

THREATENED

MAMMALS OF KERALA

Dinesan Cheruvat
C. Radhakrishnan
J.R.B. Alfred

ZOOLOGICAL SURVEY OF INDIA

THREATENED MAMMALS
of
KERALA

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PREFACE

Since about the year 1400, when European exploration and colonisation began, several species of animals have become extinct, and, now extinction rates are increasing exponentially. Many of the recorded extinctions that have occurred in recent centuries have been caused by human activities. Most of the surviving species of big tropical animals will soon disappear outside of protected areas. Even in protected areas, large species are vulnerable except in the larger and most secure reserves. It is well known that larger animals often determine the spatial distribution of other species in ecological communities. When the large animals disappear, the ecological changes that follow will often be swift and profound.

77 species of mammals are now threatened in India. Kerala shares 24 of them.

The present book is designed with a view that it will be used as an identification manual by the interested workers who are fond of learning about these animals and generating the awareness for their conservation and perpetuation in nature.

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INTRODUCTION

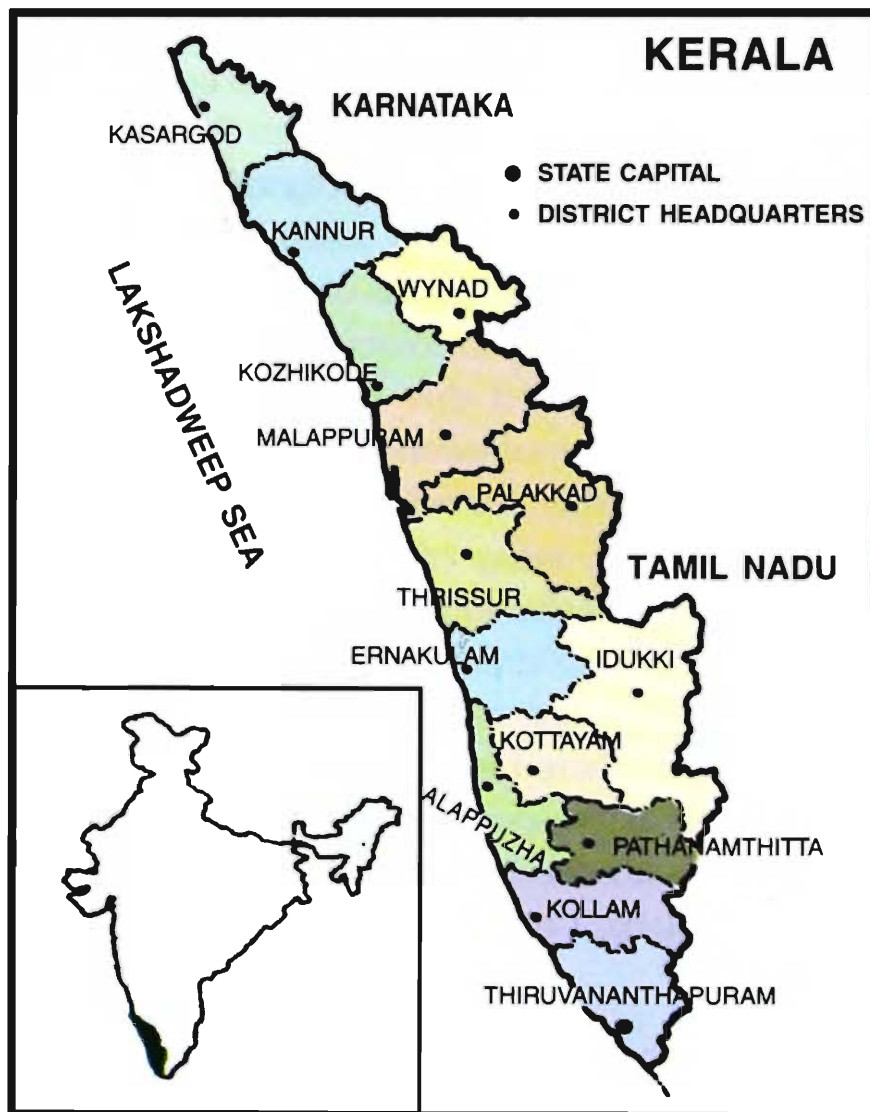
India harbours 408 species of mammals out of a world total of 4629. 93 species excluding aquatic and domestic ones are reported from Kerala of which, 24 species are considered threatened. About 25% of mammal species of the world are facing the threat of extinction. Among the species reported from India, 21% fall under the threatened category.

The state of Kerala, occupying an area of 38,855 sq.km. with a 550 km. long coastal line along the Southwestern extremity of Peninsular India, by its location, topography and environmental characteristics is endowed with the best remaining rain forests in the whole of peninsular India supporting rich and diverse fauna. Physiographically, the land is divisible into three divisions, the lowlands of coastal areas, undulating midlands of small to medium hills and the highlands occupying forested tracts of Southern Western Ghats. The thick rainforests of Western Ghats which is believed to have extended upto coastal areas are now very much destroyed and fragmented due to logging, expansion of commercial plantations, establishment of settlements and hydro-electric projects and other associated developmental activities of man. Consequently, many of the mammals have become highly localised in distribution and thereby threatened. The populations of many endemic (14 species in Western Ghats) and highly endangered mammals are now seen more concentrated and sheltered in the remaining forested areas of Southern Western Ghats especially Kerala. Some of the examples for such mammals are the Lion-tailed Macaque, Nilgiri Langur, Nilgiri Marten, Malabar Civet, Brown Palm Civet and the Nilgiri Tahr.

Many of the endemic mammals of Western Ghats show affinities to the Himalayan, North-East Indian and

South-East Asian forms. Nilgiri Tahr, Nilgiri Marten, Malabar Civet etc. are some such examples. The discontinuity of distribution of these animals in the intervening areas indicate major changes in geographic and climatic conditions that have occurred over the Indian subcontinent in the past resulting in faunal variations and similarities observed today.

The book deals with 24 threatened species of mammals found in Kerala, belonging to 21 genera under 12 families. Classification followed in the book is based on Wilson and Reeder (1993). Status is given after Zoological Survey of India Red Data Book (1994), but for some species, viz., *Vulpes bengalensis*, *Cuon alpinus*, *Melursus ursinus*, *Felis chaus* the same is given on the basis of observations of the authors in the state.



ABBREVIATIONS

Mal. Name	:	Malayalam Name
H B L	:	Head and Body Length
T L	:	Tail Length
Wt	:	Weight
Ht	:	Height at shoulder
WLS	:	Wild Life Sanctuary
TR	:	Tiger Reserve
NP	:	National Park
R	:	Rare
EN	:	Endangered
ID	:	Indeterminate
VU	:	Vulnerable
I.U.C.N	:	International Union for Conservation of Nature and Natural Resources
W.W.F	:	World Wide Fund for Nature
S.S.C	:	Species Survival Commission
WL (P) Act, 72	:	Indian Wildlife (Protection) Act,1972
App. CITES	:	Appendix of Convention on International Trade in Endangered Species of wild flora and fauna

NUMBER OF MAMMALIAN SPECIES REPORTED FROM KERALA

Order	Family	No. of Genera	No. of Species
PRIMATES	Loridae	1	1
	Cercopithecidae	3	4
CARNIVORA	Canidae	3	3
	Ursidae	1	1
	Mustelidae	3	4
	Viverridae	3	4
	Herpestidae	1	4
	Felidae	3	6
PROBOSCIDEA	Elephantidae	1	1
ARTIODACTYLA	Suidae	1	1
	Tragulidae	1	1
	Cervidae	3	3
	Bovidae	3	3
	PHOLIDOTA	Manidae	1
LAGOMORPHA	Leporidae	1	1
INSECTIVORA	Erinaceidae	1	1
	Soricidae	1	4
RODENTIA	Sciuridae	4	8
	Muridae	6	12
	Hystricidae	1	1
CHIROPTERA	Pteropodidae	3	4
	Emballonuridae	1	3
	Megadermatidae	1	2
	Rhinolophidae	2	8
	Molossidae	1	1
	Vespertilionidae	6	10
SCANDENTIA	Tupaiaidae	1	1
Total : 10 Orders		27 Families	57 Genera 93 Species

Aquatic mammals (Orders: Sirenia & Cetacea) and domestic mammals not included

THREATENED MAMMALIAN SPECIES OF KERALA

Order : PRIMATES

Family : LORIDAE

1. Slender Loris
Loris tardigradus (Linnaeus) (VU)
Family : Cercopithecidae
2. Lion Tailed Macaque
Macaca silenus (Linnaeus) (EN)
3. Nilgiri Langur
Trachypithecus johnii (Fischer) (VU)

Order : CARNIVORA

Family : CANIDAE

4. Indian Fox
Vulpes bengalensis (Shaw) (VU)
5. Indian Wild Dog
Cuon alpinus (Pallas) (VU)
Family : URSIDAE
6. Sloth Bear
Melursus ursinus (Shaw) (VU)
Family : MUSTELIDAE
7. Clawless Otter
Amblonyx cinereus (Illiger) (VU)
8. Nilgiri Marten
Martes gwatkinsii Horsfield (ID)
Family : VIVERRIDAE
9. Malabar Civet
Viverra civettina (Blyth) (EN)
10. Brow Palm Civet
Paradoxurus jerdoni Blanford (ID)
Family : FELIDAE
11. Tiger
Panthera tigris (Linnaeus) (VU)

12. Leopard
Panthera pardus (Linnaeus) (VU)
13. Jungle Cat
Felis chaus Güldenstaedt (VU)
14. Fishing Cat
Prionailurus viverrinus (Bennett) (VU)
15. Leopard Cat
Prionailurus bengalensis (Kerr) (VU)
16. Rusty-spotted Cat
Prionailurus rubiginosus I.Geoffroy (R)
- Order : PROBOSCIDEA**
Family : ELEPHANTIDAE
17. Asian Elephant
Elephas maximus (Linnaeus) (VU)
- Order : ARTIODACTYLA**
Family : TRAGULIDAE
18. Mouse Deer
Moschiola meminna (Erxleben) (VU)
Family : Bovidae
19. Fourhorned Antelope
Tetracerus quadricornis (Blainville) (VU)
20. Gaur
Bos frontalis Lambert (VU)
21. Nilgiri Tahr
Hemitragus hylocrius (Ogilby) (EN)
- Order : PHOLIDOTA**
Family : MANIDAE
22. Indian Pangolin
Manis crassicaudata Gray (VU)
- Order : RODENTIA**
Family : SCIURIDAE
23. Grizzled Giant Squirrel
Ratufa macroura (Pennant) (EN)
24. Small Travancore Flying Squirrel
Petinomys fuscocapillus (Jerdon) (EN)

1. SLENDER LORIS

Loris tardigradus (Linnaeus)

Mal. Name : Thevanku, Kuttithevanku

Hindi Name : Sharmindi Billi

Range : South India (Andhra Pradesh,
Tamil Nadu, Karnataka, Kerala)
and Sri Lanka



Habitat : Evergreen, semi evergreen, deciduous forests,
open woodlands and swamp forests

Size : HBL : 20-25 cm. Wt. : Average Male 300 gm.
Female 200 gm.

Diagnosis

Body hairy; colour variable from grey to brown with paler under side; head rounded with large, round eyes encircled with brown colour; ears large; limbs long and slender.

This is a small arboreal nocturnal primate without a tail, having the size of a kitten. In Kerala this animal is mostly seen in Wynad, Silent Valley, Parambikulam and a few other sanctuaries.

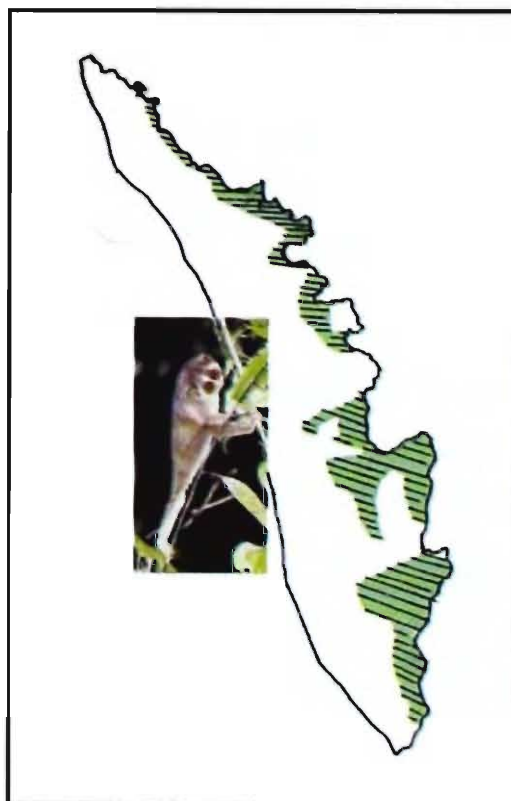
Being nocturnal, this secretive and slow moving animal is rarely sighted. They are found solitary or in pairs mostly on tree tops but may come down to bushes to feed. In addition to the plant food (leaves, buds, fruits etc.) they also feed on insects, lizards, birds and rodents. They capture their prey with a quick grasp using both hands. When irritated, they screech, chatter or growl. They breed twice a year during April-May and October-November. One or two young ones are born after a gestation period of about 160 - 174 days. Young ones are seen with the mother suckling even after they are half grown.

Out of the six subspecies of this animal, two occur in India. The subspecies found in Kerala is *Loris tardigradus malabaricus* Wroughton.

Status : Vulnerable

Once fairly common, the animal has suffered much recently. Superstition regarding the medicinal value of its eyes and flesh led to indiscriminate hunting of this animal. Like many other wild species, habitat destruction has also taken a heavy toll. This is also an experimental animal used for research.

Placed in Schedule I of the WL (P) Act, 72 and in App. II of CITES. This animal is known to occur in Silent Valley NP.



2. LION TAILED MACAQUE

Macaca silenus (Linnaeus)

Mal. Name : Shingala, Simhavalan Kurangu, Nella manthi.

Hindi Name : Siah Bandar

Range : South India (Karnataka, Tamil Nadu, Kerala).

Habitat : Dense evergreen, semi evergreen forests.

Size : HBL : 46-61 cm. TL : 25-38 cm. Wt : 3 -10 Kg



Diagnosis

Characterised by the glossy black coat, the mane of brownish grey hairs around the face and the tufted tail.

In Kerala this animal is seen in Silent Valley NP, Periyar TR, Parambikulam, Neyyar, Peppara, Shenduruny and Aralam WL sanctuaries.

This macaque inhabits thick forests at an altitude of 600- 1300 metres and is endemic to Southern Western Ghats. Like most

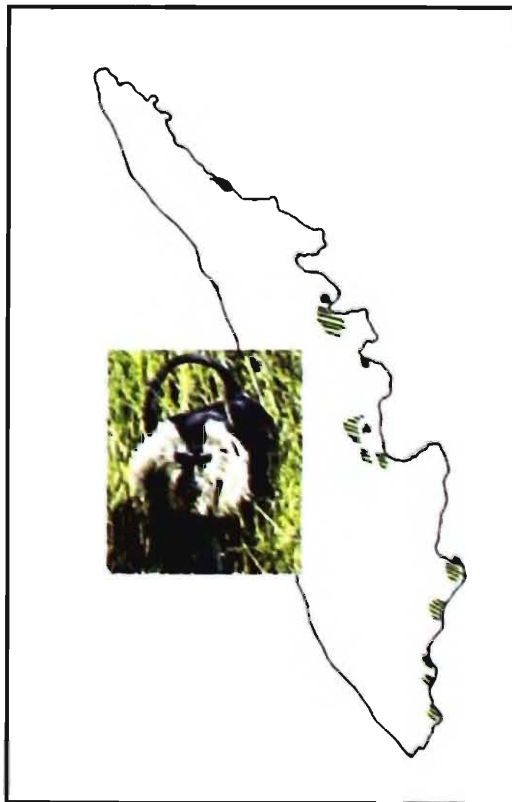
other monkeys, they are gregarious and the troop may consist of about 7-41 animals. Mostly arboreal, they seldom come to the ground. They feed on insects and other invertebrates, leaves, buds, fruits etc. The fruits of *Cullenia exarillata* form an important moiety of its diet.

The breeding season starts in January and usually a single young one is born after a gestation period of six months. Their life span is estimated to be about 30-35 years.

Status : Endangered

Based on the wildlife census, 1993, Kerala has a population of 564 Liontailed Macaques. Loss of habitat is the main threat to its survival. This animal is also persecuted for its alleged aphrodisiac and other medicinal properties of its flesh. This animal is also susceptible to the Kyasanur monkey disease. The present population in its entire range is estimated to be about 3000-4000 individuals. In Kerala, the largest population of about 400 individuals exist in Silent valley-New Amarambalam area.

Placed in Schedule I of the WL (P) Act, 72 and App. I of CITES.



3. NILGIRI LANGUR

(John's Langur, South Indian Leaf Monkey,
South Indian Black Leaf Monkey)

Trachypithecus johnii (Fischer)

Mal. Name : Karimkurangu, Karimanthi.

Hindi Name : Not available

Range : South India (Karnataka, Tamil Nadu and Kerala).



Habitat : Moist evergreen, semi evergreen and moist deciduous forests.

Size : HBL : 58-80cm. TL : 75 -96 cm. Wt : 9-14 Kg.

Diagnosis

General body colour glossy black or buff; a white patch of hairs on the inner side of thigh in females.

This is the only langur endemic to India and is seen in South Indian hill forests. This highly agile monkey lives in troops of 3-5 individuals possessing a home range of 0.65 - 2.6 sq. km. Though

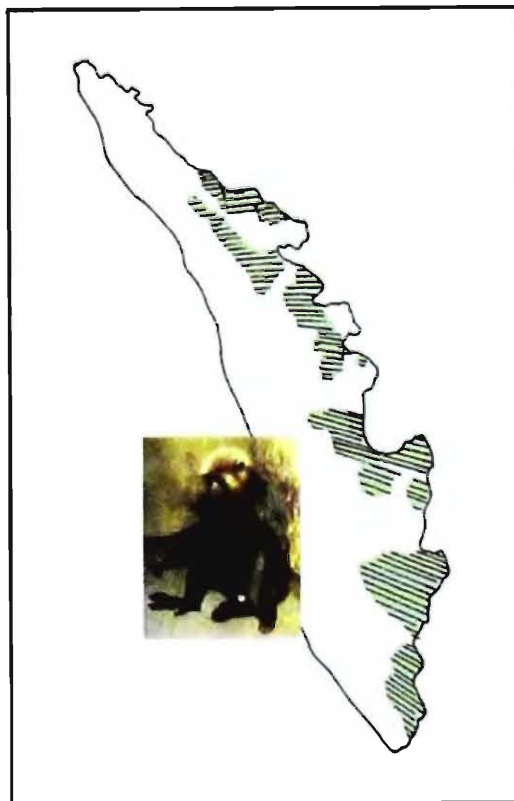
dominance is seen, fight among individuals seldom occur. The diet include seeds, fruits, leaves, shoots and occassionally insects. Sometimes they invade cardamom and other plantations near forests.

Breeding extend throughout the year. However, two peak periods are reported during June to September and November to February, when most of the births occur.

Status : Vulnerable

Based on wildlife census, 1993, Kerala has a population of 2987 Nilgiri Langurs. Hunting for its fur and flesh and destruction of its natural habitats have decreased the number of this animal drastically. Flesh of this animal is an ingredient in many local medicines, which is allegedly said to be an aphrodisiac. Human settlements and other developmental activities near forests are major threats to its survival. They are present in most of the WLS of Kerala, though their number is decreasing.

Listed in Schedule II of WL (P) Act, 72 and in App. II of CITES.



4. INDIAN FOX *Vulpes bengalensis* (Shaw)

Mal. Name : Kurunari, Kurukkan

Hindi Name : Lomri, Lom, Lokri, Lokeria.

Range : India, Pakistan, Bangladesh, Nepal.



Habitat : Scrub jungle, open country, rocky hills.

Size : HBL : 45- 60 cm. TL : 25 - 35 cm. Wt : 1.8 - 3.2 Kg.

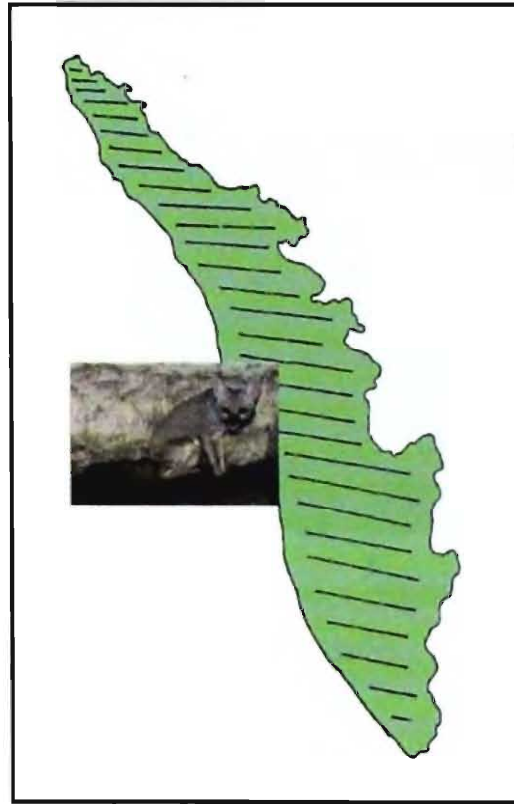
Diagnosis

Much smaller than Jackal and readily distinguishable by its slender body and limbs, general grey colour of the coat and a characteristic black-tipped long bushy tail which touches the ground. Belly paler white; ears externally dark brown; chin and throat whitish.

The Indian fox avoids dense forest. It prefers scrub jungle, open country, rocky areas, cultivated lands, waste lands and even suburbs of cities. It lives in burrows dug by itself. This is a nocturnal animal coming out of its den at dusk. Unlike jackal it does not attack poultry, but like jackal it feeds on a variety of items ranging from fruits, berries, melons to insects, crabs, reptiles and small mammals like rodents. The call of this animal is a kind of chattering bark audible as a sharp yelp repeated three or four times. Normally 4 cubs are born after a gestation period of 50-53 days. It breeds during February to April.

Status : Vulnerable

In Kerala this animal is not very common like jackal. Hunting for its pelt in many parts of India has resulted in the depletion of population in many of its former ranges.



5. INDIAN WILD DOG (Dhole)

Cuon alpinus (Pallas)

Mal. Name : Chennai, Kattunay

Hindi Name : Dhole, Jangli kutha

Range : India, Pakistan, Bangladesh, Myanmar, Russia, China, Korea, Mongolia and S. E. Asia.



Habitat : Evergreen and deciduous forests, grasslands, woodlands, open country

Size : HBL : 90-96 cm. TL : 36-43 cm. Ht : 43-55 cm.
Wt : 15-20 Kg.

Diagnosis

Coat colour reddish; tail long pendant and bushy, tip being darker in colour; differs from domestic dog, jackal and wolf in having only six molars in the lower jaw, instead of seven; number of teeth 12-14 as opposed to 10 in domestic dogs.

This is a gregarious animal living in packs. The number of individuals in a pack may go upto 30. Three Indian races have been recognised of which the peninsular form is *Cuon alpinus laniger* Pocock. In Kerala, this animal is restricted to forests only.

In Kerala a very good population of this animal exists in Periyar

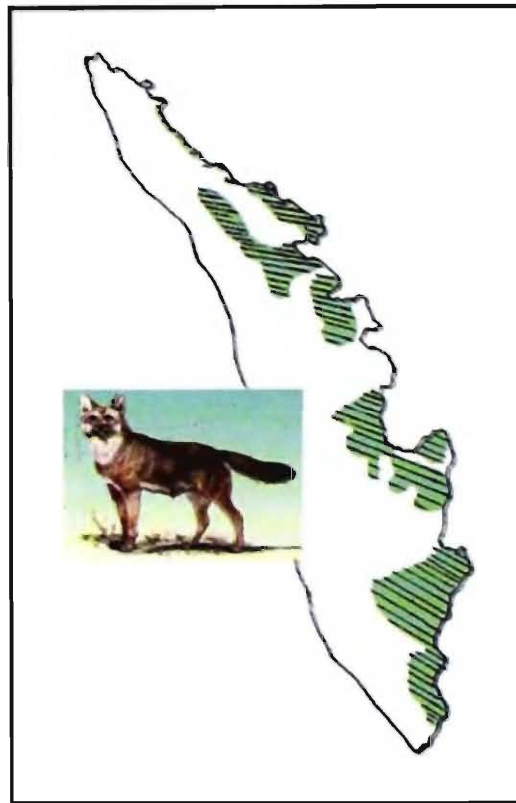
T.R, Eravikulam N.P., Idukki, Neyyar, and Wynad WL Sanctuaries. Probably Periyar T. R supports the largest population.

The animal is mostly diurnal. All members of the pack take part in hunting. Well coordinated hunting technique enables them to predate large herbivores like sambar. Besides sambar, they feed on spotted deer, barking deer, wild boar, Nilgiri Tahr etc. Breeding season is between November and December. 4-6 pups are born after a gestation period of about 9 weeks. Pits, caves or crevices are used as its den.

Status : Vulnerable

Their population has suffered mainly due to the loss of natural habitat and the resultant depletion of prey species. The prey killed by the wild dogs are often stolen by local people, chasing the animals away. Being one of the dominant predators of the forest ecosystem, it needs strict protection measures.

Listed in Schedule II of WL (P) Act, 72 and in App. II of CITES.



6. SLOTH BEAR

Melursus ursinus (Shaw)

Mal. Name : Madiyan karadi, Puni karadi

Hindi Name : Bhalu, Rinch or Reech

Range : India, Bangladesh, Sri Lanka.



Habitat : Evergreen and deciduous forests, woodlands, thorn bushes

Size : HBL : 140-170cm. Ht : 65-85cm. Wt : 127-145 Kg.

Diagnosis

Large black hairy animal with a prominent white V- shaped patch on the breast; muzzle long and lighter in colour; claws long, strong and white in colour.

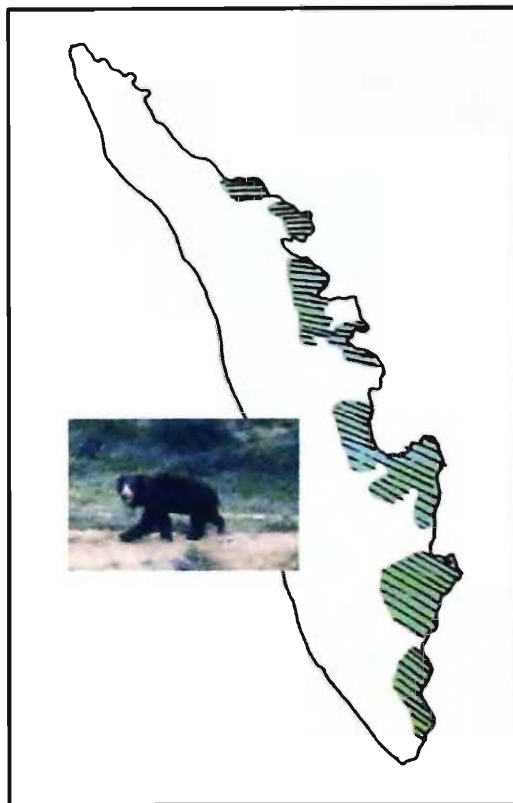
The animal is mostly nocturnal and is present in most of the sanctuaries of Kerala. Periyar TR supports a very good population. Being an omnivorous animal it feeds on a variety of items. Leaves, fruits, seeds, beetles, termites etc. are eaten largely. It has a particular liking for honey. It climbs rocks and trees to get honey. Huge termite mounds are torn and broken to get termites and grubs. It also feeds on carrion when food is scarce.

Usually two young ones are born after a gestation period of seven months. The cubs are carried on the mother's back. Longevity is about 40 years.

Status : Vulnerable

Degradation of habitat, indiscriminate hunting, trapping for zoos, circuses etc. have resulted in the decline of population of this animal. Alleged medicinal value of its bile has caused killing of this animal in many areas.

Listed in Schedule I of the WL (P) Act,72 and App. I of CITES.



7. CLAWLESS OTTER
(Oriental Small Clawed Otter)
Amblonyx cinereus (Illiger)

Mal. Name : Nirmai

Hindi Name : Ud, Ud bilao, Pani kutha

Range : Indian subcontinent, Myanmar, S. China, Taiwan, S.E. Asia to Sumatra.



Habitat : High hill streams and lakes in forests.

Size : HBL : 45-58 cm. TL : 25-35 cm. Wt : 3-6 kg.

Diagnosis

Body colour dark above, paler below; claws rudimentary and do not project beyond pad; feet narrow, partially webbed; tail thick at base, tapering gradually to the tip.

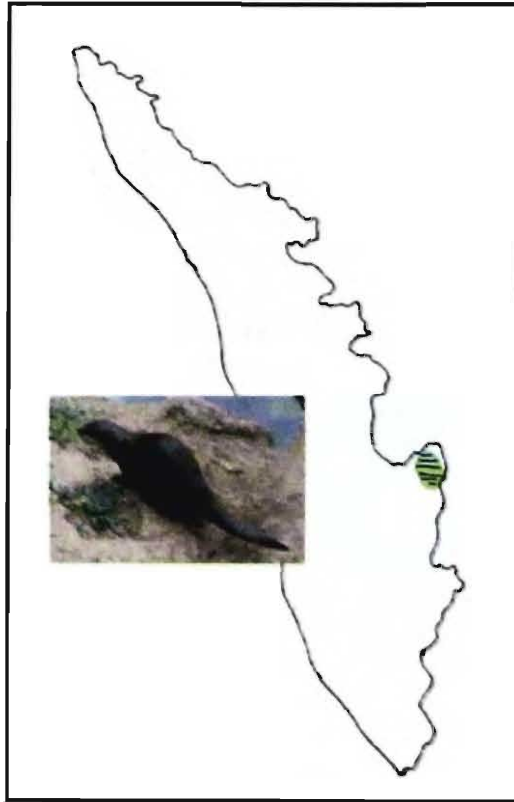
This is the smallest of Indian otters. Among the 3 subspecies *Amblonyx cinereus nirmai* (Pocock) occurs in Kerala.

In Kerala they are seen in cold high hill streams only. They hunt in groups and feed mainly on crabs, molluscs and other small aquatic animals. Data on breeding are not available.

Status : Vulnerable

Not a very common otter in Kerala. The main threat to its survival seems to be the destruction or conversion of its habitat.

Listed in Schedule II of WL (P) Act,72 and in App. II of CITES.



8. NILGIRI MARTEN

(South Indian Yellow Throated Marten)

Martes gwatkinsii Horsfield

Mal. Name : Maranai, Karumveruku, Koduvalli

Hindi Name : Not available

Range : South India (Karnataka, Tamil Nadu, Kerala).



Habitat : Moist deciduous forests and shola grasslands.

Size : HBL : 60 cm. Wt : 2Kg (Measurements based on a single specimen, Riley 1913)

Diagnosis

Coat colour reddish brown to deep brown dorsally, throat and breast yellow or orange yellow; tail bushy; head dorsally flattened.

About the size of a common otter, this Mustelid is endemic to S. Western Ghats. In Kerala it is reported from Neyyar and Peppara W. L. S., and Silent Valley and Eravikulam National Parks. They are usually seen in moist deciduous forests and shola grasslands above 900 m altitude.

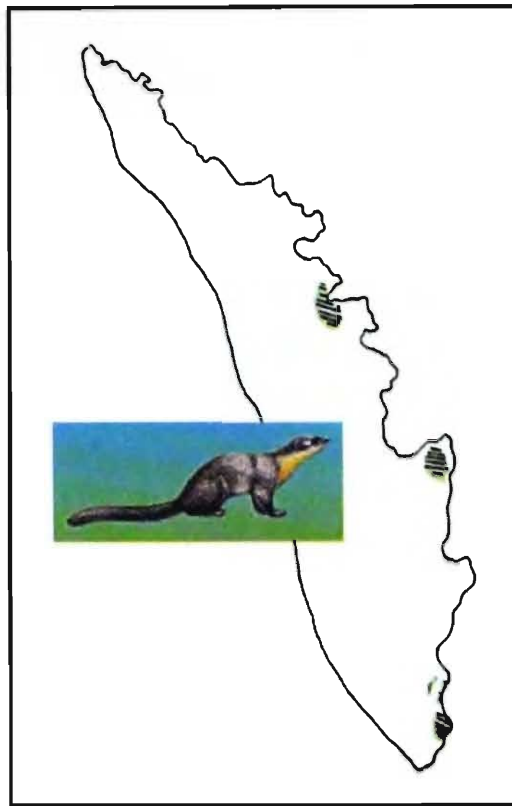
This animal is generally arboreal moving amidst tree branches with ease. It has an unpleasant body odour which restricts the natives from eating its flesh. Nilgiri Marten is a solitary animal and feeds on a variety of food which vary from rats, squirrels, hares, birds and their eggs, insects, fruits, buds, flowers and honey.

Sufficient data is not available on its breeding habit.

Status : Indeterminate

This animal is restricted to isolated areas of S. Western Ghats. Information on distribution and status are still inadequate.

I. U. C. N. (S. S. C's specialist group) has listed the animal as a threatened species for priority based conservation action.



9. MALABAR CIVET *Viverra civettina* (Blyth)

Mal Name : Jawad, Mala meru, Malabar veruku, Kannan chandu.

Hindi Name : Not available

Range : South India (Karnataka, Tamil Nadu, Kerala and Probably Goa and Maharashtra).



Habitat : Hill slopes, woodlands and riparian forest areas along the foothills of Western Ghats.

Size : HBL : 75-80 cm. TL : 33-45 cm. Wt : 6.5-8 kg.

Diagnosis

Fur grey or tawny in colour with a crest of black hairs or bristles on the back from the neck to tail tip and large black spots on the sides of the body which do not form any pattern; tail with six broad black rings, tail tip black in colour.

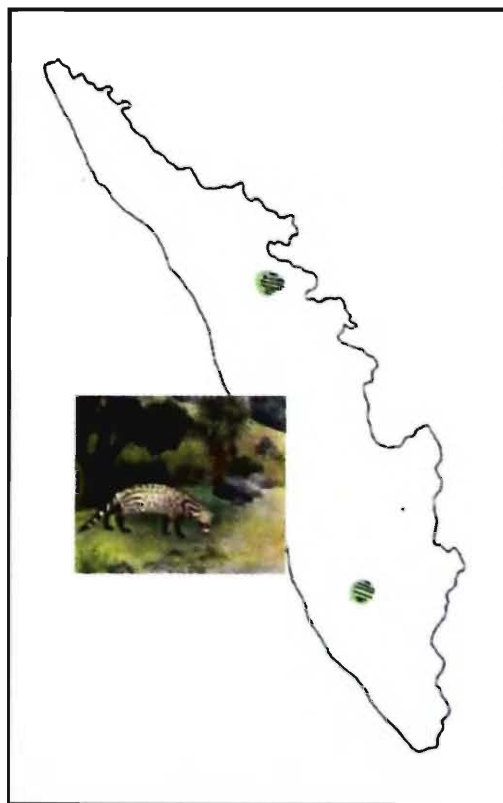
As large as a country dog, the Malabar Civet occurs along the Southern West coast only.

Though the animal inhabits mostly well wooded country side of coastal areas, it has been reported from hill areas also. Besides, they have a particular liking for scrub forests and cashew plantations. Its behaviour and ecology are less studied. In Nilambur area of Kerala, a small population is believed to exist.

Status : Endangered

This highly endangered animal was once believed to be extinct. However, it is rediscovered after a period of 58 years from Malappuram district of Kerala in 1987. There are subsequent indirect evidences of its occurrence in other places of Kerala and Karnataka. The species occur at very low densities in highly fragmented sub-optimal habitats where hunting is prevalent. This civet was hunted in the past for its ornamental pelt as well as for its musky civet glands. This species is listed as a priority species for conservation by the Small Carnivore Specialist Group of the I.U.C.N.

This is the only civet listed in Schedule I of the WL (P) Act, 72 and in App. III of CITES.



10. BROWN PALM CIVET
(Jerdon's Palm Civet)
Paradoxurus jerdoni Blanford

Mal. Name : Kanthakeeri
Hindi Name : Not available
Range : Maharashtra, Karnataka, Tamil Nadu, Kerala.



Habitat : Evergreen, semi evergreen and deciduous forests.
Size : HBL : 59 cm. TL : 52 cm. Wt : 3.6 Kg.

Diagnosis

About the size of a toddy cat; colour dark brown on head, shoulder and limbs, the back and sides being greyish brown; tail often white tipped.

The Brown Palm civet is a shy animal and is an endemic species of the Western Ghats. The general habit of this animal is not well studied. In Kerala, this animal is known to occur in Silent Valley N P, Shenduruny W.L.S and Periyar T R.

Status : Indeterminate.

Placed in App. III of CITES.



11. TIGER

Panthera tigris (Linnaeus)

Mal. Name : Kaduva

Hindi Name : Bagh, Sher

Range : Oriental region (except few areas like Sri Lanka, Borneo and Phillipines), Siberia, Turkey, Iran and Afghanistan.



Habitat : Evergreen and Deciduous forests, open jungles, grasslands and swamp forests.

Size : HBL : 140-280 cm. TL : 60-110cm. Wt :115-280 kg.

Diagnosis

Yellowish brown or reddish yellow to brown in colour with black stripes on the body, face and limbs, under side being white; tail with characteristic black rings; toes with sharp retractile claws.

Tigers are solitary nocturnal animals mostly living in dense forests. Indian Tiger is distributed throughout the forested regions of India. In Kerala this animal occurs in most of the wildlife

sanctuaries, highest number being in Periyar Tiger Reserve. Many of the subspecies of this animal are extinct and the remaining eight subspecies are under the threat of extinction. The Indian subspecies is *Panthera tigris tigris* (Linnaeus).

This beautiful but ferocious animal is characterised by strong muscular body and powerful limbs.

Both sexes of this animal are territorial with large home ranges. Only female's home range may overlap with that of the males. Home range of male comprises of about 60-100 sq. km. whereas that of the female is about 20 sq. km. Hoofed animals like Gaur, Sambar, Chital, Barking deer, Wild boar etc., form the major food item of tiger. They also feed on smaller mammals, birds, reptiles, fishes and occasionally live-stock. Man is not a natural prey of the animal; however, a few individuals are frequently reported to be man-eaters. Man-eaters are usually females, old or disabled ones.

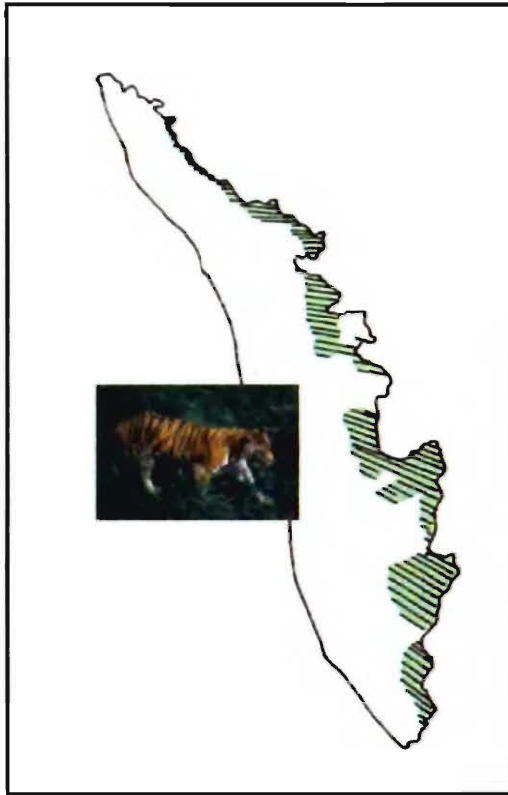
Usually the males approach the females during the mating season. They mate for about 100 times over a period of two days. 2-3 cubs are born after a gestation period of 103-105 days. Females take great care in protecting the cubs. Young ones are shifted from place to place, a feature seen in most of the cats. Sexual maturity is attained at about 3 years of age. Life span is estimated to be about 20-25 years.

Status : Vulnerable

Tiger, our national animal, is severely under the threat of extinction. It was estimated that in India the number of the tigers at the turn of this century was about 40,000. By 1972, the number has fallen drastically to less than 2000. This prompted the Government of India to launch the 'Project Tiger' Scheme in association with W W.F. Tiger reserves were established throughout the country (27 now) to protect the tiger and its habitats. Consequently the population of tigers began to increase and at present they number about 4000 in India. Still they are not free from threats. The major threats are poaching, habitat depletion and the resultant decrease of prey species. Tiger is hunted for its flesh, bones, skin, teeth, nails etc. Tiger bones having the alleged aphrodisiac value are in great demand in China and Europe. In

India the frequent seizures of tiger bones indicate that the Indian Tiger is once again facing high threat to its survival.

Placed in Schedule I of Indian WL (P) Act. 72 and in App. I of CITES.



12. LEOPARD

(Panther)

Panthera pardus (Linnaeus)

Mal. Name : Pulli Puli

Hindi Name : Tendwa, Chita, Sona Chita, Chita Bagh.

Range : Oriental region, Korea, N. China, Russia, Middle East and Africa.



Habitat : Evergreen, semi evergreen and deciduous forests, woodlands, open country and grasslands.

Size : HBL : 100-190 cm. TL : 70 -95 cm, Wt : 50-70 kg.

Diagnosis

The coat colour of the Indian races vary from grayish yellow to fulvous with irregular black rosette like spots all over the body, but spots on the head, limbs and middle of the back are solid black; belly white; tail black ringed towards tip.

Once a widely distributed carnivore in most of the African and Asian regions, the continuity of distribution has become disrupted recently and some of the subspecies of this animal (of a total of 7 subspecies) are extinct in their former range.

This animal readily catches the attention being beautiful due to its strong, slender and sturdy body and a long tail. In thick rain forests, especially of Western Ghats, black (melanic) panthers are reported (black panther).

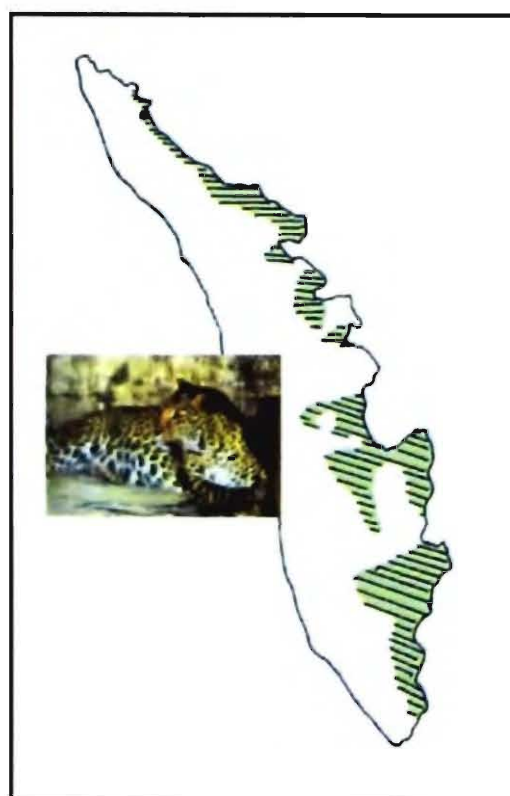
This animal is adapted to a variety of habitats and is in fact the most widely distributed member of the cat family. This is a solitary, territorial animal. Territory of a female include about 10-30 sq. km which may partially overlap with that of others. Territory of a male may encompass territories of 3 to 4 females. Territory is defended and marked by spraying urine on tree trunks, stones, logs or other objects. This agile runner can climb as well. They can even drag a medium sized kill up a tree branch. They kill and eat anything that they can manage which vary from deers, antelopes, monkeys, pigs, porcupines, hares, rodents to birds and reptiles. Near villages, they also prey upon cattle, dogs and donkeys. Prey is pounced upon and killed by a single bite on the throat.

Leopards breed throughout the year. 2 to 4 cubs are born after a gestation period of 90 - 105 days. Females become sexually mature by 2½ to 4 years. Longevity is about 15 to 23 years.

Status : Vulnerable

Once a widely spread species, its habitat has drastically shrunk recently. Hunting for its pelt and decline of prey species have reduced the number of this animal. However, there appears to be a trend towards increase in its population in various areas. This animal is killed due to its attack on livestock and human beings.

Placed in Schedule I of WL(P) Act,72 and in App. I of CITES.



13. JUNGLE CAT

Felis chaus Guldenstaedt

- Mal. Name : Kattu poocha, Pongan poocha
 Hindi Name : Khatas, Jangli Billi
 Range : N. Africa, Middle East, Indian sub continent, Myanmar, Thailand, Vietnam.



- Habitat : Semi evergreen and deciduous forests, scrub jungles, grasslands.
 Size : HBL : 56-94 cm. TL : 23-31 cm. Ht : 35 -38 cm.
 Wt : 5- 6 Kg.

Diagnosis

Larger than a domestic cat characterized by its slender body, long legs, large pointed ears and yellowish grey coat; underside paler; limbs with 2-3 or more dark stripes; tail with black rings towards the tip; dark stripes from each eye to the muzzle; eyes pale green or yellowish.

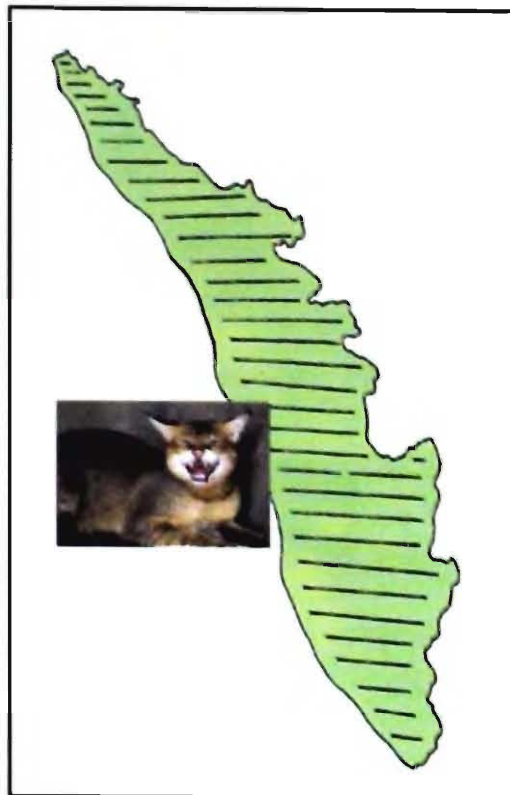
This animal is adapted to a variety of habitat conditions ranging from marshes, grasslands, bushlands to forests. They are even seen in drier areas. They are more diurnal, mostly active in the morning and evening. They feed on frogs, reptiles, birds and small mammals. They are very swift and courageous in killing their prey. In village they frequently attack poultry.

Jungle cats breed twice a year and the two breeding periods are between January to April and August to November. 3- 5 kittens are born in a litter after a gestation period of about 66 days. Eyes open at about 11-15 days after birth. Kittens can be tamed. Melanic individuals are also sometimes reported.

Status : Vulnerable.

Once widely distributed, rapid urbanisation and the consequent alteration of the habitats have affected this species seriously in recent times.

Placed in App. II of CITES.



14. FISHING CAT (Large Tiger Cat)

Prionailurus viverrinus (Bennett)

Mal. Name : Meen poocha

Hindi Name : Bagh Dasha

Range : India, Sri Lanka, Myanmar, Bangladesh, Indonesia, Taiwan.



Habitat : Dry deciduous scrub jungle, grass-lands, swamps and tidal creeks.

Size : HBL : 57-85 cm. TL : 25-33 cm, Ht : 38-41cm.
Wt : 11-15kg.

Diagnosis

Head elongate; limbs short, forefeet with moderately developed web between the toes, claws not fully retractile; tail with 6-7 dark bands; coat coarse, light greyish brown with dark brown spots; forehead with 6-8 black lines running down to the neck; cheek with a pair of white stripes edged with black; ears short, blunt and dark coloured on its back with a white spot.

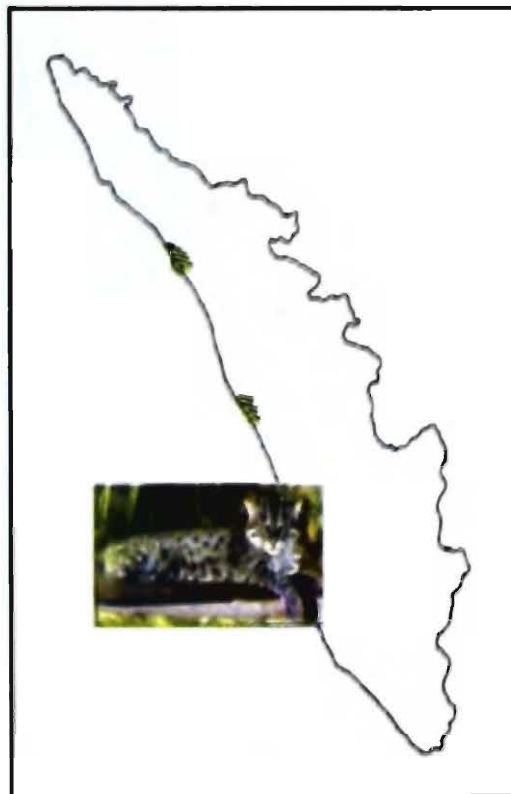
The Fishing cat is much larger than a domestic cat. It lives in forests, scrub jungles, swamps, tidal creeks and thickets found

along the streams and rivers. It feeds on small mammals, birds, fish, insects, molluscs etc. It catches fish from water by scooping up the fish with its paws, hence the name, fishing cat. This animal is known to attack larger animals like goats, dogs and calves of cattle. Very little is known about the breeding habits of this animal.

Status : Vulnerable

This is not a uniformly distributed species. Loss of preferred habitats have caused the decline of population in many areas.

Placed in Schedule I of the WL (P) Act, 72 and in App. II of CITES.



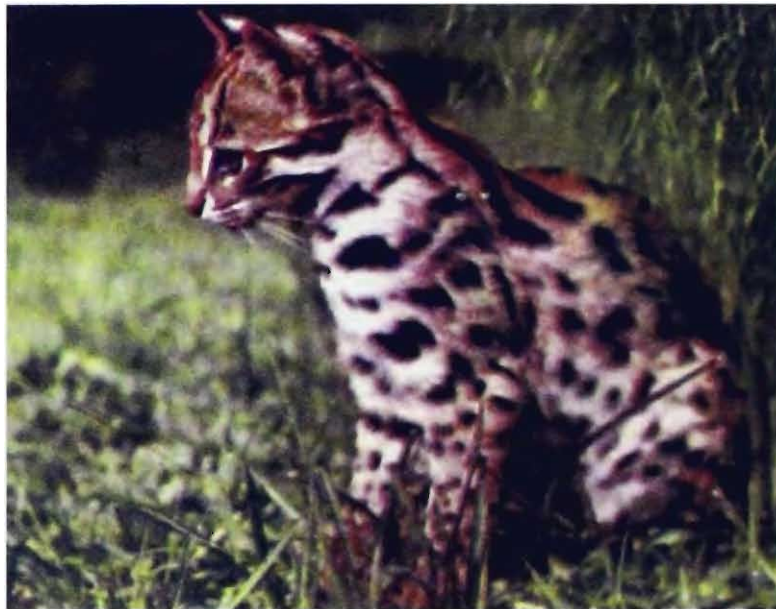
15. LEOPARD CAT

Prionailurus bengalensis (Kerr)

Mal. Name : Puli poocha, Pulli poocha

Hindi Name : Chita Billi

Range : Oriental region, Siberia, Korea, N. E. China.



Habitat : Dry deciduous scrub forests and grasslands.

Size : HBL : 35-60 cm. TL : 15-40 cm. Ht : 20-45 cm.
Wt : 3-7 Kg.

Diagnosis

General colour of the body yellowish grey to pale fulvous with black or brownish spots; lower part white; cheek with black stripes enclosing a light area between them and with similar stripes running from forehead to neck which break at the shoulder; tail tip with black cross bars.

About the size of a domestic cat, this beautiful nocturnal animal is seldom seen and is mostly confined to forest and adjoining grass lands. The black spots like that of the leopard gave the name, leopard cat, to the animal.

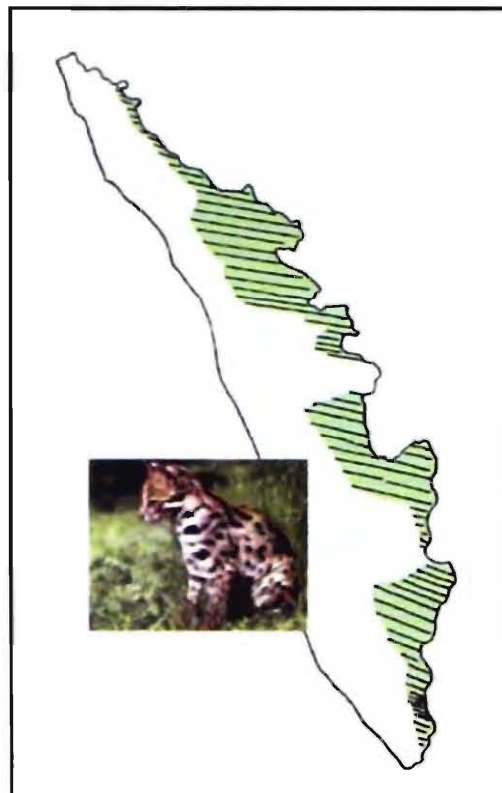
This agile climber takes shelter in holes or hollows of trees during the daytime and start hunting at dusk. It preys on small animals like hares, squirrels, small deers, rodents, lizards and birds.

2-4 young ones are born in a litter after a gestation period of about 65-70 days. Young ones attain sexual maturity at about 2 ½ years. Life span is about 12-15 years.

Status : Vulnerable

Habitat destruction and hunting for its beautiful pelt has resulted in the depletion of its population. Demand as pets and exhibits are additional threats to its survival.

Placed in Schedule I of WL (P) Act, 72 and in App. I of CITES.



16. RUSTY SPOTTED CAT *Prionailurus rubiginosus* Geoffroy

Mal. Name : Thurumban Poocha, Valli Poocha

Hindi Name : Not available

Range : India (Southern India particularly Western Ghats upto the Dangs. Madhya Pradesh and parts of Jammu & Kashmir) and Sri Lanka.



Habitat : Scrub jungle and grasslands

Size : HBL : 35 - 48 cm. TL : 15 -25 cm. Wt : 1 -2 Kg.

Diagnosis

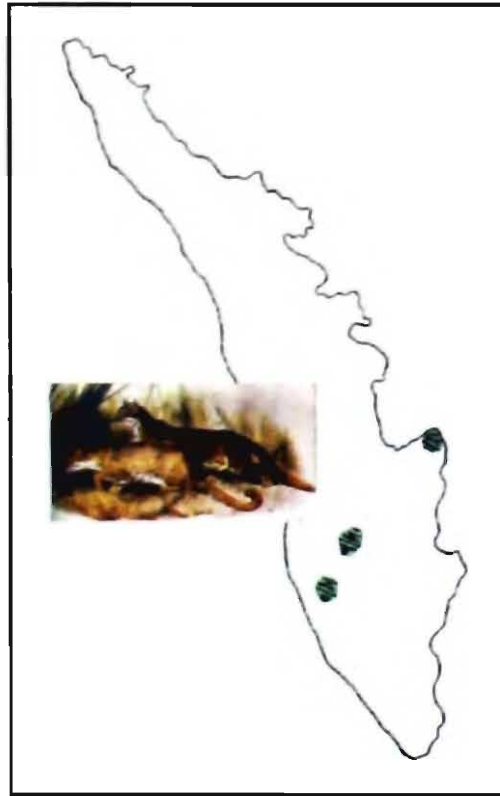
Coat smooth, greyish brown with rusty spots on the back and sides which are longitudinal on the back and roundish on the sides; under side of the body and the inner side of the limbs paler with dark spots; face with two dark streaks and top of head and nape with 4 dark brown stripes; tail moderately long, uniformly rufous in colour; ears small and rounded.

The rusty spotted cat is smaller than a domestic cat. The animal inhabits scrub jungle and grasslands and to a lesser extent they are arboreal. Its prey animals include small mammals, birds and insects. Young ones can be tamed and are playful. Very little is known about the habits and ecology of this animal.

Recent sighting reports of this cat in Kerala are from Kottayam and Alappuzha.

Status : Rare

The population of this animal seems to be very scarce. Placed in Schedule I of the WL (P) Act, 72 and in App. I of CITES.



17. ASIAN ELEPHANT *Elephas maximus* Linnaeus

Mal. Name : Aana

Hindi Name : Hathi

Range : India, Sri Lanka, Bangladesh, Bhutan, Myanmar, S.China, S. E. Asia, Indonesia.



Habitat : Deciduous forests and grasslands.

Size : HBL : 5.50 m-6.40 m. Ht : 2.5 3 m. Wt : upto 5000Kg.

Diagnosis

Easily recognizable by its massive size and long trunk or proboscis.

Elephants are remarkable for its massive size, unique beauty, intelligence and association with man in many ways. They have been domesticated even from the days of Indus valley civilisation. They are captured in pits or enclosures and domesticated. They have been in use of mankind for logging operations, circuses, processions and festivals. They were formerly used in warfare.

Asian elephant differs from African elephant being smaller in size, in absence of tusks in females, absence of a dip or curve on the back, possession of comparatively smaller ears and a single lip like structure on the trunk end. There are four nails on each hind foot instead of three as in the African elephant. Asian elephant also has two characteristic prominences above the eyes. Tusks are smaller in length when compared to the African elephant.

The long and attractive trunk or proboscis is a very useful organ for the animal, helping in feeding, drinking, greeting fellow beings, fighting and caressing the body. The large earlobes are richly supplied with blood vessels and act as a kind of radiator helping the animal in temperature regulation. Senses of smell and hearing are well developed but the eye sight is poor. Tusks are the defensive and offensive structures in males.

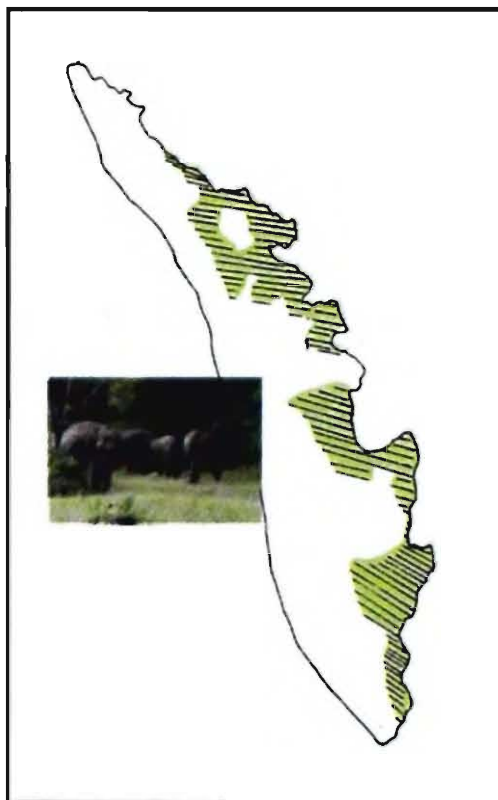
In the wild they are usually seen in hilly or undulating terrain which are forested or grassy. They may come to plains during certain period of the year. Bamboo forests are their preferred habitats. They live in herds of single families which may break into two or more, when their numbers increase. The oldest and the strongest female is the leader of the herd. Adult males stay away from the herd. There are also tuskless males called 'Makhnas' which are solitary and like other adult males pair with female at the breeding season. Elephants are more active during morning and evening hours and retreat to shades during midday. They spend most of the time feeding. They feed on a variety of plant materials. Elephant herd possesses a large home range to ensure enough food and water, each animal feeding about 150 Kg. of plant materials and drinking about 70 -90 litres of water daily. They are good swimmers and swim across wide rivers and reservoirs. They make a variety of sounds which vary from growling, whistling, bellowing to screaming. The trumpeting sound is mostly produced when they are excited. Elephants show migratory movements and the migratory routes are used by generations.

One, rarely two young ones are born after a gestation period of 20 -22 months.

Status : Vulnerable

Based on the wildlife census, 1993, Kerala has a population of 2388 Elephants. Once a highly distributed species, they are now confined to isolated habitats and their number has reduced drastically. Human settlements, hydro-electric and irrigation projects and other developmental activities have reduced their habitat very much. Their migratory routes being disrupted, isolated population in many areas are in danger. Moreover, they are widely hunted for the 'precious' ivory resulting in the drastic decline of male animals. Largest population of Asian elephants occur in India. Periyar Tiger Reserve support a population of about 1000 individuals. The heavy habitat destruction has caused wild elephants to find food in cultivated lands causing conflict with man. The 'Project Elephant Programme' intended to restore the wild population and their habitat may help the animal in future.

Listed in Schedule I of the WL (P) Act, 72 and in App. I of CITES.



18. MOUSE DEER
(Spotted Mouse Deer, Indian Chevrotain)
***Moschiola meminna* (Erxleben)**

Mal Name : Koorra maan
Hindi Name : Pisura, Pisorā
Range : India, Sri Lanka, Nepal.



Habitat : Dense evergreen, semi-evergreen and deciduous forests, grassy hill sides.
Size : HBL : 45-55 cm. TL : 10-14 cm. Wt : 2.2 - 2.7 Kg.

Diagnosis

Characterised by its small size, high hindquarters, olive brown coat with white stripes and spots; ventral side white; throat with three white stripes; males with elongated upper canines; both sexes without horns or antlers.

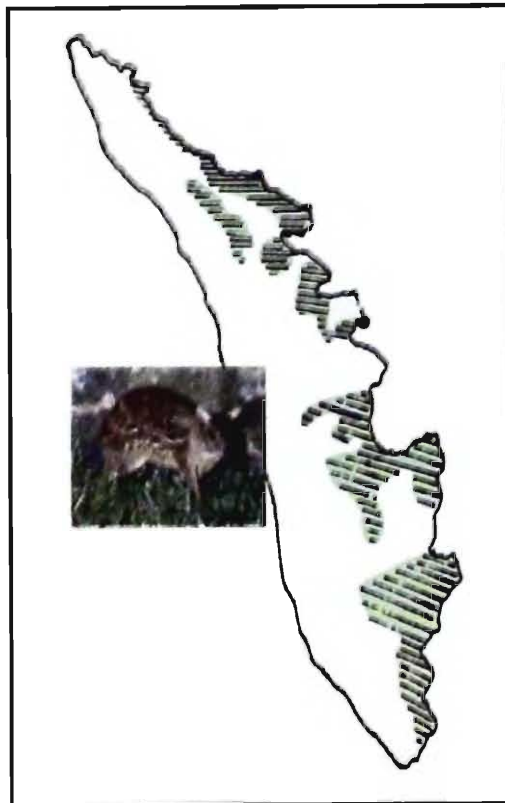
They are very secretive, solitary animals mostly restricted to forests and are more active in the morning and evening, feeding on leaves, buds, herbs, grasses and shrubs. When in danger this timid animal shows remarkable ability in escaping into holes and crevices.

One or two young ones are born after a gestation period of about 140 days. Young ones can be easily tamed.

Status : Vulnerable

Loss of habitat, predation and hunting by man for its flesh have reduced the number of this animal and presently it is not seen in many of the areas of its distributional range.

Listed in Schedule I of the WL (P) Act, 72.



19. FOURHORNED ANTELOPE

Tetracerus quadricornis (Blainville)

Mal. Name : Nalkomban maan

Hindi Name : Chowsingha, Chowka, Doda

Range : Peninsular India



Habitat : Deciduous woodlands

Size : HBL : 90-110 cm. TL : 10 -15 cm. Ht : 55-65 cm.
Wt : 15-25 Kg.

Diagnosis

Coat colour of the male dull red brown above and whitish ventrally, older males being yellowish; front of each leg with a characteristic long dark stripe; fur thin, harsh and short; males with two pairs of horns, the front pair being shorter (2-4cm) than the posterior pair (8-10cm).

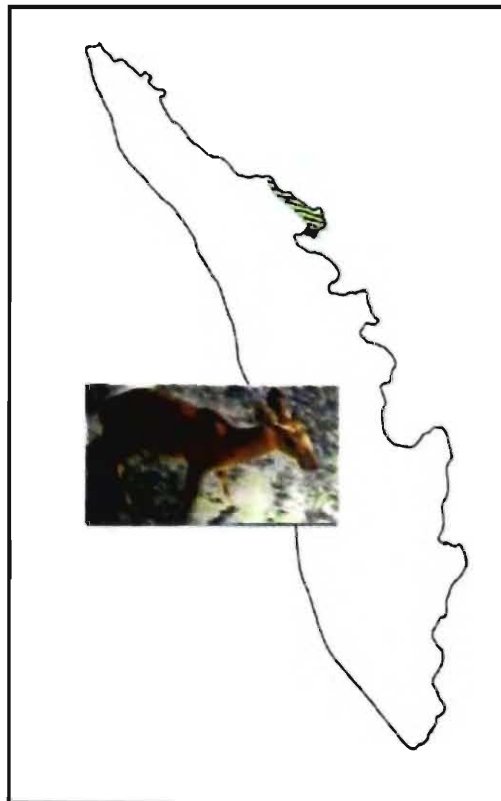
In Kerala this animal is reported from Wynad forests only. Boselaphinae can be easily distinguished from the true antelopes (Antilopinae) by the distinctive structure of the horns which are not ringed as in true antelopes but keeled in front. Females do not have horns. Fourhorned Antelope is the only Boselaphinae having two pairs of horns.

Four horned Antelope is not a gregarious animal and lives singly or in pairs seen in open hilly forest near water sources. They are usually nocturnal and seclusive. They are possibly monogamous and territorial. Bucks are said to be aggressive during the mating season which commences in June. One to three young ones are born at a time after a gestation period of about eight months. Young ones can be easily tamed. Longevity is about 10 Years.

Status : Vulnerable

Habitat shrinkage and poaching for its flesh have reduced the number of this animal considerably and it is now rare in many of its previously distributed areas.

Listed in Schedule I of the WL (P) Act, 72 and in App. III of CITES.



20. GAUR
(Indian Bison)
***Bos frontalis* Lambert**

Mal. Name : Kattupothu, Katti

Hindi Name : Gaur

Range : India, Sri Lanka, Bangladesh, Nepal, Myanmar, S.E. Asia



Habitat : Deciduous forests and grasslands

Size : HBL : 250-340 cm. TL : 70-110 cm. HT : 170 - 200 cm. Wt : 700 - 940 Kg.

Diagnosis

Body massive; head large; horns thick, pale greenish in colour with black tips and forming an almost half circle; a prominent muscular ridge from shoulder to middle of the back; colour varying from light brown to reddish brown to black.

Present in most of the wildlife sanctuaries of Kerala. Older animals are jet black in colour whereas the newly born are golden yellow to fawn.

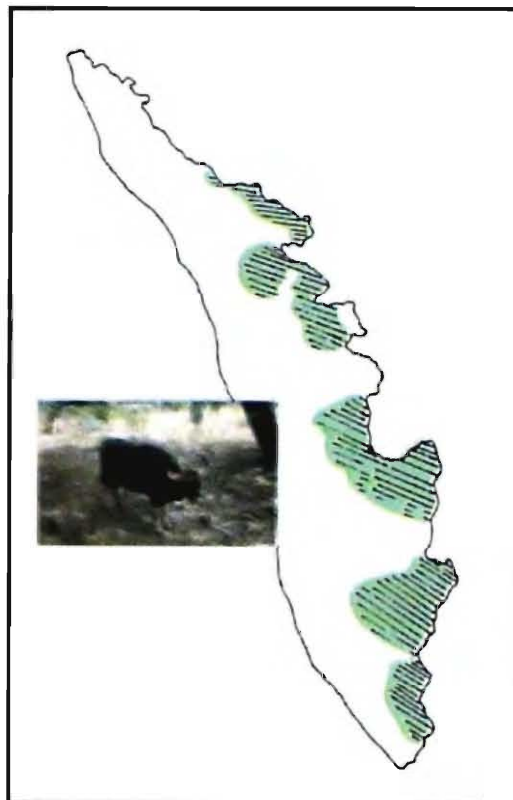
Gaurs live in small herds of 8 to 12 individuals but during the season when food and water are not enough they form larger

herds and migrate. However, exclusive male groups are also reported. The animal is generally diurnal in habit but become nocturnal in disturbed areas. They mostly graze in the morning and evening taking shelter in the noon. The diet include grass, shoots, leaves, barks of trees, fruits etc. The animal does not bathe or wallow like buffaloes. During breeding season males roam in search of receptive females and once located the female is defended from other males. Usually one, rarely two calves are born at a time. Gestation period is about 285 days. Sexual maturity is attained at 2-3 years of age. Longevity is about 20 years.

Status : Vulnerable

Gaurs, once widely distributed on the hill tracts and to a certain extent the foothills of Kerala are now confined to sanctuaries. Poaching for its flesh and skin and destruction of its habitat are the major reasons for its decline. Rinder pest, foot and mouth disease etc., often transmitted from domestic cattle take a heavy toll of this species in many states.

Listed in schedule II WL (P) Act, 72 and App. I of CITES.



21. NILGIRI TAHR

Hemitragus hylocrius (Ogilby)

Mal. Name : Varayadu

Hindi Name : Not available

Range : South India (Tamil Nadu, Kerala)



Habitat : Grassy uplands and lofty table-lands

Size : HBL : 110-150 cm. TL : 10- 15cm. Ht : 80-110 cm. Wt : 50-100 Kg.

Diagnosis

Fur short and rough; horns rounded, transversely wrinkled and bent backwards; general colouration dark yellowish brown, paler on the underside; females and the young ones grey; coat of males with age very deep brown, almost black with a distinctive light 'saddle patch' on the loins.

In India two species of Tahrs are seen. The Himalayan Tahr of Himalayan region and the Nilgiri Tahr of Southern Western Ghats. Nilgiri Tahr is the only wild goat of Kerala. The largest population of this species live in Eravikulam National Park. Besides, in Kerala scattered populations are also seen in Neyyar,

Peppara, Periyar, Chinnar, Peechi - Vazhani, Parambikulam and Silent Valley forests.

Though slightly larger, the Nilgir Tahr resembles the Himalayan Tahr in most features.

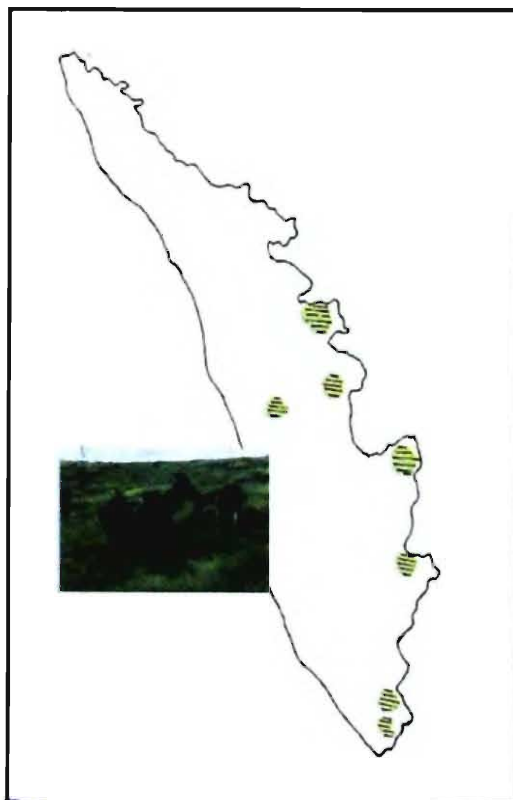
Nilgiri Tahrs prefer open grasslands and steep hill slopes beyond the forest line at an altitude of about 1300 - 2600 meters above mean sea level. They live in herds of 5-50 individuals; even larger herds are occasionally seen. They are active in the morning and evening and feed mainly on grass, leaves and herbs. The herd possesses a territory. Old bucks often lead a solitary life except during breeding season. When the herd rests one or more does stand as 'sentinels' This behaviour is also seen in other wild goats. Major predators of the Tahr are Panther, Tiger and Wild dog.

Breeding season probably extends throughout the year as the young ones are reported in most months. One, rarely two young ones are born after a gestation period of about 180 days.

Status : Endangered

This is an endemic species of Southern Western Ghats. The population of this animal has suffered heavily due to poaching, habitat loss, establishment of human settlements and diseases.

Placed in Schedule I of the WL (P) Act, 72.



22. INDIAN PANGOLIN

Manis crassicaudata Gray

Mal Name : Eenampechi, Urumputheeni, Alungu

Hindi Name : Bajra kit, Bajra kapta, Suraj Mukhi, Silu, Salsala.

Range : India, Sri Lanka, Nepal, Myanmar, S. China.



Habitat : Moist deciduous forests.

Size : HBL : 60-75 cm. TL : 45-55cm. Wt : 8-9 Kg.

Diagnosis

Characterised by hard overlapping scales that cover upperpart of head, back, sides of the body, limbs and tail; scales in 11-13 rows round the body, yellowish brown in colour and striated at base; feet with strong claws, the middle claws being prominent; tail broader at base and little shorter than the body.

This is a nocturnal animal. Feet are provided with strong claws for digging. This animal can protect itself by curling in the shape of a ball when attacked. Tail is prehensile.

The animal lives in burrows dug by itself. They generally move very slowly. The animal often stands on its hind legs to have better view of the surroundings. They mainly feed on termites and ants. Termite and ant mounds are broken with the strong forelimbs and the insects are caught with the help of glutinous tongue and swallowed. They have an acute sense of

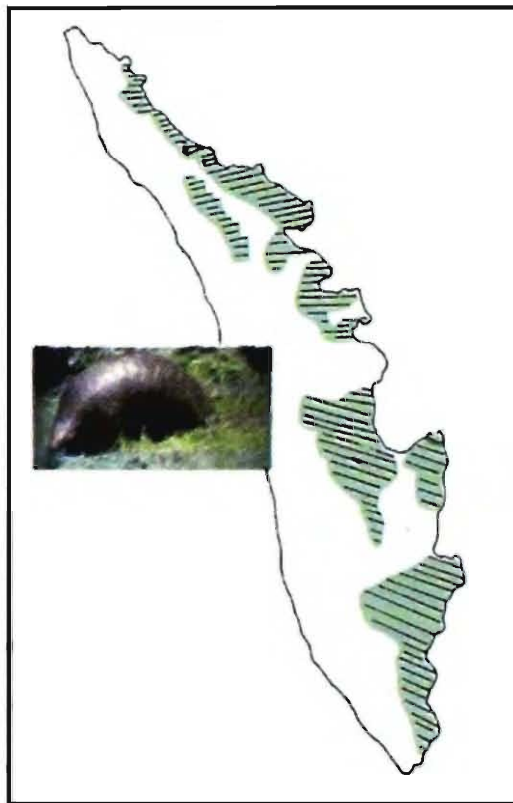
smell. Sight and hearing are poorly developed. The only sound known to be produced by this animal is an aggressive snort or loud hiss.

Very little is known about the breeding biology of the animal. Usually one, rarely two young ones are produced. New born has soft scales. Young ones are carried by the mother on its tail and when disturbed will hold its baby on the ventral part and curl on.

Status : Vulnerable

This animal is fairly distributed throughout India. The threat to its survival in many parts of India is due to the superstition regarding the aphrodisiac property of its flesh. Natives also use the scales as ornaments.

Placed in Schedule I of the WL (P) Act, 72 and in App. II of CITES.



23. GRIZZLED GIANT SQUIRREL

Ratufa macroura (Pennant)

Mal. Name : Chambal malayannan

Hindi Name : Not available

Range : South India (Karnataka, Tamil Nadu, Kerala),
Sri Lanka.



Habitat : Deciduous and evergreen forests.

Size : HBL : 29-41 cm. TL : 35-40 cm.

Diagnosis

Coat colour brownish grey, grizzled with white on the upper part of the body and tail; crown of the head, shoulders and toes blackish brown, ventral side including chin, neck and inner side of limbs white or yellowish white; ears oval and pointed in shape and not tufted.

This animal is slightly smaller than the Malabar Giant Squirrel. In Kerala it is seen in Chinnar wildlife sanctuary alone. The animal is diurnal in habits and frequents deciduous and

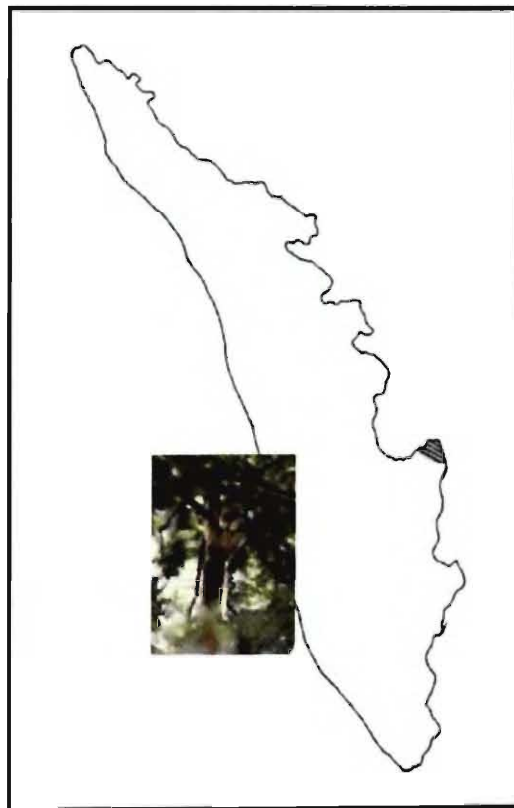
evergreen forests. They are highly arboreal, seldom descending to the ground. Food items are fruits, nuts and insects. They build large globular nests on trees made of twigs and leaves. One or two young ones are born at a time.

The Indian form belongs to the subspecies *Ratufa macroura dandolena* (Thomas & Wroughton).

Status : Endangered

In India this species occur in Kaveri Valley of Karnataka, Srivilliputhur of Tamil Nadu and Chinnar of Kerala. The localised habitat and the small population size emphasises the necessity of protecting their available habitats intact.

Listed in schedule II of the WL (P) Act, 72 and in App. II of CITES.



24. SMALL TRAVANCORE
(Flying Squirrel)
Petinomys fuscocapillus (Jerdon)

Mal. Name : Paran, Parayannan

Hindi Name : Not available.

Range : India (South Kerala), Sri Lanka.



Habitat : Evergreen and deciduous forests.

Size : HBL : 19cm. TL : 27cm.

Diagnosis

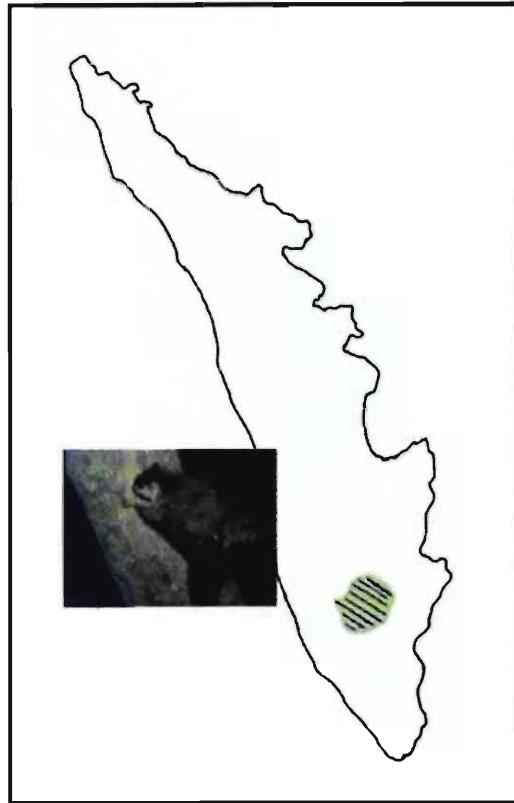
Coat colour reddish brown above, sides darker than back, cheeks and the sides of the belly white and tail bearing a central line of blackish hairs; fur thick and tail bushy; each outer ear with a pencil of soft hairs at its base greatly exceeding the ear in length.

The small Travancore Flying Squirrel is a medium sized animal. It is nocturnal in habit, passing the day in holes in trees in the hilly forests. Females give two young ones at a birth. The animal feeds on fruits, shoots, leaves and bark of trees.

Status : Endangered

The Indian subspecies *Petinomys fuscocapillus fuscocapillus* (Jerdon) is extremely localised in distribution, limited to the medium altitude hill forests of south Kerala.

Placed in schedule I of the WL (P) Act 72.



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ERRATA

Page No.	Reference	Printed as	To be read as
4 & 5	1st Line under family	LORIDAE	LORISIDAE
15	Under Diagnosis	No. of teaths 12- 14	No. of teats 12-14
38	Under Diagnosis	tail moderately long, uniformly	tail moderately long, uniformly
55	Heading	SMALL TRAVANCORE (Flying Squirrel)	SMALL TRAVANCORE FLYING SQUIRREL

