately and then white terminally. HB: 111-144.5mm, TL: 84.8-156.8mm.

**Behaviour and ecology:** Semi-arboreal. Found in tropical and subtropical dry deciduous forests and many other rural and urban habitats. It is a common species with a wide range distribution. It produces characteristic bird-like repeated shrill. Female builds a globular nest.

**Diet:** Fruits, nuts, buds, nectar, insects, bird eggs, berries, seeds, dipteran larvae and coleopteran larvae.

**Mating season:** Begins by June.

**Gestation period:** 40-45 days.

**Litter size:** 2-4.

**Life span:** Unknown

**Conservation status:** Least concern

**FNCA 2023:** Nil





**Common Name:** Himalayan Striped Squirrel (Western striped squirrel, Burmese striped squirrel)

**Scientific name:** *Tamiops macclellandi* (Horsfield, 1840)

**Vernacular name:** Shing gayta (Dzo)

**Order:** Rodentia

**Family:** Sciuridae

**Description:** The thickness and length of the alternating cream and dark brown dorsal stripes is the key identifying feature and is diagnostic in distinguishing it from other larger striped squirrels. In this species, the stripes are thick and bold and run from near the eye to the base of the tail which is narrow and short-haired. HBL: 11cm, TL: 11cm.

**Behaviour and ecology:** **Diurnal, exclusively arboreal.** It is highly adaptable to habitat degradation. They are also found in association with humans in fruit trees and coconut palm plantations. The striped pattern serves as an effective camouflage on fissured tree trunks. It is often seen in small groups and uses tree holes for shelter. It's a talkative and able to make a variety of sounds.

**Diet:** Nuts, fruits, seeds, insects and bird eggs.

**Mating season:** January onwards.

**Gestation period:** 38 days

**Litter size:** 2-3.

**Life span:** 6-8 years (In captivity).

**Conservation status:** Least concern

**FNCA 2023:** Nil



**Common Name:** *Black Giant Squirrel (Malayan Giant Squirrel)*

**Scientific name:** *Ratufa bicolor* (Sparman, 1778)

**Vernacular name:** Puray (Lho), Dombrangkar (Kur)

**Order:** Rodentia

**Family:** Sciuridae

**Description:** This species is typically distinctly bi-coloured with dark upperparts and pale underparts. The back, top of the head, ears and bushy tail are deep brown to black and the underparts are light buff-coloured. The dark brownish black of the face extends around the eyes and the ears. They are one of the largest members of the squirrel family. Tail is nearly equal or longer (normally 120% of HB) than the head-body length. HB: 260-580mm, TL: 250-600mm, Weight: 1.5-3kg.

**Behaviour and ecology:** Diurnal, arboreal. It is primarily solitary. Feeds occasionally on the forest floor. It is found to occupy tree hollows in mid high canopy. It is primarily solitary construct drey (or nest) often located within a hollow space of a tree.

**Diet:** Birds, primates, seeds, pine cones, fruits and leaves.

**Mating season:** Breeds twice in a year (March-April, July-August).

**Gestation period:** 28-35 days.

**Litter size:** 1-2.

**Life span:** 8-9 years.

**Conservation status:** Near Threatened

**FNCRR, 2023:** Nil





**Common Name:** Particoloured Flying Squirrel

**Scientific name:** *Hylopetes alboniger* (Hodgson, 1836)

**Vernacular name:** Shing gayta (Dzo), Saawya (Bul), Threng threngma (Kur)

**Order:** Rodentia

**Family:** Sciuridae

**Description:** It has soft and dense moderately long fur. It has dorsoventrally flattened tail. Dorsal pelage ranges from greyish, greyish brown or reddish brown to rufous brown with white to pale patches at the Tshoulders. The dorsal fur is dark (ashy or black) at the base and drab at the tip. The ventral pelage exhibits a generally grey effect with hairs mostly bluish-grey but white at throat and chest. Base of the ventral fur is dark grey. HB: 192mm-300mm, TL: 164-300mm, EL: 28-32mm.

**Behaviour and ecology:** Arboreal, nocturnal. It is found in tropical and subtropical montane forests and in more temperate oak and rhododendron forests with elevation ranging between 100 – 4000 masl. It is an excellent glider and can glide up to 110 m. *Hylopetes alboniger* is one of two squirrels (the other is *Hylopetes phayrei electilis*) that hang elliptical or oblate nuts securely in vegetation. They carve grooves into the nuts using them to fix the nuts tightly between small intersecting twigs, reminiscent of the mortise-tenon joint in carpentry. Strategically these cache sites are 10–25 m away from the nearest nut-producing tree reducing potential theft. This behavior not only ensures secure storage but may also influence the forest's tree distribution. The nest is globular made up of oak leaves and ferns lined with fine grasses. It sleeps curled up in a ball either on its sides or with its belly downward.

**Diet:** Flowers, fruits, buds, nuts and tree sapling.

**Mating season:** Late winter (January).

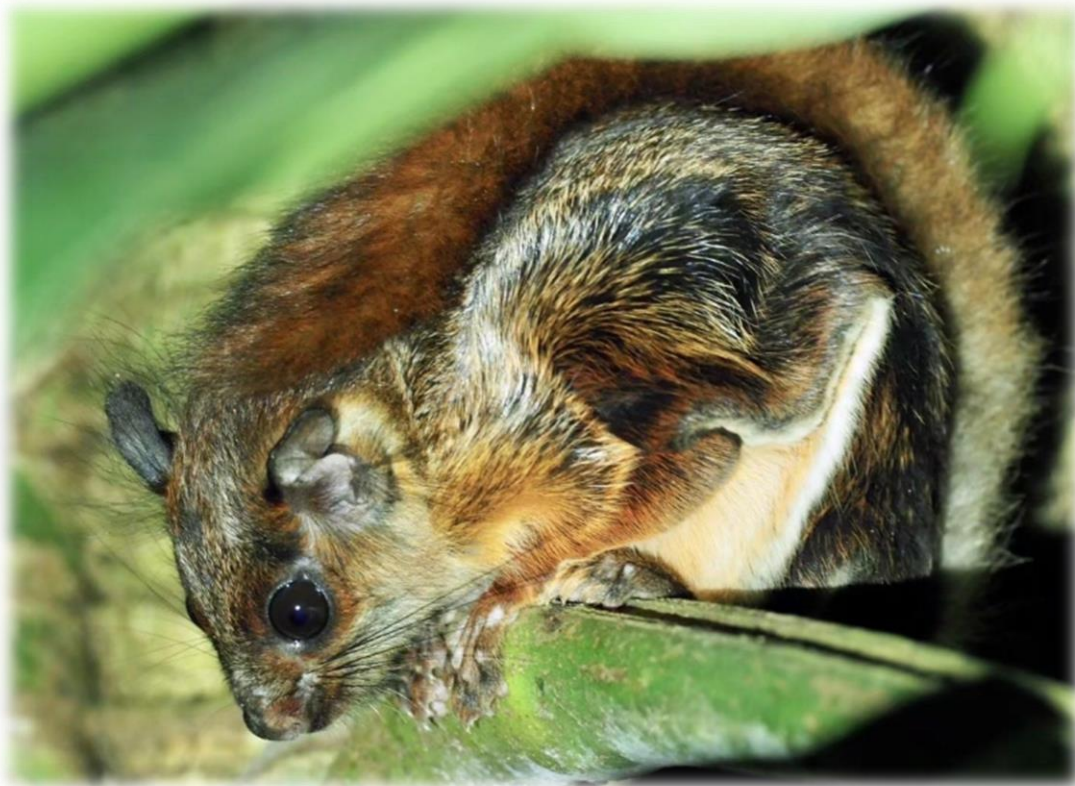
**Gestation period:** 40-45 days.

**Litter size:** 2-3.

**Life span:** 6 years.

**Conservation status:** Least Concern

**FNCRR, 2023:** Nil



**Common Name:** Hairy-footed Flying Squirrel,  
**Scientific name:** *Belomys pearsonii* (Gray, 1842)  
**Vernacular name:** Unknown

**Order:** Rodentia  
**Family:** Sciuridae

**Description:** The fur is red-brown on the top and white at the bottom. Characteristics are the long hair at the feet which even covers the claws to protect against the cold in the higher altitudes. Feet are paler and covered in fur. The tail is short, bushy, and light brown.  
HBL: 22 cm, TL:13 cm, Weight: 156 gm.

**Behaviour and ecology:** Nocturnal, arboreal. It occurs in temperate and subtropical dry deciduous forests. It has been found to occupy tree hollows of dense broadleaved forest patches and also in rock crevices. It appears to be limited to primary forest habitat. It's found at elevations of 800–2400 masl.

**Diet:** Leaves, fruits, oak leaves and needles of pine.  
**Mating season:** Unknown  
**Gestation period:** Unknown  
**Litter size:** 1-2.  
**Life span:** 5-6 years.  
**Conservation status:** Data Deficient  
**FNCA 2023:** Nil





**Common Name:** Bhutan Giant Flying Squirrel (Gray's Giant Flying squirrel, Noble Giant Flying Squirrel)

**Scientific name:** *Petaurista nobilis* (Gray, 1842)

**Vernacular name:** Ruspangkhee (Lho)

**Order:** Rodentia

**Family:** Sciuridae

**Description:** Pelage is thick, woolly, soft and glossy. Dorsal pelage is bright chestnut-brown with hairs pale rufous at the base and yellow at the tip. Shoulders and thighs, ventral part of gliding membrane in between lower limbs and tail is intense orange red. Gliding membrane is larger too. Margin of gliding membrane is ochraceous. Limbs and areas surrounding eyes are black, chin dark, cheeks mixed, a pale golden spot on the nasal bridge. Tail is cylindrical and generally larger than head body. HB: 490mm, TL: 460mm, Weight: 2710gm.

**Behaviour and ecology:** Arboreal, crepuscular and nocturnal. It occurs in tropical and subtropical montane, montane pine and rhododendron forests. Like other flying squirrels, it is able to glide (not actually fly like a bat) long distances between trees by spreading out its patagium. They are mostly found between 1500 and 3000 masl.

**Diet:** Acorn, young leaves and shoots.

**Mating season:** March, April.

**Gestation period:** 60-65 days.

**Litter size:** 1.

**Life span:** 10-15 years.

**Conservation status:** Near Threatened

**FNCRR, 2023:** Schedule II



**Common Name:** Himalayan Crestless Porcupine (Malayan Porcupine)

**Scientific name:** *Hystrix brachyura* (Linnaeus,1758)

**Vernacular name:** Bje Thue (Dzo), Zumphee (Tsh), Useela (Bul), Dhomshe (Lho)

**Order:** Rodentia

**Family:** Sciuridae

**Description:** It is a large and stout-bodied rodent covered with quills which are sharp, rigid structures. The quills are modified hair. Those on their upper body parts are rough with black with white or yellow stripes. The young's soft quills become hard as they enter adulthood. They have short, stocky legs covered in brown hairs which have four claws on the front and five on the hind legs. Both front and hind legs have smooth soles. No crest on the head, neck and shoulder. The large quills of the back and croup are 15-30cm long, mostly with one central black ring. HBL: 56-74 cm, TL: 6-11 cm, Weight: 10-18 kg.

**Behaviour and ecology:** Nocturnal. It forages at night and rests during the day. It may be found single or in pairs. It can also swim and gnaw. The sow usually delivers a single pup at a time but delivering two pups has also been recorded. The new born has fur, open eyes, and quills hours after birth. When attacked, it erects quill, rattles them together (sound threat) and stamps its feet, failing which it charges and stabs its enemy with its quill and causes deep wounds. It has only one black band on the quill.

**Diet:** Roots, tubers, carrion, bark, fallen fruits, insects and large tropical tree seeds.

**Mating season:** September.

**Gestation period:** 90-112 days.

**Litter size:** 1-2.

**Life span:** 27 years.

**Conservation status:** Least Concern

**FNCA 2023:** Nil





**Common Name:** Greater Bandicoot Rat (Large Bandicoot Rat)

**Scientific name:** *Bandicota indica* (Bechstein, 1800)

**Vernacular name:** *Bjetse* (Dzo), *Musa* (Lho)

**Order:** Rodentia

**Family:** Muridae

**Description:** The greater bandicoot rat has a dark gray-brown upper parts with a profusion of long, black hairs. Sides are gray with a few long black hairs. Short, light gray fur occurs on the ventral surfaces. It has a dark and naked scaly tail and dark feet with light-colored claws. The young are much lighter in colour. BL:27-29cm, TL: 28cm, Weight: 580gm.

**Behaviour and ecology:** Terrestrial, borrowing, nocturnal and solitary. Large, aggressive bandicoot rats erect their guard hairs on their backs and emit grunts when disturbed. This species is commonly found in fields, villages and cities. Naturally it is found in swampy areas and is especially common in lowland rice fields. They construct burrows in stream banks, paddy dikes and the edges of fields. They're so aggressive that sometimes dogs and cats are afraid of these bandicoot rat. Burrowing habits cause great damage to grounds and flooring, as they can also tunnel through brick and masonry. Their characteristic large burrows give away their presence.

**Diet:** Insects, grains, plant food and vegetables.

**Mating season:** Unknown.

**Gestation period:** 20 days.

**Litter size:** 8-14.

**Life span:** 1 year.

**Conservation status:** Least Concern

**FNCA 2023:** Nil



**Common Name:** Himalayan Little Rat (Smoked-bellied Rat)

**Scientific name:** *Niviventer eha* (Wroughton,1916)

**Vernacular name:** Unknown

**Order:** Rodentia

**Family:** Muridae

**Description:** This species is found in wet montane coniferous forest, rhododendron forests and bamboo Tshrubs. The soft fur on the flanks is brightly coloured and more greyish on the back. The belly is paler and often described as smoky. Tails are much longer than body. HBL: 9-14cm, Tail: 16-21cm, Weight: 21-63 gm.

**Behaviour and ecology:** Terrestrial, nocturnal. Able to survive in disturbed habitats such as secondary forests.

**Diet:** Insects, seeds, flowers, nuts, preferring larvae, fruit and starchy roots.

**Mating season:** Unknown.

**Gestation period:** 21-23 days.

**Litter size:** 1-2.

**Life span:** 1-2 years.

**Conservation status:** Least Concern

**FNCA 2023:** Nil





**Common Name:** Himalayan Field Rat (White-footed Indo-Chinese Rat)

**Scientific name:** *Rattus nitidus* (Hogson,1845)

**Vernacular name:** Bjetse (Dzo)

**Order:** Rodentia

**Family:** Muridae

**Description:** It's a small commensal hill rat. There is dark grey-brown fur above and dull grey or pale below. Its back has a dark mid-dorsal patch or line. The short guard hairs do not protrude out of the contour hairs giving it a much sleeker look than other rats. Feet yellow or white, tail dark and naked, longer than the head and body. The hind feet are narrow and the soles have ridges which provides extra grip when the animal is climbing. HBL: 160-180 mm.

**Behaviour and ecology:** Six pairs of mammae, thereby distinguishing it from *Rattus rattus*.

**Diet:** Fruits, seeds and cereals.

**Mating season:** March, November.

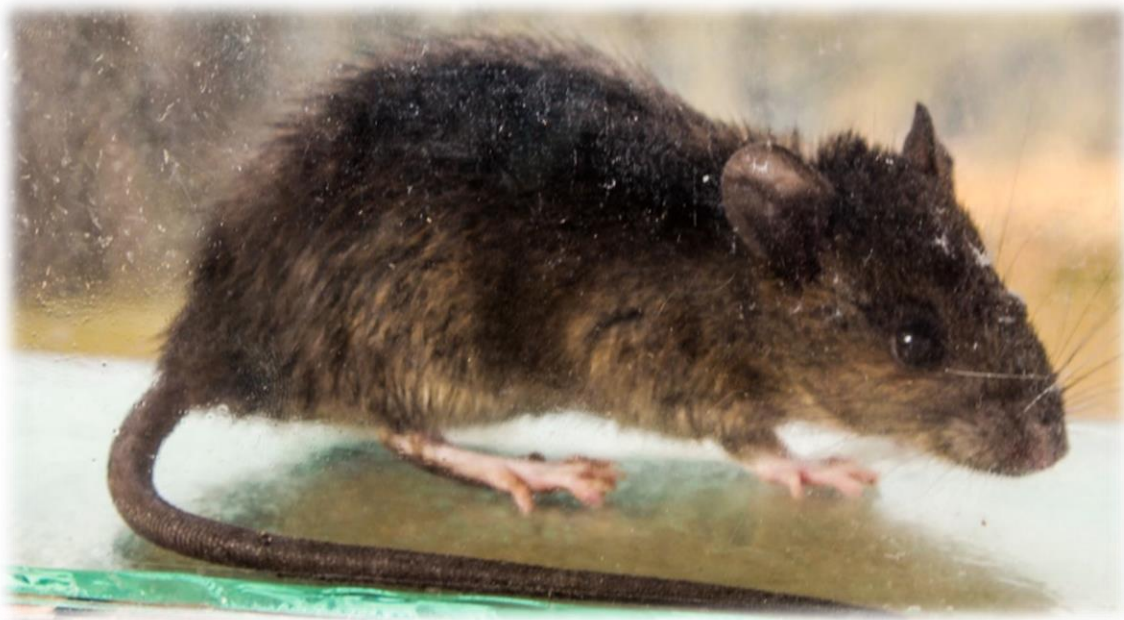
**Gestation period:** 20-22 days.

**Litter size:** 1-8.

**Life span:** 1 year.

**Conservation status:** Least Concern

**FNCA 2023:** Nil



**Common Name:** House Rat (Black Rat, Roof Rat, Ship Rat)

**Scientific name:** *Rattus rattus* (Linnaeus, 1758)

**Vernacular name:** Bjetse (Dzo), Ghar Musa (Lho)

**Order:** Rodentia

**Family:** Muridae

**Description:** The black rat is black to light brown in colour with a lighter underside. Its tail is longer than or as long as head and body. The tail has distinct ring mark. Despite its name, the black rat exhibits several colour forms. It is usually black to light brown in colour with a lighter underside. HBL: 12-18cm, Weight: 75-230 gm.

**Behaviour and ecology:** Diurnal, nocturnal. It is a generalist omnivore and a serious pest to farmers because it feeds on a wide range of agricultural crops. It has no confined latrine. It defecates even while feeding. They fight each other while feeding.

**Diet:** Seeds, grains, fruits, leaves, stem, fungi, invertebrates, vertebrates and human food etc.

**Mating season:** Spring & Summer.

**Gestation period:** 23 days.

**Litter size:** 3-5

**Life span:** 12 months.

**Conservation status:** Least Concern

**FNCA 2023:** Nil





**Common Name:** Lesser Bamboo Rat

**Scientific name:** *Cannomys badius* (Hodgson,1841)

**Vernacular name:** Unknown

**Order:** Rodentia

**Family:** Spalacidae

**Description:** The lesser bamboo rat is a small, stocky mole-like rat. The ears are small and completely hidden in the coat. The fur is soft and dense, reddish-brown to greyish-brown on the upper parts and rather paler and thinner on the underparts. Sometimes, white stripes are on the crown of the head or some white on the throat. The tail has a few hairs. Lesser bamboo rats have a robust, cylindrical body, small ears and eyes, short and stout legs. They have long powerful digging claws, incisors and smooth pads on the soles of the feet. BL: 200mm, TL: 60mm. Weight: 210-340 gm.

**Behaviour and ecology:** This rat can be seen in bamboo groves. The lesser bamboo rat emerges above ground at dusk to forage for plant material such as shoots especially of bamboo and roots. The burrow entrance may be at the foot of a tree, under a clump of bamboo, in a bank or in the open. Excavated earth is flung up in a mound at the entrance of the tunnel and further mounds occur at intervals along the course of the burrow. The main tunnel runs horizontally beneath the surface and may reach a depth of 60 cm and total length as long as 58 m. It ends in a roomy nesting chamber. When the animal is underground, the entrance of the burrow is plugged with earth.

**Diet:** Bamboo shoots and roots, young shoots of grasses and other roots.

**Mating season:** Late spring to early summer.

**Gestation period:** 42 days.

**Litter size:** 1-5.

**Life span:** 3 years.

**Conservation status:** Least Concern

**FNCA 2023:** Nil





**Common Name:** Brown Rat (Common Rat, Street Rat, Sewer Rat, Wharf Rat, Hanover Rat, Norway Rat)

**Scientific name:** *Rattus norvegicus* (Berkenhout, 1769)

**Vernacular name:** Unknown

**Order:** Rodentia

**Family:** Muridae

**Description:** The fur is usually brown or dark grey while the underparts are lighter grey or brown. The brown rat is a rather large murid and can weigh twice as much as a black rat (*Rattus rattus*) and many times more than a house mouse (*Mus musculus*). Tail is slightly shorter than body. The tail is scaly, dark above and pale underneath and usually a little shorter than the head and body combined. This distinguishes it from the black rat whose tail is longer than the head and body and is of a uniform dark colour. The hairless ears of the brown rat are smaller than those of the black rat. HBL: 15-28cm, TL: 10-24 cm. Weight: 40-500 gm.

**Behaviour and ecology:** Omnivores, nocturnal and good swimmer. Brown rats dig well and often excavate extensive burrow systems. This species is present in lowland and coastal regions wherever humans are. It is more common in colder climates (e.g. at higher northern and southern latitudes); in warmer and tropical regions it is restricted to habitats highly modified by humans (sewers, buildings, ports, etc.). It does not compete with House Rat as the latter is scansorial/arboreal whereas Brown Rat is strictly terrestrial.

**Diet:** Cereals.

**Mating season:** Spring and fall.

**Gestation period:** 21 Days.

**Litter size:** 4-6.

**Life span:** 3 years.

**Conservation status:** Least Concern

**FNCA 2023:** Nil





**Common Name:** Chesnut White-bellied Rat (Chesnut Rat)

**Scientific name:** *Niviventer fulvescens* (Gray, 1847)

**Vernacular name:** Unknown

**Order:** Rodentia

**Family:** Muridae

**Description:** It is a small rodent with a bright chestnut-colored upper coat and white undercoat. The topcoat color varies from very light brown to dull brown. The sides of the body have a distinct margin where the upper and lower coat meet. The upper side of the tail is mostly brownish while the underside is whitish to flesh-colored. Long ear and sharp muzzle. HBL: 15 cm, TL: 18 cm.

**Behaviour and ecology:** Fossorial, nocturnal, arboreal and territorial. The species is known to scatter-hoard seeds in forests of eastern Himalayas. It's known for dispersing its seeds in the eastern Himalayan forests and is found in Bangladesh, Cambodia, China, India, Indonesia, Laos, Malaysia, Lhoal, Pakistan, Thailand and Vietnam.

**Diet:** Fruits, seeds, leaves, roots, small invertebrates, fungi, insects and larvae.

**Mating season:** Unknown.

**Gestation period:** 21-24 days.

**Litter size:** 3-5.

**Life span:** Unknown.

**Conservation status:** Least Concern

**FNCA 2023:** Nil





**Common Name:** Sikkim Mountain Vole

**Scientific name:** *Neodon sikimensis* (Horsfield, 1841)

**Vernacular name:** Sikkime Ghansemusa (Lho)

**Order:** Rodentia

**Family:** Crecitidae

**Description:** The dorsal fur is dark brown. The underparts are dark grey and there is an intermediate strip of ochre-brown where the two colours meet. The upper surface of both fore and hind feet are brownish-white and the tail is bicoloured being brown above and white below. The Sikkim mountain vole is very similar in appearance to the Chinese scrub vole (*Neodon irene*) although the two can be distinguished by examination of their teeth. HBL: 97-119mm, TL: 30-52mm, Weight:

**Behaviour and ecology:** Diurnal, fossorial. Its gregarious vole living in groups of up to 20 individuals. It inhabits alpine meadows and dense vegetation growing at the edges of rhododendron and coniferous forest. It lives under rocks, bushes or leaf litter on the forest floor. It rarely ventures out in the open and is mostly found in tunnels.

**Diet:** Seeds, grasses, roots and tubers.

**Mating season:** Spring & summer.

**Gestation period:** 21 days.

**Litter size:** 4-6.

**Life span:** 2-6 months.

**Conservation status:** Least Concern

**FNCA 2023:** Nil





**Common Name:** House Mouse

**Scientific name:** *Mus musculus* (Linnaeus,1758)

**Vernacular name:** Bjetse (Dzo), Duhure Gharmusa (Lho)

**Order:** Rodentia

**Family:** Muridae

**Description:** Sandy to rufous in colour with slightly white or paler underparts. Tail is longer than head and body. Feet have white toes. The ears and tail have little hair. HBL: 7.5–10 cm, TL: 5-10cm, Weight: 40-45 gm.

**Behaviour and ecology:** Crepuscular, nocturnal. The House Mouse is an extremely versatile species occurring in several habitat types such as forests, grasslands, agricultural lands and in close proximity to humans. This species feeds on seeds and insects. House mice usually run, walk or stand on all fours but when eating, fighting or orienting themselves, they rear up on their hind legs with additional support from the tail – a behavior known as "tripoding". Their habits of scent marking and deposition of urine lead to food spoiling making it unfit for human or livestock consumption.

**Diet:** Seeds, insects, grains and human food.

**Mating season:** Throughout the year.

**Gestation period:** 19-21 days.

**Litter size:** 2-13.

**Life span:** 2-3 years.

**Conservation status:** Least Concern

**FNCA 2023:** Nil



**Common Name:** Brown Spiny Mouse (Flat-haired Mouse)

**Scientific name:** *Mus platythrix* (Bennett, 1832)

**Vernacular name:** Dhunge Musa (Lho)

**Order:** Rodentia

**Family:** Muridae

**Description:** The brown spiny mouse has a compact body with a relatively short tail. Its fur color can vary but it is generally brown or gray with a lighter underside. The most distinctive feature of this species is its spiny coat which consists of modified hairs called spines. HBL:9-12cm, TL: 7-10cm.

**Behaviour and ecology:** Nocturnal, terrestrial. They are excellent climbers and are known for their agility using their long tails to help with balance. It occurs in tropical and sub tropical dry deciduous and scrub forest. It has been found to occupy dry, open areas, gritty and gravelly soil, fields, synanthropic habitats, pasture lands, plantations and dry lands with pulses and oilseed cultivations.

**Diet:** Seeds, leaves, stems, fruits, insects and small invertebrates.

**Mating season:** Breed year round.

**Gestation period:** 30 days.

**Litter size:** 2-8.

**Life span:** 2-3 years.

**Conservation status:** Least Concern

**FNCA 2023:** Nil





Shrew

**Common Name:** Himalayan Water Shrew  
**Scientific name:** *Chimarrogale himalayica* (Gray, 1842)  
**Vernacular name:** Chu Bjitse (Dzo), Khayngewa (Bul)  
**Order:** Eulipotyphla  
**Family:** Soricidae

**Description:** It has bluish in colour with conspicuous silvery guard hairs on the hindquarters. Feet are fringed with short stiff hairs to aid in swimming. It has flaps inside its ear which can be closed when diving underwater. It has long tail almost as long as its body. The fur is waterproof. HBL: 8-14 cm, TL: 7-30 cm, Weight: 25-40gm.

**Behaviour and ecology:** Nocturnal, solitary. This is a semi-aquatic animal that is generally associated with clear streams in temperate evergreen forests. It inhabits burrows on the banks or near streams which serve as its nests and escape routes. It inhabits fast-flowing mountain streams, rivers and marshy areas at altitudes ranging from 1300-4200 masl. It uses its sensitive whiskers and snout to detect and capture prey in the water.

**Diet:** Aquatic invertebrates, larvae, small insects and small fish.

**Mating season:** Spring & summer.

**Gestation period:** 18-30 days.

**Litter size:** 5-7.

**Life span:** 2-3 years (In captivity).

**Conservation status:** Least Concern

**FNCA 2023:** Nil



**Common Name:** Asian Gray Shrew

**Scientific name:** *Crocidura attenuata* (Mine-Edwards, 1872)

**Vernacular name:** Tsetsem (Dzo), Chuchunra (Lho)

**Order:** Eulipotyphla

**Family:** Soricidae

**Description:** The head and dorsal fur is dark greyish-black to smoky-brown and is a darker shade in the summer than in the winter. The underparts are dark grey and the tail dark brown above and mid-brown below. HBL: 66-89mm (60-70% of HBL), Weight: 6-12 gm.

**Behaviour and ecology:** Diurnal, nocturnal. Like other members of the shrew subfamily Crocurinae, the Asian gray shrew is mainly insectivorous. It is a terrestrial species. It is a terrestrial species and active by day and by night.

**Diet:** Invertebrates and plant materials.

**Mating season:** Breeds throughout the year.

**Gestation period:** 1 month.

**Litter size:** 4-5.

**Life span:** 1-2 years.

**Conservation status:** Least Concern

**FNCA 2023:** Nil





Shrew

**Common Name:** Horsfield's Shrew  
**Scientific name:** *Crocidura horsfieldii* (Tomes,1856)  
**Vernacular name:** Tsetsem (Dzo)  
**Order:** Eulipotyphla.  
**Family:** Soricidae.

**Description:** Its coloration is dusky brown above and dusky gray below. It differs from the pygmy shrew by larger size and blackish feet. HBL: 6-7cm, TL: 5–6 cm.

**Behaviour and ecology:** unknown.

**Diet:** Unknown.

**Mating season:** Unknown.

**Gestation period:** Unknown.

**Litter size:** Unknown.

**Life span:** Unknown.

**Conservation status:** Data Deficient

**FNCA 2023:** Nil



**Common Name:** Elegant Water Shrew

**Scientific name:** *Nectogale elegans* (Mine-Edwards, 1872)

**Vernacular name:** Chu Bjetsi (Dzo)

**Order:** Eulipotyphla

**Family:** Soricidae

**Sub-family:** Soricinae

**Description:** It has soft fur which is slate grey to brown on the head, sides and back, and silver-white on the belly. The long tail is generally black with four fringes of white hairs. Feet are webbed. Its ears are quite concealed and without a conch. Its tail is stout, quadrangular at base, then triangular and finally flattened. Its feet are large, webbed and palmated with large pads on the soles, depressed in the middle forming sucking discs-a peculiar character of the animal. It has relatively long snout. HBL: 10 cm, TL: 9-11 cm, Weight: 30-40 gm.

**Behaviour and ecology:** Aquatic, Diurnal. Individuals have been recorded foraging for aquatic invertebrates and small fish in rapidly flowing streams in mountainous regions. Animals often work their way upstream at the water's edge, exploring under rocks, sticks, and stream bank vegetation and then to swim out into swift water where they float downstream. Can be found in mountain streams between 1000-3000 masl. It shelters in burrows by stream banks. Its 28 teeth are adapted to feeding on fish.

**Diet:** Aquatic invertebrates, small fish.

**Mating season:** Spring and summer.

**Gestation period:** 21-23 days.

**Litter size:** 2-5.

**Life span:** 2-3 years (Average).

**Conservation status:** Data Deficient

**FNCA 2023:** Nil





**Common Name:** Eurasian Pygmy Shrew (Pygmy Shrew)

**Scientific name:** *Sorex minutus* (Linnaeus,1766)

**Vernacular name:** Tsiktsim (Dzo)

**Order:** Eulipotyphla

**Family:** Soricidae

**Description:** The hair on the back is blackish with shades ranging from reddish to purplish. It has very dense and shiny hair. The belly, throat, jaw, periocular area and lower part of the tail are contrasted whitish. The muzzle and legs are covered with sparse white hair (vibrissae in the muzzle ) while the skin is flesh colored. The ears are small and half hidden by the hair and are dark flesh colored and shaped like a semicircle. In this species, the head is larger in proportion to the body than in other shrews. HBL: 5cm, TL: 3.5cm, Weight: 4-6 gm.

**Behaviour and ecology:** Eurasian pygmy shrews are solitary animals. They are active throughout the day and night and inhabiting areas of dense vegetation across a broad elevation range. They use the burrows or tunnels of other rodents to live in. Alone they burrow under tree stumps. They are active for 24 hours per day in very short periods interspersed with sleep (say 15 minutes of activity followed by 15 minutes of sleep). Since they have poor eyesight, they use smell and touch to detect prey items.

**Diet:** Seeds, spiders, bugs, beetles and other invertebrates.

**Mating season:** April-August.

**Gestation period:** 21 days.

**Litter size:** 2-8.

**Life span:** 15 months.

**Conservation status:** Least Concern

**FNCA 2023:** Nil



Shrew

**Common Name:** Bailey's Shrew

**Scientific name:** *Crocidura baileyi* (Osgood, 1936)

**Vernacular name:** Tsiktsim (Dzo)

**Order:** Eulipotyphla

**Family:** Soricidae

**Description:** It has a brownish-gray fur coloration on its upper body while the underside is lighter. The shrew has a long, pointed snout and small eyes. It has a small body size. HBL: 6-9cm, TL: 4-7 cm.

**Behaviour and ecology:** It is endemic to Ethiopia. This is a montane species which occurs in montane grassland and moorland in the afro-alpine zone. At lower elevations this species is limited by the lack of suitable habitat due to the conversion of natural vegetation to agriculture.

**Diet:** Insects, spider and worms.

**Mating season:** April-August.

**Gestation period:** 17-32 days.

**Litter size:** 5-7.

**Life span:** 1-2 years.

**Conservation status:** Least Concern

**FNCA 2023:** Nil



**Common Name:** Indian Long-tail Tshrew

**Vernacular name:** Tsiktsim (Dzo)

**Scientific name:** *Soriculus leucops* (Horsfield,1855)

**Order:** Eulipotyphla

**Family:** Soricidae

**Description:** The tail is slender and terminates in a whitish tip which is half an inch long. Its colour is blackish-brown. HBL: 7.5cm, TL: TL: 7cm.

**Behaviour and ecology:** Terrestrial and fossorial animal of high-altitude forests, occurring in evergreen broadleaved forests at the lower temperate zone, particularly along riversides.

**Diet:** Insects, spider and worms.

**Mating season:** April-August.

**Gestation period:** 21 days.

**Litter size:** 1.

**Life span:** 2 years.

**Conservation status:** Least Concern (LC).

**FNCA 2023:** Nil



**Common Name:** Sikkim Large-clawed Shrew (Himalayan Shrew)

**Scientific name:** *Soriculus nigrescens* (Gray, 1842)

**Vernacular name:** Tsetsim (Dzo), Himali Chhuchundro (Lho)

**Order:** Eulipotyphla

**Family:** Soricidae

**Description:** Dorsum of the Himalayan shrew is dust in color. Forefeet and claws are enlarged and larger than hindfeet indicating digging ability. Tail is  $\phi$ .50% of head—body length. Ears are small and hidden under fur. Pigmentation on teeth is very light and present only occurs on tips of teeth. A large shrew with a short tail, large feet and claws. HBL: 70-94 mm, TL: 32-50 mm.

**Behaviour and ecology:** The Himalayan shrew occurs aboveground and underground. Based on its morphology, it is semi-fossorial. The Sikkim Large-Clawed shrew is found in mixed deciduous-coniferous forests, conifer-rhododendron forests, alpine zone and bare rocky areas.

**Diet:** Beetles, flies, and bees, earthworms, insects, spiders, and small vertebrates.

**Mating season:** June-July, August-October.

**Gestation period:** 35-40 days.

**Litter size:** 3-9.

**Life span:** 1-3 years.

**Conservation status:** Least Concern

**FNCA 2023:** Nil.





**Common Name:** Asian House Shrew (Brown Musk Shrew)

**Scientific name:** *Suncus murinus* (Linnaeus, 1766)

**Vernacular name:** Chuchunra (Lho)

**Order:** Eulipotyphla

**Family:** Soricidae

**Description:** They have short, dense fur of mid-grey to brownish grey colour. Their tail is thick at the base and narrower at tip covered with long bristle like hairs. They have small ears and an elongated snout. Has pointed snouts, short and thick tail. HBL:  $\pm 15$ cm, TL:  $\pm 8$ cm, Weight:  $\pm 60$ gm.

**Behaviour and ecology:** Nocturnal. Adapted to human settlement (Village, cities, town). On each side of the body is a musk gland which exudes a strong odour during the mating season. Predators also leave the house shrew alone because of its musky smell and even when they catch one by mistake they will rarely eat it. They are primarily solitary species, apart from during mating and parenting, then they will go back to solitary lives. Shrew mothers and young will form a 'caravan' where the young line up behind the mother and follow her as she walks holding on to each other's fur with their teeth. Sexes are alike and juveniles are born without fur.

**Diet:** Discarded food items, Cockroaches, invertebrates.

**Mating season:** Throughout the year.

**Gestation period:** 30 days.

**Litter size:** 1-8.

**Life span:** 1-2 years.

**Conservation status:** Least Concern

**FNCA 2023:** Nil.



Shrew

**Common Name:** Common Treeshrew

**Scientific name:** *Tupaia glis* (Diard, 1820)

**Vernacular name:** Unknown

**Order:** Scandentia

**Family:** Tupaiidae.

**Description:** The common treeshrew is one of the largest among treeshrews. It has varying colours of reddish-brown, greyish or black upper parts and whitish belly. Its long bushy tail is dark greyish-brown and almost reaches the length of the body. The paws are bare with sharp nails and with a naked patch of skin above its long nose. Both sexes are similar. The common treeshrew usually has a white, pale stripe on each shoulder. HBL: 13-21cm, TL: 12-20cm. weight:190 gm (Average),

**Behaviour and ecology:** Diurnal. They forage for food alone or in pairs mainly on the ground, among shrubs and tree holes. They are very agile in climbing both large vertical tree trunks and bushes and occasionally jump from stems of a young tree to that of another as much as 60 cm away. Their climbing is concentrated in lower heights.

**Diet:** Fruits, seeds, leaves, insects, ants, spiders.

**Mating season:** December-February.

**Gestation period:** 40-52 days.

**Litter size:** 1-3.

**Life span:** 12 years.

**Conservation status:** Least Concern

**FNCA 2023:** Nil.





**Common Name:** Himalayan Mole (Short-tailed Mole, Malaysian Mole)

**Scientific name:** *Euroscaptor micrura* (Hodgson, 1841)

**Vernacular name:** Tshakshema (Bul), Utani Musa (Lho)

**Order:** Eulipotyphla

**Family:** Talpidae

**Description:** It has a cylindrical body with short and broad shovel-like feet turned outwards with sharp claws for digging. The snout is pointed with a long naked nose. Eyes are hidden in pelage and there is complete absence of external ear. Fur is soft and lustrous. HB: 128-135mm, TL: 5-9mm, Weight: 44-72gm.

**Behaviour and ecology:** Nocturnal, fossorial and secretive. Solitary and lives in a burrow. It's an animal that inhabits subtropical and tropical montane forests, where it lives in the leaf litter and rocky gravelly areas. It is purely a forest floor dwelling mammal. In China, it has been reported to occupy forest habitats where it usually uses surface tunnels and does not construct large mounds or dig deeply into the ground.

**Diet:** Insects, larvae, earthworms and other invertebrates.

**Mating season:** March, early April.

**Gestation period:** 4-6 weeks.

**Litter size:** 3-5.

**Life span:** 2-4 years.

**Conservation status:** Least Concern

**FNCA 2023:** Nil.



**Common Name:** Bhutan Takin.

**Scientific name:** *Budorcas taxicolor whitei* (Lydekker, 1907)

**Vernacular name:** Drong Gimtse (Dzo)

**Order:** Artiodactyla

**Family:** Bovidae

**Subfamily:** Caprinae

**Description:** Its curved muzzle resembles a “bee stung nose” and adults can get larger than domestic cows. Calves are born black. Adults are golden yellow towards the front and dark brown towards the rear. Shoulders are higher than the rump giving it an inclined appearance. Tails are Tshort. A dark dorsal stripe running the length of its back is visible in adult males and some females. The horns of females are thin and grow straight up while those of males are thicker and grow outwards. TSH: 100-130cm, TL: 15-20cm, Weight: 200-500kg.

**Behaviour and ecology:** Diurnal, altitudinal migrant, Gregarious and social. In summer, Takin congregate in large herds in alpine valleys grazing on the nutritious foliage. In winter, they descend down to warm areas in broadleaved forests where herds break up and males may remain solitary. The solitary male will join the herd when females are in heat. Sleep with front feet extended, head resting atop like dogs. Pheromones in urine possibly convey sexual status and identity.

**Diet:** Grasses, herbs, bamboo Tshoots, leaves of Tshrubs and trees, minerals and salt licks.

**Mating season:** July & August.

**Gestation period:** 200-220 days.

**Litter size:** 1.

**Life span:** About 12 years.

**Conservation status:** Vulnerable

**FNCA 2023:** Schedule I.





**Common Name:** Himalayan Serow

**Scientific name:** *Capricornis sumatraensis thar* (Hodgson, 1831)

**Vernacular name:** Jha (Dzo), Shangsha (Tsh), Jabar (Bum), Thar (Lho), Jabari (Kur)

**Order:** Artiodactyla

**Family:** Bovidae

**Subfamily:** Caprinae

**Description:** The Himalayan serow is mostly blackish with flanks, hindquarters, and upper legs that are a rusty red. Its lower legs and chests are whitish. HBL: 120cm, SH: 90-110cm, Weight: 60-140kg.

**Behaviour and ecology:** Diurnal, nocturnal. Himalayan serows are territorial animals that live alone or in small groups. They are active during the day and have acute vision, smell, hearing and are wary of humans. They move with ease through the difficult terrain of mountain and hill slopes and also swim well. When serows sense any danger, they will make a snorting sound and run away.

**Diet:** Herbivore, folivore (Browse various types of vegetation).

**Mating season:** October-November.

**Gestation period:** 6-7 months.

**Litter size:** 1.

**Life span:** 19 years.

**Conservation status:** Vulnerable

**FNCA 2023:** Schedule II.





**Common Name:** Himalayan Musk Deer  
**Scientific name:** *Moschus crysogaster* (Hodgson, 1839)  
**Vernacular name:** Laachum (Dzo), Zhawa (Bul), Kustori (Lho)  
**Order:** Artiodactyla  
**Family:** Moschidae

**Description:** They are the most primitive of deer which have chisel-like upper canines (Present in both sexes but longer in males measuring about 7cm instead of antlers). The coat is brownish in summer and light grayish in winter. The hair is bristle and spiraled with whitish base giving its coat a white speckled appearance. The speckles are prominent in summer coat as well in juveniles. The underside of the body is whitish or buff and ears tipped with yellow hairs. The hind legs are distinctively longer than the forelegs rendering its rump higher than the head. The hooves are long and slender. Males have musk pod located in front of genitals. HBL: 86-100cm, SH: 51-53cm, Weight: 10-15 kg.

**Behaviour and ecology:** Diurnal, crepuscular and solitary. Mostly active during dusk and dawn. The deer is sedentary, tending to remain within defined home ranges. In females, these are about 125 acres in size while males will control a territory that encompasses the ranges of several females possibly defending it against other males. After birth, young deer lie hidden in secluded areas essentially independent of their mothers except at feeding times. This hiding period may last up to 2 months. The species is not known to migrate. Communication between individuals is thought to be based primarily on their sense of smell due to the high development of the glands of musk deer. It is primarily silent. The deer will emit a loud double hiss if alarmed. They defecate in a particular place called latrine.

**Diet:** Tshrubs, forbs, leaves, moss, lichens, Tshoots, grasses, and twigs.

**Mating season:** November, December.

**Gestation period:** 150-195 days.

**Litter size:** 1-2.

**Life span:** 10-14 years.

**Conservation status:** Endangered

**FNCA 2023:** Schedule I.





Ungulate

**Common Name:** Barking Deer (Asian Deer, Southern Red Muntjack)

**Scientific name:** *Munticus muntjack* (Zimmermann, 1780)

**Vernacular name:** Kasha (Dzo), Gasha (Tsh), Khasha (Bul), Mirgo (Lho)

**Order:** Artiodactyla

**Family:** Cervidae

**Subfamily:** Cervinae

**Description:** It has deep red or bright chesnut coat on the back. Paler on the flanks and almost whitish or buff underside of the body and tail. In mature males, there is a blackish tinge on parts of the face, neck and shoulders and top of the back. The coat is darker in winter than in summer. Both sexes have bony V-shaped ridges on their faces. In males, bony V-shaped ridges extend up into short antlers. HBL: 95-110cm, SH: 50-60cm, Weight: 20-25kg.

**Behaviour and ecology:** Diurnal. It usually barks in the morning and evening but can be heard at any time of the day especially when the animal is alarmed. Raising its tail is also another alert gesture. They bark more when visibility decreases like in a foggy area. They also bark during rutting. They maintain latrines. It possess various scent glands that have crucial functions in communication and territorial marking. They use their facial glands primarily to mark the ground and occasionally other individuals and the glands are opened during defecation and urination as well as sometimes during social displays.

**Diet:** Fruits, buds, tender leaves, flowers, herbs and young grass.

**Mating season:** April-June.

**Gestation period:** Approximately 6 months.

**Litter size:** 1.

**Life span:** 10-13 years.

**Conservation status:** Least Concern

**FNCA 2023:** Nil .





**Common Name:** Sambar Deer

**Scientific name:** *Rusa unicolor* (Kerr,1972)

**Vernacular name:** Shawoo (Dzo), shawa (Bul), Zarayoo (Lho)

**Order:** Artiodactyla

**Family:** Cervidae

**Subfamily:** Cervinae

**Description:** It has shaggy coat from yellowish brown to dark grey in colour. While it is usually uniform in colour, some subspecies have chestnut marks on the rump and underparts. Sambar also have a small but dense mane which tends to be more prominent in males. The tail is relatively long for deer and is generally black above with a whitish underside. HBL: 1.62-2.7m, TL: 22-35cm, SH: 102-160cm, Weight: > 100-350 kg.

**Behaviour and ecology:** Nocturnal, crepuscular. The males live alone for much of the year and the females live in small herds of up to 16 individuals. Indeed, in some areas, the average herd consists of only three or four individuals typically consisting of an adult female, her most recent young and perhaps a subordinate or an immature female. This is an unusual pattern for deer which more commonly live in larger groups. They often congregate near water and are good swimmers. Like most deer, sambar are generally quiet although all adults can scream or make short or high-pitched sounds when alarmed. However, they commonly communicate by scent marking and foot stamping. Stags wallow and dig their antlers in urine-soaked soil and then rub against tree trunks. Stags stand and mark tree branches above them with their antlers. A stag also marks himself by spraying urine on his own face with a highly mobile penis. When sensing danger, a sambar stamps its feet and makes a ringing call known as "pooking" or "belling".

**Diet:** Grasses, foliage, fruit, water plants, shrubs and trees.

**Mating season:** October-November.

**Gestation period:** 246 days.

**Litter size:** 1.

**Life span:** <12 years.

**Conservation status:** Vulnerable

**FNCA 2023:** Schedule II.





Ungulate

**Common Name:** Himalayan Goral

**Scientific name:** *Naemorhedus goral* (Hardwicke, 1825)

**Vernacular name:** *Bjara* (Dzo), *Basha* (Bul), *Goral* (Lho)

**Order:** Artiodactyla

**Family:** Bovidae

**Subfamily:** Caprinae

**Description:** The Himalayan goral is a small ungulate found across the Himalayas. It has a gray or gray-brown coat with tan legs, lighter patches on its throat and a single dark stripe along its spine. Males have short manes on their necks. Both males and females have backward-curving horns which can grow up to 18 cm (7.1 in) in length. HBL: 125cm, Height: 65-70cm, Weight: 27cm.

**Behaviour and ecology:** Diurnal, crepuscular. Himalayan gorals are social animals. They often form small bands of 4 to 12 individuals although they are also known to pair off or especially in the case of older males, be solitary. They are crepuscular being most active in the early morning and late evening. After a morning meal, they often drink and then rest on a rock ledge through the day. Himalayan gorals are very agile and can run quickly. Due to their coloration, they are very well camouflaged so that they are extremely difficult to sight them especially since they spend much of the day lying still. Himalayan gorals have various predators and when sensing danger, they will vocalize with hissing or sneezing sounds.

**Diet:** Leaves, grasses, herbs, roots, Tshoots, and twigs.

**Mating season:** November & December.

**Gestation period:** 170-218 days.

**Litter size:** 1.

**Life span:** 14-15 years.

**Conservation status:** Near Threatened

**FNCA 2023:** Schedule II.



**Common Name:** Wild Pig (Wild Swine, Eurasian Wild Pig)

**Scientific name:** *Sus scrofa* (Linnaeus, 1758)

**Vernacular name:** Rhipa (Dzo), Riphag (Bul), Bundil (Lho)

**Order:** Artiodactyla

**Family:** Suidae

**Description:** The wild pig is a bulky, massively built suid with short and relatively thin legs. The trunk is short and robust while the hindquarters are comparatively underdeveloped. The region behind the shoulder blades rises into a hump and the neck is short and thick to the point of being nearly immobile. The animal's head is very large taking up to one-third of the body's entire length. The eyes are small and deep-set and the ears long and broad. It has well-developed canine teeth which protrude from the mouths of adult males. The medial hooves are larger and more elongated than the lateral ones and are capable of quick movements. Piglets are dark brown with pale longitudinal stripes. After three to four months, these stripes disappear completely. SH: 90-95cm, Weight: 90-225kg.

**Behaviour and ecology:** Diurnal, nocturnal. The head acts as a plough while the powerful neck muscles allow the animal to upturn considerable amounts of soil. It is capable of digging 8–10 cm into frozen ground and can upturn rocks weighing 40–50 kg. Its sense of smells are well developed. Its hearing is also acute though its eyesight is comparatively weak. During mating season, males travel long distances in search of a sounder of sows eating little on the way. Once a sounder has been located, the male drives off all young animals and persistently chases the sows. At this point, the male fiercely fights potential rivals. A single male can mate with 5–10 sows.

**Diet:** Rhizomes, roots, tubers, bulbs, nuts, berries, seeds, leaves, barks, twigs and shoots, earthworms and insects.

**Mating season:** November-January.

**Gestation period:** 4 months.

**Litter size:** 4-8.

**Life span:** 27 years.

**Conservation status:** Least Concern

**FNCA 2023:** Nil





**Common Name:** Assamese Macaque

**Scientific name:** *Macaca assamensis* (McClelland, 1840)

**Vernacular name:** Pcha (Dzo), Zala (Tsh), Bandar (Lho), Pra (Bul)

**Order:** Primate

**Family:** Cercopithecidae

**Description:** The Assam macaque has a yellowish-grey to dark brown pelage. The facial skin is dark brownish to purplish. The head has a dark fringe of hair on the cheeks directed backwards to the ears. The hair on the crown is parted in the middle. The shoulders, head and arms tend to be paler than the hindquarters which are greyish. The tail is well-haired and short. HBL: 44-68cm, TL: 18-39cm, Weight: 4.6-13kg.

**Behaviour and ecology:** Diurnal, arboreal and terrestrial. This monkey lives in groups of 8-50 individuals. Male juveniles as they grow up, leave the group while females stay and form the core members of the group and are mostly related. There will be an alpha male guarding the group and having preferential access to females in estrus and to food. An alpha female leads the group with regards to foraging, resting and all other group activity. They also spend more time on the ground than langurs. They store food in cheek pouches.

**Diet:** Fruits, leaves, invertebrates and cereals.

**Mating season:** October-February.

**Gestation period:** 165 days.

**Litter size:** 1.

**Life span:** 20 years.

**Conservation status:** Near Threatened

**FNCA 2023:** Nil.



**Common Name:** Capped Langur  
**Scientific name:** *Trachypithecus pileatus* (Blyth,1843)  
**Vernacular name:** Pchakar (Dzo), Roksha (Tsh)  
**Order:** Primate  
**Family:** Cercopithecidae

**Description: Diurnal, Arboreal.** Capped langurs can vary in appearance. The species is named for the thick hair on the top of their head that is usually black or gray. Their back is usually covered in gray, brown or black hair. Their bellies can be anywhere from vivid orange to pale yellow. As with most langurs, babies have wildly different coloration from adults, although the differences in capped langurs are less dramatic compared to most of their relatives. Adult capped langurs have black skin while babies have pink skin. The baby's hair is usually a light orange, similar to the color of an adult's chest. Male capped langurs are noticeably larger than their female counterparts. HBL: 49-81cm, TL: 76-101cm, Weight:7-12.5kg.

**Behaviour and ecology:** Diurnal, Arboreal. Its natural habitat is subtropical or tropical dry forests. They are arboreal and gregarious by nature. A herd of capped langurs consists of 2 - 14 langurs led by a single male. They are herbivorous mainly foraging on trees.

**Diet:** Fruits, leaves, twigs, buds, minerals and salt licks.

**Mating season:** October-February.

**Gestation period:** 165 days.

**Litter size:** 1.

**Life span:** 20 years.

**Conservation status:** Vulnerable

**FNCA 2023:** Nil.





**Common Name:** Least Leaf-nosed Bat.

**Scientific name:** *Hipposideros cineraceus* (Blyth,1853)

**Vernacular name:** Phawoo Makay(Dzo), Chomira (Lho)

**Order:** Chiroptera

**Family:** Hipposideridae

**Description:** Upperparts buff-brown to grey, underparts paler. It has pale stomach. Leaf nosed bats instead have complex noseleaf layers around the nose. The structure of the nose Leafs are used to identify the different species. FL: 31.7 - 36.0 mm, EL: 18.5-21.5 mm, Weight: 3.1 - 4.6 g.

**Behaviour and ecology:** Nocturnal. There is little information available on the natural history of this species. Caves are the typical diurnal roosts. Most hipposiderid bats have wing shapes that make them adept at foraging in cluttered environments. The echolocation call is a short constant frequency signal with a brief frequency-modulated start and tail.

**Diet:** Crickets, grasshoppers, beetles and moths.

**Mating season:** April.

**Gestation period:** 180 days.

**Litter size:** 1.

**Life span:** 20-30 years.

**Conservation status:** Least Concern

**FNCA 2023:** Nil.



Herpestid

**Common Name:** Small Indian Mongoose

**Scientific name:** *Herpestes auropunctata* (Hodgson, 1836)

**Vernacular name:** Neuli (Dzo), Naoori Musa (Lho)

**Order:** Carnivora.

**Family:** Herpestidae.

**Description:** The small Indian mongoose has a slender body with short legs. The head is elongated with a pointed muzzle. The tail is robustly muscular at the base and tapers gradually throughout its length ending in tufts of slightly longer fur. Ears are short and rounded project only slightly beyond the fur. Feet have five toes with long sharp non-retractile claws. Hair is short. Both sexes have an extensible anal pad with ducted glands lateral to the anus. Fur is soft, pale to dark brown flecked with golden spots. Underside is paler than rest of body. Eyes are amber/brown but are blue green in young animals. There is distinct sexual dimorphism. HBL: 35-50cm, weight: 750-900gm (Average).

**Behaviour and ecology:** Diurnal, solitary. This species is famous for their killing techniques particularly when it comes to killing venomous snakes. They are normally found in agricultural fields in the bushes/hedges hunting for food. The vertebrate prey is usually killed with a bite to the back of the head. They appear to have a highly developed sense of smell and hearing in hunting. It uses same path day after day.

**Diet:** Small mammals, birds, snakes, lizards, frogs, invertebrates and plant material.

**Mating season:** No real breeding season. Breeds two or three times in a year.

**Gestation period:** 42-50 days.

**Litter size:** 2-3.

**Life span:** 3-4 years.

**Conservation status:** Least Concern

**FNCA 2023:** Nil.



## **Bibliography**

Buhuguna, N.C., Mallick, J. (2010). *Handbook of the Mammals of South Asia*. Upendra Arora for Natraj Publishers, Publication Division, Dehradun.

BTC (2021). *Wild Cats Atlas of Bhutan*. Bhutan Tiger Center, Department of Forests and Park Services, Ministry of Agriculture and Forests, Gelephu Bhutan (Pages 1-56).

Gyeltshen, J. (2015). Species Diversity of Rodents along the Elevational Gradients in Jigme Dorji National Park (*Small Mammals Mail/Newsletter, Zoo Outreach Organisation, India, Vol.7 Number 1*).

Jnawali, S.R., Baral, H.S., Lee, S., Acharya, K.P., Upadhyay, G.P., Pandey, M., Tshrestha, R., JoTshi, D., Laminchane, B.R., Griffiths, J., Khatiwada, A. P., Subedi, N., and Amin, R. (compilers) (2011) *The Status of Lhoal Mammals: The National Red List Series*, Department of National Parks and Wildlife Conservation Kathmandu, Lhoal.

Lysaght, L. and Marnell, F. (Eds) (2016) *Atlas of Mammals in Ireland 2010-2015*, National Biodiversity Data Centre, Waterford.

Thapa S., H. B. Katuwal, S. Koirala, B. V. Dahal, B. Devkota, R. Rana, H. Dhakal, R. Karki and H. Basnet (2016). *Sciuridae (Order: Rodentia) in Lhoal*. Small Mammals Conservation and Research Foundation, Kathmandu, Lhoal, 70pp.

Wangchuk, T., Thinley, P., Tshering, K., Tshering, C., Yonten, D., Pema, B. (2004). *A Field Guide to the Mammals of Bhutan*. Department of Forestry Services, Ministry of Agriculture, Royal Government of Bhutan. Pp 180.

Wangchuk, R. & Namgyel, U. (2016). *Faunal Diversity of Phrumsengla National Park*. Department of Forests and Park Services, Ministry of Agriculture and Forests, Royal Government of Bhutan, Ura: Bumthang.

## **Internet sources**

<https://bigcatrescue.org/marbled-cat-facts/>. Accessed on 27/9/2023.

<https://www.iucnredlist.org/species/15955/214862019#habitat-ecology>, 27/9/2023

[https://en.wikipedia.org/wiki/Clouded\\_leopard#Taxonomy\\_and\\_phylogeny](https://en.wikipedia.org/wiki/Clouded_leopard#Taxonomy_and_phylogeny). Accessed on 27/9/2023.

[https://en.wikipedia.org/wiki/Bengal\\_tiger](https://en.wikipedia.org/wiki/Bengal_tiger). Accessed on 27/9/2023.

<https://en.wikipedia.org/wiki/Leopard>. Accessed on 28/9/2023.

<https://wildcatconservation.org/wild-cats/asia/leopard-cat/>. Accessed on 28/9/2023.

<https://www.iucnredlist.org/species/4038/97165437>. Accessed on 2/10/2023.

<https://www.iucnredlist.org/search?query=Jungle%20cat&searchType=species>. Accessed on 2/10/2023.

<https://www.iucnredlist.org/species/8540/200639312#habitat-ecology>. Accessed on 2/10/2023.

<https://www.iucnredlist.org/species/22824/166528664#habitat-ecology>. Accessed on 2/10/2023.

[https://en.wikipedia.org/wiki/Asian\\_black\\_bear](https://en.wikipedia.org/wiki/Asian_black_bear). Accessed on 2/10/2023.

<https://www.iucnredlist.org/species/714/110023718#habitat-ecology>. Accessed on 4/10/2023.

[https://en.wikipedia.org/wiki/Red\\_panda](https://en.wikipedia.org/wiki/Red_panda). Accessed on 4/10/2023.

*A Field Guide to Mammals of Phrumsengla National Park*

<https://nationalzoo.si.edu/animals/asian-small-clawed-oter#:~:text=The%20most%20successful%20breeding%20occurs,three%2Dday%20period%20of%20estrus>. Accessed on 12/10/2023 .

[https://en.wikipedia.org/wiki/Mountain\\_weasel](https://en.wikipedia.org/wiki/Mountain_weasel). Accessed on 12/10/2023.

[https://animaldiversity.org/accounts/Ochotona\\_roylei/#:~:text=Royle's%20pikas%20eat%20a%20variety,can%20find%20near%20their%20burrows](https://animaldiversity.org/accounts/Ochotona_roylei/#:~:text=Royle's%20pikas%20eat%20a%20variety,can%20find%20near%20their%20burrows). Accessed on 28/11/2023.

[https://www.ecologyasia.com/verts/mammals/himalayan-striped\\_squirrel.htm](https://www.ecologyasia.com/verts/mammals/himalayan-striped_squirrel.htm). Accessed on 18/12/2023.

<https://www.zoo-ekzo.ru/en/node/2458>. Accessed on 18/12/2023.

[https://animaldiversity.org/accounts/Ratufa\\_bicolor/#:~:text=Giant%20black%20squirrels%20breed%20twice,April%20or%20July%20to%20August](https://animaldiversity.org/accounts/Ratufa_bicolor/#:~:text=Giant%20black%20squirrels%20breed%20twice,April%20or%20July%20to%20August). Accessed on 18/12/2023.

<https://animalia.bio/bhutan-giant-flying-squirrel>. Accessed on 18/12/2023.

<https://www.thainationalparks.com/species/greater-bandicoot-rat>. Accessed on 20/12/2023.

<https://www.fws.gov/species/greater-bandicoot-rat-bandicota-indica>. Accessed 20/12/2023.

<https://www.britannica.com/animal/bandicoot>. Accessed on 20/12/2023.

<https://academic-accelerator.com/encyclopedia/chestnut-white-bellied-rat>. Accessed on 22/01/2024.

[https://en.wikipedia.org/wiki/Sikkim\\_mountain\\_vole](https://en.wikipedia.org/wiki/Sikkim_mountain_vole). Accessed on 23/1/2024.

[https://en.wikipedia.org/wiki/Glover%27s\\_pika](https://en.wikipedia.org/wiki/Glover%27s_pika). Accessed on 23/1/2024.

<https://treatment.plazi.org/id/3D474A54A010877DFAF7A73C16AEF95E>. Accessed on 26/1/2024.

<https://www.ecologyasia.com/verts/mammals/house-Tshrew.htm>. Accessed on 26/1/2024.

<https://thewonderfulwildlifeofsamloem.wordpress.com/asian-house-Tshrew-suncus-murinus/>. Accessed on 26/1/2024.

<https://www.nationalredlist.org/assessment/euroscaptor-micrura-red-list-bangladeTsh-volume-2-mammals>. Accessed on 29/1/2024.

[https://www.google.bt/books/edition/A\\_Guide\\_to\\_the\\_Mammals\\_of\\_China/](https://www.google.bt/books/edition/A_Guide_to_the_Mammals_of_China/). Accessed on 29/1/2024.

<https://nainitalzoo.org>. Accessed on 30/1/2024.

<https://animalia.bio>. Accessed on 30/1/2024.

<https://animalia.bio/himalayan-serow>. Accessed on 4/3/2024.

<https://www.bio.bris.ac.uk>. Accessed on 4/3/2024.

<https://www.cabidigitallibrary.org/doi/10.1079>. Accessed on 7/3/2024.

[https://animaldiversity.org/accounts/Herpestes\\_javanicus/#:~:text=Small%20Indian%20mongoo ses%20are%20completely,\(Nellis%20and%20Everard%201983\)](https://animaldiversity.org/accounts/Herpestes_javanicus/#:~:text=Small%20Indian%20mongoo ses%20are%20completely,(Nellis%20and%20Everard%201983)). Accessed on 7/3/2024.

<https://www.gbif.org/species/2439049>. Accessed on 7/6/2024.

<https://uk.inaturalist.org/photos/29819469>. Accessed on 7/6/2024.

<https://biodiversity.bt/observation/Tshow/807907>. Accessed on 24/6/2024.

[file:///C:/Users/Jangchuk%20Gyeltshen/Downloads/Crocidura\\_baileyi\\_SMALL\\_MAMMALS\\_of\\_Simie.pdf](file:///C:/Users/Jangchuk%20Gyeltshen/Downloads/Crocidura_baileyi_SMALL_MAMMALS_of_Simie.pdf). Accessed on 24/6/2024.

[https://en.wikipedia.org/wiki/Common\\_treeTshrew](https://en.wikipedia.org/wiki/Common_treeTshrew). Accessed on 24/6/2024.

<https://poe.com/chat/3g2aik6f5j9v97e3yh2>. Accessed on 18/7/2024.



**SPECIES INDEX (Common & Scientific name)**

\*Number here represents page number of the photos

<p><b><u>AILURID</u></b>                      *Red Panda 14  <i>Ailurus fulgens</i></p> <p><b><u>CANID</u></b>                      *Wild Dog 11  <i>Coun alpinus</i>                      *Red Fox 12  <i>Vulpes vulpes</i></p> <p><b><u>CHIROPTERA</u></b>                      *Least Leaf-nosed Bat 64  <i>Hipposideros cineraceus</i></p> <p><b><u>FELID</u></b>                      *Tiger 1  <i>Panthera tigriss</i>                      *Clouded Leopard 2  <i>Neofelis nebulosa</i>                      *Leopard 3  <i>Panthera pardus</i>                      *Marbled Cat 4  <i>Pardofelis marmota</i>                      *Leopard Cat 5  <i>Prionailurus bengalensis</i>                      *Asiatic Golden Cat 6  <i>Catapuma timminckii</i>                      *Jungle cat 8  <i>Felis Chaus</i>                      *Spotted Linsang 9  <i>Prionodon pardicolor</i></p> <p><b><u>HERPESTID</u></b>                      *Small Indian Mongoose 65  <i>Herpestes auropunctatus</i></p> <p><b><u>LAGOMORPH</u></b>                      *Royle's Pika 21  <i>Ailurus fulgens</i>                      *Large-eared Pika 22  <i>Ochotona macrotis</i>                      *Glover's Pika 23  <i>Ochotona gloveri</i></p>	<p><b><u>MOLE</u></b>                      *Himalayan Mole 54  <i>Euroscaptor micrura</i></p> <p><b><u>MUSTELID</u></b>                      *Eurasian Otter 15  <i>Lutra lutra</i>                      *Asiatic Small-clawed Otter 16  <i>Aonyx cinereus</i>                      *Mountain Weasel 17  <i>Mustela altaica</i>                      *Siberian Weasel 18  <i>Mustela sibirica</i>                      *Yellow-throated Marten 19                      *Beech Marten 20  <i>Martes flavigula</i></p> <p><b><u>PRIMATE</u></b>                      *Assamese macaque 62  <i>Macaca assamensis</i>                      *Capped Langur 63  <i>Trachypithecus pileatus</i></p> <p><b><u>RODENT</u></b>                      *Himalayan Crestless Porcupine 33  <i>Hystrix brachyura</i>                      *Greater Bandicoot Rat 34  <i>Bandicota indica</i>                      *Himalayan Little Rat 35  <i>Niviventer eha</i>                      *Himalayan Field Rat 36  <i>Rattus nitidus</i>                      *Lesser Bamboo Rat 38  <i>Cannomys badius</i>                      *House Mouse 32  <i>Mus musculus</i>                      *Brown Spiny Mouse 39  <i>Mus platythrix</i>                      *House rat 37  <i>Rattus rattus</i></p>
--	--

<p>*Brown Rat 43 <i>Rattus norvegicus</i></p> <p>*Chesnut White-bellied Rat 40 <i>Niviventer fulvescens</i></p> <p>*Hoary-bellied Squirrel 26 <i>Callosciurus pygerythrus</i></p> <p>*Five-striped Palm squirrel 27 <i>Funambulus pennantii</i></p> <p>*Red-bellied Squirrel 25 <i>Rubrisciurus rubriventer</i></p> <p>*Himalayan Stripped Squirrel 28 <i>Tamiops macclellandi</i></p> <p>*Black Giant Squirrel 29 <i>Ratufa bicolor</i></p> <p>*Particoloured flying squirrel 30 <i>Hylopetes alboniger</i></p> <p>*Hairy-footed Flying Squirrel 31 <i>Belomys pearsonii</i></p> <p>*Bhutan Giant Flying Squirrel 32 <i>Petaurista nobilis</i></p> <p><b><u>SHREW</u></b></p> <p>*Himalayan Water Shrew 44 <i>Chimarrogale himalayica</i></p> <p>*Asian Gray Shrew 45 <i>Crocidura attenuata</i></p> <p>*Horsfield's Shrew 46 <i>Crocidura horsfieldii</i></p> <p>*Elegant Water Shrew 47 <i>Nectogale elegans</i></p> <p>*Eurasian Pygmy Shrew 48 <i>Sorex minutus</i></p> <p>*Asian House Shrew 52 <i>Suncus murinus</i></p> <p>*Bailey's Shrew 49 <i>Crocidura baileyi</i></p> <p>*Indian Long-tail Shrew 50 <i>Soriculus leucops</i></p> <p>*Sikkim Large-clawed Shrew 51 <i>Soriculus nigrescens</i></p> <p><b><u>UNGULATE</u></b></p> <p>*Himalayan Serow 56 <i>Capricornis sumatraensis</i></p>	<p>*Himalayan Musk Deer 57 <i>Moschus chrysogaster</i></p> <p>*Sambar Deer 59 <i>Rusa unicorn</i></p> <p>*Barking Deer 58 <i>Munticus muntjack</i></p> <p>*Himalayan Goral 60 <i>Naemorhedus goral.</i></p> <p>*Wild Pig 61 <i>Sus scroffa</i></p> <p><b><u>URSID</u></b></p> <p>*Asiatic Black Bear 13 <i>Ursus thibetanus</i></p> <p><b><u>VIVEERID</u></b></p> <p>*Himalayan Palm Civet 10 <i>Paguma larvata</i></p>
---	---



**Photo credit:**

Balaram Mafchan, Tandin Tshering, Sonam Pelkey (PNP): p32.

Jangchuk Gyeltshen (PNP): p21, 26, 35, 37, 41, 51.

Ugyen Lhendup (PNP): p60.

Phuntsho Wangdi (PNP): p24

Phurba Dorji (PNP): p14

Kado Rinchen (JSWNP): p5, 15, 62, 63.

**Photo from Google:** p8, 16, 17, 18, 20,22, 23, 25, 27, 28, 30, 31, 34, 36, 38,39,40,42, 43, 44, 45, 46, 47, 48, 49, 52, 53, 54, 64, 65.



Phrumsengla National Park  
Ura:Bumthang  
2024

ISBN 978-99936-730-8-8

