Mammals of Jaintia Hills

Jaintia Hills Wildlife Division
Department of Forests & Environment
Government of Meghalaya

FOREWORD



The state of Meghalaya is rich in wild flora and fauna. Both these forms of creatures, whether it be in beauty and splendour, richness and variety or their forms and uses, would stand in comparison favourably with those in any other parts of the country and the world, which has rich biodiversity.

Unlike the rest of the country, majority of the forests, the main habitat of mammals in Meghalaya, are owned by communities and private individuals. The flora and fauna in Meghalaya, including the mammals cannot be conserved protected without active cooperation and involvement of local communities. The establishment of Community reserve in the Community owned Forests of the region is a silver lining towards conservation of Wildlife and the Mammals in particular in the areas other than the Government Owned Forests. The increase in their Population will in turn boost the economy of the region through Ecotourism as well as improve the ecological service of the environment. It is heartening to note that the owners of several such community owned forests have voluntarily came forward to allow the State Government to notify such areas, which are rich habitat for flora and fauna, as Community Reserves. The Current National Wildlife Action Plan aims at building, enhancing and sustaining people's support and participation in Wildlife Conservation is no longer a matter of choice but an absolute necessity in the emerging scenario of wildlife management in the country.

It is hearting to note that the Wildlife Wing of Forests and Environment Department has taken initiative to publish a Pictorial Handbook on "Mammals of Jaintia Hills" to make the public aware of the rich faunal wealth of the Jaintia Hills. I congratulate all the officers and the staff involved in publication of this Booklet.

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FOREWORD



Mammals are the animals that human knows best, perhaps, since the primeval period of his hunter-gatherer-status. Mammals are the most advanced of all the other groups (classes) of animals of the world today. The members have a worldwide distribution living in diverse eco-habitats like marine and fresh water systems, glaciers, forests and deserts, and range in size from tiny bumblebee bats to enormous blue whales. Mammals are among the most adaptable animals on the planet. They are found on every continent and in every ocean. One reason for their success is the way they move. Mammals as a group use every possible form of locomotion. Terrestrial species walk, run, jump, climb, hop, swing, dig and burrow. Aquatic ones swim, shuffle and dive. A few even fly. The mammalian diversity reported from the world is about 4629 species, of which 408 species are recorded from India, with 44 of them endemic to the country.

Meghalaya, a beautiful mountainous State located in North Eastern India is home to a fascinating array of wild animals. The State is rich in fauna which has been broadly documented by well known Wildlife Researchers.

Jaintia Hills region, located in Eastern part of the State has a rich diversity of fauna and the home of the critically endangered species such as the Wroughton's Free Tailed bats, the endangered Hoolock Gibbon, Clouded Leopard and the mighty Asian Elephant. Wide variation in elevation, topography, forest types and land use provide a favourable environment for existence of various species of Mammals.

To make the Public aware about the rich diversity of the Mammals in the region and to seek their cooperation and involvement in conservation and protection of the existing species of Mammals and their habitats, the office of the Divisional Forest Officer, Jaintia Hills Wildlife Division, Jowai has taken an initiative to publish this Pictorial Booklet on "Mammals of Jaintia Hills". This Booklet can be used as a field guide by the students, researchers, foresters.

I express my sincere appreciation to Smt. H. Lato, MFS, Divisional Forest Officer, Jaintia Hills Wildlife Division, Jowai; Shri S. Law, Range Forest Officer and entire team of the officers and staff of the Division for their efforts in publication of this highly useful and informative Booklet. I sincerely hope that this Booklet will help in creation of awareness among the residents of the Jaintia Hills for conservation of its rich faunal wealth.

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PREFACE AND ACKNOWLEDGEMENT



In an endeavor to create an awareness on the need to conserve Wildlife among the young minds and as part of Wildlife week celebration, students of the regions were asked to draw/paint the picture of any wildlife available in their Village. Its almost a very rare occasion to come across a drawing sheet, depicting a locally available mammals of the region. The consequence makes me realize that the elusive mammals were hardly visualized. It compels me and my team to collect photos of the mammals through camera traps and compile it in the form of this booklet. The Booklet aims to generate an awareness among the public about the rich diversity of Mammals and to seek their cooperation and involvement in conservation sequentially protecting the existing species and their habitat.Jowai

I express my sincere gratitude to Shri. B. K. Lyngwa, IFS, Principal Chief Conservator of Forests & HoFF, Meghalaya who has always motivated me to work with passion and dedication.I am indebted to Shri. S. M. Sahai, IFS, Additional Principal Chief Conservator of Forests (Biodiversity & Wildlife) & Chief Wildlife Warden, Meghalaya who has been supportive towards the publication of this booklet.

I would also acknowledge the inspiration of Dr. Anwaruddin Choudhury who had personally motivated me to develop an immense passion towards Wildlife conservation. I would also acknowledge the contribution of Dr. Rajkamal Goswami of ATREE through his technical guidance during the first faunal survey in Jaintia Hills conducted by this Division. I express my sincere thanks to Dr Adora Thabah for photographic contribution in this booklet

The booklet could see the light of the days due to the cumulative efforts of Shri. S. Law, Forest Ranger who had extended his helping hand in compilation of this booklet.I deeply appreciate the efforts of the team including Shri. S. P. Lamare Fr-I, Shri. M. Syrpuh, Fr-I, Shri. E. Suchiang, Fr-I, Shri. G. Ryngkhlem, Fr-I, Shri. M. Najiar, Fr-I, Shri. C. Chadong, Fgd, Shri. S. Susngi, Fgd, Shri. J. Lyngdoh O/Driver, Shri. R. Talang (M/R), Shri. R. Bamon (M/R), Shri. H. Lyngdoh (M/R), Shri. G. Susngi (M/R), Shri. H. Susngi (M/R), Shri. E. Chadong (M/R), Shri. E. Rymbai (M/R), Shri. B. Snieh (M/R), and everyone who has contributed in compilation of this Booklet.

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INTRODUCTION

The Jaintia Hills region comprises of two Districts namely the East Jaintia Hills and West Jaintia Hills. The region is located in the eastern part of Meghalaya. The region is blessed with abundant rainfall and a picturesque landscape dotted with rolling hills, meandering rivers, cascading waterfalls and rich forests. The region covers an area of 3819 Sq.Km. The region is bounded by Assam on North, East and South East side, by Bangladesh on South-West side and by Khasi Hills region by West side.

The region is well known for its rich mineral wealth. Nevertheless, Jaintia hills region is also home to rich diversity of wild flora and fauna. The southern and Eastern belt of this region has distinguished characteristics. This area is characterised by its humid climate and high rainfall and such climate is conducive for the existence of very thick Forest, which harbours rich diversity of flora and fauna. The topography of this area is mostly hilly and rugged being a part of Archaean plateau, while south eastern area forms the part of Barail Range. The Kopili with its tributaries- the Myntang, Umkhen and the Myntdu with its tributaries the Prang, Umngot and Lukha drains water from this area. The area enjoys a tropical climate, the summers are hot and very humid in the Southern part and winters are cool and dry. The annual average rainfall ranges from 8,000 mm in the southern slopes to 2,000 mm in the extreme north. The natural vegetation is mostly tropical evergreen and semi-evergreen, while the plateau is of sub-tropical pine forest type with grassy blanks at places. There are pockets of marshy and valley forests supporting a rich eco-system. In the district three Schedule VI Plants has been found namely Pitcher plant (*Nepenthes khasiana*), Blue venda (Vanda coerulea) and Ladies sleeper (*Paphiopedilum venustum*).

Sign of richness of Wildlife in Jaintia Hills region:

Till the late 1970s, the most part of Jaintia Hills region was covered with high density of primary forest and in these forests resides the diverse fauna of the region. There were reports of Royal Bengal Tiger in saipung area, the whole of Jaintia Hills region is teeming with wildlife like leopard cats, clouded leopard and bear. In the year 2012, a Himalayan Black Bear cub was rescued from war Jaintia area side. In the year 2014, a adult clouded leopard was rescued from Padu Village. The resident capped langurs were sighted at Khloo Blai Tuber Community Reserve. These Langurs were in search of food and had even reached Jowai town. In addition pangolin, slow loris, civets, squirrels etc were being rescued from time to from all over the District. The mighty Asian Elephant which was the

glory of the past, which was present in many parts of the region is now confined only to the Narpuh Block I Reserve Forest in the hills of Sunaraja and along the Prank river. As per the Elephant census conducted in 2017, their number was just 15 to 20. At present these elusive mammals were mostly confined in the Narpuh Saipung area, which has the tracts of dense tropical forest with an wide of altitudinal variation with 50 m at Lukha river to 1360 m the highest point which is the summit of Lum bahboo bah Kong. These forests especially the Narpuh Wildlife Sanctuary is the last refuge of these inumerable diverse fauna including birds as per records available the first interim report on Wildlife of the District. The report gives an insight to the vast treasure of rich varieties of fauna inhabiting in the District.

Narpuh Reserve Forests nestled in eastern part of the Jaintia Hills, is one of the few places in the world where lush green multi-storied primary forests are still intact and serves as the last refuge of the existing wildlife. To ensure long term conservation and scientific management of wildlife and their habitat, a part of the Narpuh Reserve Forests was notified as a Wildlife Sanctuary in 2014. Out of 94.09 Sq km of the area of Narpuh Reserve Forest Block-II, an area of 59.9 Sq Km was carved out and converted into Wildlife Sanctuary in 2014. Since the Sanctuary is inaccessible and protected intensively, it still has retained its prestine nature. These forests are an ideal habitat for several species of wild animals. The Narpuh Wildlife Sanctuary is the home to several rare, endangered and endemic species of flora and fauna. Also being connected with the Saipung Reserve Forest and also share border with Barail Sanctuary in Assam. The sanctuary is bounded Lukha River in the North and Apha River in the south.

As per Champion and Seth Classification (1968), the forest types are Cachar Tropical Evergreen Forests (1B/C3) and Khasi Sub-Tropical Hills Forest (8B/C2). The forest due to various exogenous factors and anthropogenic interferences in the past had gradually changed resulting in distinct forest type. Two main types of forests are found in this areas depending upon altitude. In the lower warmer areas Cachar tropical evergreen and in the higher cooler regions Khasi South tropical hills forests are found.

Cachar Tropical Evergreen Forest(1B/C3) – This forest type is characterized by tall evergreen trees forming the bulk of the main top canopy, which is not contiguous and is completed by a lower canopy of smaller trees of lower height making the canopy uneven at place. Bamboos commonly occurred in

badly drain moist areas. Epiphytes are found in abundance along with few climbers. *Dipterocarpus species* occurrs very rarely in localized patches only. This type of forest constitutes trees such as *Mesua ferra, macaranga sp, Duabanga sp, Eugena jumbolina, Terminalia myrocarpa, Terminalia Chebula, Vitex penduncularis, Vitex Negundo, Mechelia champaca, Gmelina arborea, Dysoxylum benectiferum* and *Amoora wallichi.*

Khasi Sub-Tropical Hills Forest (8B/C2) – These comprise of dense evergreen forests where the height is not that much and rarely exceeds 20m for the dominated trees. Plants diversity are characterized by smooth cylindrical boles and rather branchy crowns. The lower storey is usually not distinguishable and the amount of shrub undergrowth varies considerably with the density of the upper canopy. There are heavy growth of epiphythes, ferns and phanerogams. The notable floristic associations here are that of *Schima, Bucklandia* and *Castanopsis species* which form the upper canopy along with *Cinnamomum and Michelia species, Ficus nemoralis* and *Betula alnoides.*



Picture: View of Narpuh Wildlife Sanctuary

Underneath the top story of tall trees of numerous species, forests in the Sanctuary have luxuriant growth of epiphytes, mosses and ferns. The floor of these forests is covered with a thick layer of moist humus.

There is a wide variation in elevation and topography which varies from the low lying plains of Lukha river to the steep summit of Lum Bahboo Bah Kong. Each landscape inside Narpuh Sanctuary has its own beauty and signature, walking on the bank of the crystal clear Lukha, one will encounter endless pug mark of leopard cat, civet cat, etc., who

comes to the river to quench their thirst especially during the lean period and also for feeding.



Pic: Pug mark of Leopard Cat



Pic: Crystal clear Lukha.

Walking through wood ascending along the rugged terrain with every hour the increase in the altitude till the summit of Lum Bahboo bah kong, one can witness the claw marks of the bears.



Pic: Claw Mark of Bear.



Pic: Pellet of serow

The sanctuary is interspersed with water hole, where pug mark, hoof marks of various kind create a beautiful imprint on the brim of the waterhole.





Pic: Water Hole and Hoof Mark



Pic: Forest inside Narpuh Wildlife Sanctuary

The crown density of forest which is almost 70 to 90% cover makes it easier for the rodents to glide from one tree to another tree. The silence of the forest in the late early morning in general braked by the calls of the Hoolock gibbon, which makes ones feel elated to hear. While walking ones can feel the many pair of eyes peeping through the leaves and shrubs, of which can be of a serow, barking deer, a wild boar, which cannot be seen but only be felt. There is an air of freshness and you can feel it while moving in the jungle. The area is also has richness in insects, beetles, ants, honeybees and butterflies, which are used as biological indicators because they are sensitive to even a slight change in the environment and also used in monitoring various pollutants in the environment.

The area is also the habitat for diverse range of flora from the herbs including the fern of different types, the ground orchids as well as epiphyte, herbs, shrubs, the tallest and the biggest tree still exist in the Sanctuary.

In this small landscape due to its diverse habitat, it has a rich variety of mammals ranging from the smallest bats to the mighty Elephants. Other than mammals the area also have a rich variety of Insects and Reptiles but in this small booklets it is a compilation of the photographic evidence of the mammals only available in region and Narpuh in particular. Mammals are the most charismatic of all fauna. Perhaps, it is because we belong to the order ourselves that we find them mesmerizing. Majestic cats fascinate us, gigantic elephant hold us spellbound and the primates remind us of our own origin. Mammals are group of

vertebrate animals constituting the class Mammalia and characterized by the presence of body hair, mammary glands in females produce milk for feeding the young ones, a specialized brain structure called neocortex, which generally result in large body-brain size ratio compared to other taxa of animals. Mammals are also marked by a high level of infant dependency. Mammals have unique skeletal characteristics as well, which distinguished them from other taxa. These characteristic distinguished them from reptiles and birds, from which they diverged in the carboniferous period over 300 million years ago. In Jaintia Hills region 43 species of Mammals was recorded, the largest orders are the rodents, bats and there are the primates (apes, monkeys and others), the Artiodactya (even toed ungulates) and the carnivora (Cats and others).



Pic: The Buttress tree Inside Narpuh Wildlife Santuary



Pic: The stunted trees with lichens attached to the trees at the altitude of 1360m at the summit of Lum bah boo bah kong. Lichens are in fact the "Ecological indicators" for clean air. As the air pollution level increases they disappear



Pic: Drifted log along Lukha River



The Black bat flower a rare flower inside Narpuh Wildlife Sanctuary

ORDER – PHOLIDOTA

The Order Pholodita comprises the pangolins or Scaly ant eaters of the old world. Pangolins or Scaly Anteaters are elongated, amour –plated insectivores with long tongue. The sloth and armadillos of Neotropical Region are their close relatives. They have armour of over-lapping scales which is unique. The jaws are elongated and lack teeth. These toothless animals feed exclusively on termites and ants, their tongues are coated with sticky glue-like saliva that helps them feed. They are unique in being able to curl up into a ball when threatened, tucking away vulnerable parts beneath armour-plated scales. They re-treat into ground burrows and seal them up with loose soil, making the burrow entrance inconspicuous. The overlapping scales keratinized scales, the long toothless snout the protruding glutinous tongue and their powerful forefeet with long claws are their chief diagnostic features. The Asian species have visible ear pinna and hair bristle between the scales.

Pangolins eat termites, ants beetles, larvae and ant eggs. They dig out prey using their powerful forefeet, shoveling earth backwards, in-serting their stick tongue into entrance of termite mounds or onto prey, and then retracting it into their tubular. They are primarily terrestrial, al-though they do climb trees and swim well. When walking they bow their front legs and tuck the long claws under them shuffling on all four legs when climbing, they use their tail as a prehensile limb.

They are sexually matured at two years having one, rarely two offspring. Their gestation period is 65-70 days. The young ones are six inched long when born, covered by soft scales that harden in couple of days, they suckle for up to four months.

Pangolin have been traditionally hunted for scales believed by the people of this region to cure Cancer and other major ailment of which was not true .









Common Name : Chinese Pangolin
Scientific name : *Manis pentadactyla*
Family : Manidae
Order : Pholidota
IUCN Status : Critically Endangered
WPA : Schedule-I (Part-I)
Local Name : Kyrbai (Pnar)/ Kyrbei Rit (Khasi)
Location Reported : Narpuh Wildlife Sanctuary and other parts of Jaintia Hills region.
Description :

Morphology : The Chinese pangolins are elongated, armour –plated insectivorous with long tongue and no teeth. Its head and body measure about 40–58 cm and its tail measures about 25–38 cm. A mature Chinese pangolin weighs from 2 to 7 kilograms. It has 18 rows of overlapping scales accompanied by hair, a rare combination in mammals. It has a small, narrow mouth and a little, pointed head. Also its claws grow in as it grows older.

Behaviour : The Chinese pangolin reproduces in April and May when the weather warms. The female gives birth to a single offspring at a time. The young ones are born with soft scales, which harden after two days. Although the young pangolin can walk on its first day, the mother carries it on her back or tail. If the mother feels threatened, she immediately folds her baby onto her belly with the help of her tail. Male pangolins have been observed allowing the female and baby to share his burrow. They are primarily terrestrial although they do climb trees and swim as well.

ORDER – SCANDENTIA

Scandentia Tree Shrew which was included in the order primates and insectivora at different times is now usually place in a separate Order Scandentia which contains a single family Tupaiidae. Superficially, tree shrew resembles squirrels, but differs in many details of anatomy and behavior. They have long muzzle with a total of 38 teeth, with pointed incisor and several premolars unlike chisel like incisor of rodents, also they do not possess the cheek whiskers of squirrels. They do not jump on trees or jerk their tails like squirrels. All feet have five well developed digits with claw which tend to show well on foot prints.

Tree shrew diet are both insectivores and frugivorous. They forage nearly continuously during waking hours on the ground or on low branches. They eat insects other arthropods, fruit, bird chick even rodents and drink water regularly. While feeding on fruits they spit out the seeds and fibre.

They often stand up on two legs for better visibility of the surrounds. When climbing they use the tail to balance. They have naked pads below the feet and strong curved claws to aid climbing. Tree Shrew are solitary or in pairs during courtship and mating.

Aggressive squeal, screams indicating danger, chatter when disturbed, ducking or whistles for mating and courtship are amongst eight vocalization heard in Tupaia. They scent mark boulders, branches even of spring with urine.

Females are fertile within a year of birth and have between 1-4 litters annually with gestation periods of 45-56 days. They appear to be monogamous. The young get little maternal care, they sleep in nest separate from the mother's resting place and are weaned between 25-33 days.





Common Name : **Northern Malay Tree Shrew**
Scientific Name : *Tupaia belangeri*
Family : Tupaiidae
Order : Rodentia
IUCN Status : Least Concern
WPA : NA
Local Name : Risang (Pnar)/ Risang (Khasi)
Location Reported : Narpuh Wildlife Sanctuary and other parts of Jaintia Hills region.

Description :

Morphology : The Northern tree shrew is having an olive brown or grayish brown coat and a buff or oranged venter mammals. The long furry tail is equal to its head and body length. The lower ear lobe is slightly smaller compare with the other tree shrew. This animal is very similar to long nosed squirrels as well as some of the earliest mammals. Its eyes are large, dark and lashless. The Northern tree shrews exhibit short and inconspicuous whiskers. Their long, bushy tail is curved upwards.

Behaviour : These animals are excellent climbers due to the sharp nails and naked pads on their feet. In spite of the common name of this species, the Northern tree shrews are more terrestrial than arboreal. Although generally diurnal, the Northern tree shrews are practically active during both day and night. They have a monogamous mating system, where each of the mates has its own territory, defending it from individuals of its gender. As omnivorous animals, the Northern tree shrews feed upon a wide variety of food, although their diet generally consists of insects and fruits, being supplemented by occasional vegetation.

ORDER – CHIROPTERA

The order chiroptera comprises the bats , the only mammals which can really fly like birds. Other flying mammalas like flying squirrel actually do not fly but glide. Bats have their fore limb modified into wings with membranes stretched between elongated finger bones and powerful chest muscle to flap their wings. Bat flying at dusk could potentially confuse with birds. Flying foxes are similar in size to some raptors, while small insectivorous bats are similar in size to small swifts that are often fly in similar habitats. However they can be differentiate by the shape of their wings and bodies and by the pattern of flight.

Bats are second only to the rodentia in number of species in the world. Although found almost all over the globe, majority occurs in the tropical and subtropical areas. The bats are divided into two suborders, one the Megachiroptera, the predominantly insectivorous and carnivorous species. Most bats are difficult to identify unless they can be captured and examined closely. In the hand most species or at least groups of species can be distinguished based on easily visible characteristics and measurements. Fur colour and wings pattern are useful for identifying some species. For many insectivorous bats echolocation calls can be another useful aid to identifications.

Juvenile bats are capable of flight before they are fully grown. They tend to be smallers and coloured differently from adult. Young ones are generally much duller in colour, grey or grey-brown.

Bats roosted in caves, on trees in rock crevices or in disused building during the day, emerging only at night to take to the sky. When roosting they hang upside down as preference. Most bats find their way around by echolocation, which is a technique of producing high frequency sounds that bounce back to them off obstacles. Bats fly by paddling through the air with their limbs abs wings.





Common Name : **Greater Short Nose Fruit Bat**
Scientific name : *Cynopterus sphinx*
Family : Pteropodidae
Order : Chiroptera
IUCN Status : Least Concern
WPA : Schedule-IV
Local Name : Labit (Pnar)/Langbadur (Khasi)
Location Reported: Narpuh Wildlife Sanctuary and other parts of Jaintia Hills region.
Description :

Morphology : They have a relatively long snout. The bat's upper part is brown to grey brown with paler under part. Brown of varying tint ferruginous or yellowish or dull grey brown in colour; male often with bright reddish brown. The fur is very fine and silky. The ear and wing bones of C. Spinx are edged in white and divergent nostril. The lower cheek teeth rounded without accessories cusps. The wings span of adult is about 48cm.

Behaviour : It is nocturnal and feed mainly on fruits. The short nose fruit bat roost singly or in small group of same sex group of 8 to 9 in the tree hollow and only exceptionally in caves and ruins. It usually hangs upside down to defecate. It leaves quite early in the evening for foraging, flying to fruit bearing trees. The greater short nose fruit bat inflicts serious damage on many fruit crop. These bats are important dispersers of seeds and pollinated many night blooming flower. They are also known to construct shelter by severing leaves and stem from certain trees.



Common Name : **Wroughton's Free Tailed Bat**
Scientific Name : *Otomops wroughtonii*
Family : Molossidae
Order : Chiroptera
IUCN Status : Critically Endangered
WPA : Schedule-I (Part-I)
Local Name : Labit (Pnar)/Lymbit (Khasi)
Location Reported : Narpuh Wildlife Sanctuary and other parts of Jaintia Hills region.
Description :

Morphology : A large glossy chocolate-brown species this bat has large ears that connected to each other with a membrane on top of its head. It has a distinct grey collar on a lighter brown ventral surface and a small angular sack in both sexes. Hairs that resemble a small moustache is present beneath circular nostrils.

Behaviour : They are nocturnal carnivores. They rely on flight to move around It is a critically endangered species of Bat found only in two locations in the whole of India. The population at Krem Umthalong Pynurkba is less than 100 in Number.



Common Name : **Lesser False Vampire Bat**
Scientific name : *Megaderma spasma*
Family : Megadermatidae
Order : Chiroptera
IUCN Status : Lease Concern
WPA : NA
Local Name : Labit (Pnar)/Lymbit (Khasi)
Location Reported : Narpuh Wildlife Sanctuary and other parts of Jaintia Hills region.
Description :

Morphology : As the name suggest, the Lesser False Vampire Bat is a smaller version of the greater Vampire. Its wings is deep brown in colour with Pale belly, its nose leaf is shorter than that of Greater False Vampire Bat and broader at the base. Its tall ears are thicker and attached at the base.

Behaviour : The Lesser False Vampire Bat flies close to the ground and may fly for the first few hours without hunting, start to feed only as the night progresses. Roosts in small groups in caves, tunnels and hollow trees. Diet consists mainly of large insects, which it probably picks up from vegetation rather than on the wing. It has been known to kill other bats in traps and to eat lizards in captivity, and hence may sometimes eat small vertebrates in the wild.

ORDER – PRIMATES

The Primates or the highest of the animals contain the apes, Monkeys and Lemurs and the human. Most primates have comparatively superior development of the brain and have higher intelligence than other animals. Primates are characterized by large, forwarding –facing eyes , large brain, an opposable thumb or big tae, nails instead of claws on digits, the ability to stand upright to varying degree, mammae on the chest and in males a pendulous penis and scrotum .

The gibbons have the most specialized locomotion among Indian primates using a swing-arm type of locomotion along treetops called brachiation. They hang by the arms and swings at high speed reaching 40Km per hour. Since the finger are hook on to the branches, the thumb are irrelevant and set well onto the palms, Their arms are more than nine and half times the size of their legs. Both macaques and langurs are versatile primates adept both in trees and on the ground.

The diet of the Primate varies the insect , birds eggs are the main food of the lorises, but may also eats fruits and tender leaves the diurnal macaques are largely omnivorous and the gibbon are mostly frugivorous. The success of primates has not got mush to do with a specialized diet but a lot to do with their being highly adaptive. Some have adapted to the food available in their locales.

Many primates during the evolutionary process gave up the acute olfactory abilities of many other animals in favour of stereoscopic color vision and rich vocalization. They combine this vocalization with touch and an array of facial expression to communicate.

A high degree of social bonding is a common behavior trait amongst most primates. It is well known that elephant and monkey suffer more than any other animals if kept alone in captivity, since they have complex social organization in the wild. Hollocks are the only primates in India that may have monogamous single male – female bonded social system.







Common Name : **Hoolock Gibbon**
Scientific name : *Hoolock hoolock*
Family : Hylobatidae
Order : Primate
IUCN Status : Endangered
WPA : Schedule-I (Part-I)
Local Name : Hulu (Pnar)/Huleng (Khasi)
Location Reported : Narpuh Wildlife Sanctuary and other parts of Jaintia Hills region.

Description :

Morphology : This tail less primate is a jungle gymnast that is known by its distinct call than by sight. Young hoolocks are born after a 7-month gestation, with milky white or buff-colored hair. After about 6 months, the hair of males darkens and turns black, while the females' hair remains buff-colored throughout their lives. After 8-9 years, they are fully mature and their fur reaches its final coloration with a white brows and white frame which is present in both male and female. Their arms almost double the length of its legs, helps in brachiating on tree tops.

Behaviour : Their life expectancy in the wild is about 25 years. Like other gibbons, hoolock gibbon pairs produce a loud, elaborate song, usually as a duet from the forest canopy, in which younger individuals of the family group may join. The song includes an introductory sequence, an organising sequence, and a great call sequence, with the male also contributing to the latter. The species is an important seed disperser; its diet includes mostly ripe fruits, with some flowers, leaves and shoots.



Common Name	:	**Bengal Slow Loris**
Scientific name	:	*Nycticebus bengalensis*
Family	:	Lorisidae
Order	:	Primate
IUCN Status	:	Vulnerable
WPA	:	Schedule-I (Part-I)
Local Name	:	Khaprang/Jipsang (Pnar)/Khaprang (Khasi)
Location Reported	:	Narpuh Wildlife Sanctuary and other parts of Jaintia Hills region.

Description :

Morphology : Slow Loris commonly known as the Bengal Slow Loris or Northern Slow Loris has a round head, a narrow snout, large eyes, and a variety of distinctive coloration patterns that are species-dependent. Their arms and legs are nearly equal in length, and their torso is long and flexible, allowing them to twist and extend to nearby branches. The hands and feet of slow lorises have several adaptations that enable them to grasp branches for long periods of time. It has dense, woolly, brown-gray fur on its back and white fur on its underside. It also has a clear dark stripe that runs up to the top of its head, but does not extend laterally towards the ears. The limbs of the pelvis vary in colour from brown to nearly white, and the feet are always pale.

Behaviour : Slow Lorises have a toxic bite, a trait rare among mammals and unique among the primates. The toxin is obtained by licking a sweat gland on their arm, and the secretion is activated by mixing with saliva. Bengal Slow Lorises are nocturnal and arboreal. Feeds mainly on fruits, tree gums and nectar, but also on some animal matter, including large insects, nestling birds and lizards.



Common Name : **Rhesus Macaque**
Scientific name : *Macaca mulatta*
Family : Cercopithecidae
Order : Primate
IUCN Status : Least Concern
WPA : Schedule-II (Part-I)
Local Name : Shreh Wasoo (Pnar)/Shrieh saw (Khasi)
Location Reported : Narpuh Wildlife Sanctuary and other parts of Jaintia Hills region.

Description :

Morphology : The Rhesus monkey is the best-known species of macaque and measures about 47–64 cm long, excluding the furry 20–30-cm tail. Females average about 8.5 kg and males 11 kg. In both sexes the rump and legs are orange. The upperparts are bronish with reddish brown hindquarters. Tell is well haired, about half length of head and body. The face is relatively hairy, with bare areas pinkish. Hairs on crown directed backwards.

Behaviour : Rhesus monkeys can thrive in a variety of climates and habitats. Their natural diet consists of fruits, seeds, roots, herbs, and insects, but, in areas of human habitation, they also eat crops and search through garbage for food. Rhesus monkeys live in groups consisting of several adults of both sexes and their young; males leave the troop at maturity, whereas females tend to stay in the troops in which they were born. Because the rhesus monkey is held sacred in some parts of India and is the object of tolerant affection on the part of many Brahmans, it is especially common around temples. Here groups may number 50 to 200 or more, whereas in forests 12 to 20 is usual.



Common Name : **Assamese Macaque**
Scientific Name : *Macaca assamensis*
Family : Cercopithecidae
Order : Primate
Local Name : Shrieh Wabthuh (Pnar)/Shrieh Bthuh (Khasi)
Location Reported : Narpuh Wildlife Sanctuary and other parts of Jaintia Hills region.
IUCN Status : Near Threatened
WPA : Schedule-II (Part-I)
Description:

Morphology : Assamese Macaque is a macaque of the Old World monkey family native to South and Southeast Asia. The Assamese Macaque is forest macaque with a brownish grey coat and pale ventre. The Dorsal fur varies from dark chocolate-brown to much paler with lower body being darker than the upper. Adult have a pronounce beard long cheek hairs and white eyelids. Adult males have a visible pinkish white scrotal sac and gland penis.

Behaviour : Assam macaques are diurnal, and at times both arboreal and terrestrial. They are omnivorous and feed on fruits, leaves, invertebrates and cereals. When threatened or alarm these Macaques display a habit common to many monkeys. Leaving the comparative security of the tree top and drop to the ground and seek to escape in the dense undergrowth. Like other macaque their food is a mixture of vegetable and insects.



Common Name : **Northern Pig Tailed Macaque**
Scientific name : *Macaca leonina*
Family : Cercopithecidae
Order : Primate
IUCN Status : Vulnerable
WPA : Schedule-II (Part-I)
Local Name : Shrieh Khian Tdong
Location Reported : Narpuh Wildlife Sanctuary and other parts of Jaintia Hills region.

Description :

Morphology : It is a large forest monkey, the pig tailed Macaque can be distinguished from the Assamese and rhesus macaques by its deeply parted, dark cap of short hair and a short erect tail. It has olive –brown to golden grizzled fur and white venter. The males are larger than the females, with males being about 20 - 23 inches long and females being about 15 - 19 inches. Males weigh around 12 - 26 pounds and females around 10 - 13 pounds.

Behaviour : They are sexually dimorphic with males being larger than females. Infants are dark almost black for the first two to three months before taking on adult colouration. It is the most arboreal and frugivorous. However, they also eat other foods such as seeds, insects and other invertebrates, leaf and stems, small nesting birds, fungus, and even dirt. Pigtail macaques can live to 26 years in the wild and have lived to 35 years in captivity.





Common Name : **Stump Tailed Macaque**
Scientific name : *Macaca arctoides*
Family : Cercopithecidae
Order : Primate
IUCN Status : Vulnerable
WPA : Schedule-II (Part-I)
Local Name : Shrieh Lymboit Tdong (Pnar)/Shrieh Lyngkot Tdong (Khasi)
Location Reported : Narpuh Wildlife Sanctuary and other parts of Jaintia Hills region.
Description :

Morphology : The stump-tailed macaque has long, thick, dark brown fur covering its body, but its face and its short tail, which measures between 32 and 69 mm, are hairless. Infants are born white and darken as they mature. As they age, their bright pink or red faces darken to brown or nearly black and lose most of their hair. Males are larger than females. Males' canine teeth, which are important for establishing dominance within social groups, are more elongated than those of the females. Like all macaques, this species has cheek pouches to store food for short periods of time.

Behaviour : Stump-tailed macaques are remarkably unfussy in their eating habits though fruit generally is a staple part of their diet. Stump-tail macaques have a large, bulky, muscular build with thick, solid limbs, making them very mobile on land yet quite ungainly in trees, and this unusual physique for a macaque may be responsible for this species unique tendency to consume larger quantities of meat than other macaque species. Stump-tail macaques feed on very large quantities of insects, small animals and eggs




Common Name : **Capped Langur**
Scientific name : *Trachypithecus pileatus*
Family : Cercopithecidae
Order : Primate
IUCN Status : Vulnerable
WPA : Schedule-I (Part-I)
Local Name : Tngo Waiong (Pnar)/ Tngaw long (Khasi)
Location Reported : Narpuh Wildlife Sanctuary and other parts of Jaintia Hills region.

Description :

Morphology : Capped langurs have dark grey to black fur on their backs and creamy white or golden yellow fur on the belly. Their face is black and the crown is dark grey in color. The ears, palms, and soles, are black in color. The rump and the insides of the thighs are light blue, and are brighter in males than females. These monkeys have very long tails that are longer than the head and body combined.

Behaviour : They are arboreal and gregarious by nature. A herd of capped langur consists of 2 to 14 langurs led by a brawny male langur. They are herbivorous, ingesting leaves, twigs, buds and fruits. They wake up early in the morning but remain in their sleeping sights and when the sun has fully risen they may move to higher branches to bask in the morning sun before foraging. They usually forage in the morning and late afternoon. Each troop consists of 2-14 individuals led by a male. Capped langurs are herbivorous (folivorous, frugivorous) primates. The mating system in Capped langurs is suggested to be polygynous as each group consists of a single dominant male and many females.

ORDER – CARNIVORA

Carnivores are the animals that are adapted to eating flesh. Dogs, cat, bears, civets, weasels etc., are classified as Carnivora. Some such as bear however specialize in eating fruit. In seize they vary from small weasels to big cats like tiger and the Lion.

While most Carnivores are obligatory meat eater, few are specialist. Otters are piscivores, as in fishing cat. At the other end cats are nearly completely hyper carnivores requiring a large amount of protein, Small cats eat rodent and small birds. Bears are truly omnivorous spending long hours foraging for berries, fruits, nuts supplements them with insects, Weasels and Martens are powerful predators that kill with a bite to the neck and head of small prey such as rodents. Marten also eats fruits and in carnivorous pursuits can be equally arboreal and terrestrial, All three badger are good diggers to get an invertebrates annelids, burrowing rodents and even roots of plants. Large Canids are more carnivorous.

Carnivores employ a variety of locomotion methods for achieving optimum ability to forage or hunt for food to escape from predators and for other daily needs, most cats and dogs are cursorial and have lean limb well- developed muscled and digitigrades mode of motion, means they walk or run on their toe. Many Carnivores are arboreal like fruit eating civets. May of them cannot climb like Canids and Hyaenid. Most felids are solitary excepts when breeding or when the mother is with her cubs. An exception to this is Lion which lives in a group or pride. All bears are generally solitary, coming together only to mate or when the mother is with her offspring. Mustelids, viverrids are usually solitary animals except otters which are social and live in group called pods.

Felids are the most vocal of all the carnivores and calls are used to combination with facial gesture, tail carriage and fur posture to communicate when at close distance to the subject, calls are used in conjunction with spraying of chemical scents.

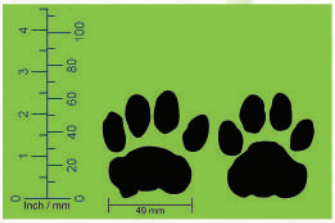








Common Name : **Clouded Leopard**
Scientific name : *Neofelis nebulosa*
Family : Felidae
Order : Carnivora
IUCN Status : Vulnerable
WPA : Schedule-I (Part-I)
Local Name : Khla Wyrthoh Snieh (Pnar)/ Khla Sabrat/'La Krong (Khasi)
Location Reported : Narpuh Wildlife Sanctuary and other parts of Jaintia Hills region.



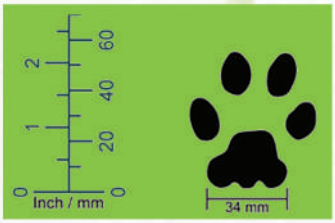
Description :

Morphology : The Clouded Leopard is the smallest of the big cats in India and can reach the size of a small Common Leopard. It has a warm ochre coat with grey elliptical clouds, edged with black, floating on it. These cloud marks turn into black oval spots. Its head is spotted, with two broad bars on its neck and stripes on its cheek. The back of each ear is black with a grey spot in the middle. It has broad feet that are pale and largely unmarked.

Behaviour : Clouded leopards are regarded as secretive and rarely seen arboreal hunters that are most active at night, although these characteristics vary. They are extremely adapted in trees and can rotate its ankles backward; thus, they have been observed engaging in acrobatics and can climb down a tree head first, hanging upside down while moving along horizontal branches, and hanging from branches using only their hind feet, leaving the powerful front paws free to snatch at prey. Clouded leopards feed on animals like monkeys, small deer, wild pigs, birds and rodents. They also feed on domestic livestock.



Common Name : **Asian Golden Cat**
Scientific name : *Catopuma temminckii*
Family : Felidae
Order : Carnivora
IUCN Status : Near Threatened
WPA : Schedule-I (Part-I)
Local Name : Khla Chutia (Pnar)/ 'La Blang, Ksar saw (Khasi)
Location Reported: Narpuh Wildlife Sanctuary and other parts of Jaintia Hills region.



Description :

Morphology : The Asian golden cat is a medium-sized cat with un-pattern golden coat. The golden colour is broken only by a broad white moustache-like stripe lining the inner rims of the terminal. The tail tip is black on the top. The ears are short, wide set and black on their back, with a slightly paler grey centre. In it ranges from 9 to 16 kg, which is about two or three times that of a domestic

Behaviour : Asian golden cats are territorial and solitary and are primarily nocturnal, Asian golden cats can climb trees when necessary. They hunt birds, hares, rodents, reptiles, and small ungulates such as Muntjaks and young sambar deer. They are capable of bringing down prey much larger than themselves. Female Asian golden cats are sexually mature between 18 and 24 months, while males mature at 24 months their gestation period is of 78 to 80 days. Female gives birth in a sheltered place to a litter of one to three kittens. The kittens weigh 220 to 250 g at birth, but triple in size over the first eight weeks of life. They are born already possessing the adult coat pattern and open their eyes after six to twelve days.



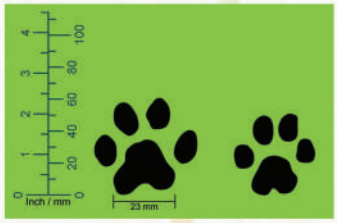
Common Name : **Marbled Cat**
Scientific name : *Pardofelis marmorata*
Family : Felidae
Order : Carnivora
IUCN Status : Near Threatened
WPA : Schedule-I (Part-I)
Local Name : Khla Wyrthoh Khian (P)/ Ksar (K)
Location Reported : Narpuh Wildlife Sanctuary and other parts of Jaintia Hills region.

Description :

Morphology : The marbled cat is similar in size to a domestic cat, but has rounded ears and a very long tail that is as long as the cat's head and body. The ground colour of its long fur varies from brownish-grey to ochreous brown above and greyish to buff below. It is patterned with black stripes on the short and round head, on the neck and back. On the tail, limbs and underbelly it has solid spots. On the flanks it has irregular dark-edged blotches that fuse to dark areas and look like a 'marbled' pattern. Its coat is thick and soft. It has large feet and unusually large canine teeth, resembling those of the big cats.

Behaviour : It is believed that Marbled Cats are solitary and nocturnal, with vocalizations that are comparable to the domestic cats. Primarily, being an arboreal animal, its diet consists mainly of rats, birds, bats and squirrels and occasionally feeds on reptiles, frogs and insects.





Common Name : **Leopard Cat**
Scientific name : *Prionailurus bengalensis*
Family : Felidae
Order : Carnivora
IUCN Status : Least Concern
WPA : Schedule-I (Part-I)
Local Name : Khla Thap Sim (Pnar)/ 'La Thap Sim (Khasi)
Location Reported : Narpuh Wildlife Sanctuary and other parts of Jaintia Hills region.

Description :

Morphology : A leopard cat is about the size of a domestic cat, but more slender, with longer legs and well-defined webs between its toes. Its small head is marked with two prominent dark stripes and a short and narrow white muzzle. There are two dark stripes running from the eyes to the ears and smaller white streaks running from the eyes to the nose. Body and limbs are marked with black spots of varying size and colour, and along its back are two to four rows of elongated spots. The tail is about half the size of its head-body length and is spotted with a few indistinct rings near the black tip.

Behaviour : An Extremely versatile cat, it is arboreal by nature and is also comfortable in water. Leopard cats are carnivorous, feeding on a variety of small prey including mammals, lizards, amphibians, birds and insects. In most parts of their range, small rodents such as rats and mice form the major part of their diet, which is often supplemented with grass, eggs, poultry and aquatic prey.





Common Name : **Himalayan Palm Civet**
Scientific name : *Paguma larvata*
Family : Viverridae
Order : Carnivora
IUCN Status : Least Concern
WPA : Schedule-II (Part-I)
Local Name : Rai Kyrtong (Pnar)/Kui Kyrtong, Bshad Heh (Khasi)
Location Reported : Narpuh Wildlife Sanctuary and other parts of Jaintia Hills region.

Description :

Morphology : The Himalayan or Masked Palm civet is a dark brown to black with greyish buff under parts. It has a thick, black un-patterned tail and a black chin and throat. Adult do not have spots on their body although flank spot maybe seen in the juvenile. The face has a mask that splits by a grayish white cheek and white line down the fore head, white splotches around the eyes, nose and marking from the ears to the cheek. The tail is long and thick and unmarked except at the tip. The limbs are dark and have five digits.

Behaviour : They have forsaken an arboreal existence and have adapted themselves to a life in human settlements, even in the heart of crowded cities, selecting a roof, an outhouse, or drain as a place of hiding. They seek their food at night, in trees or on the ground. Masked palm civet plays a very important role as seed dispersers through their faecal material. It ejects a foul smelling liquid when disturb.





Common Name : **Common Palm Civet**
Scientific name : *Paradoxurus hermaphrodites*
Family : Viverridae
Order : Carnivora
IUCN Status : Least Concern
WPA : Schedule-II (Part-I)
Local Name : Rai Miaw (Pnar)/Kui Rit, Kui(Khasi)
Location Reported : Narpuh Wildlife Sanctuary and other parts of Jaintia Hills region.

Description:

Morphology : Its body colour varies from rich cream to brownish black or even jet black. Dark brown or black spots coalesce into stripes on the sides and the base of the tail also shows these markings. It has three longitudinal stripes on its back running up to the tail, these are visible on close inspection. The face is grayish with a dark mask varying white on the face. The most common variation is a pale or white patch below the eyes, on the forehead and near the ears. Overall, the face is dark while that of the Himalayan Palm Civet is pale. The feet are dark and have five digits.

Behaviour : Common Palm Civets are omnivorous and forage mainly at night. The likelihood of encountering predators during the day have favoured nocturnal foraging behaviour. When foraging in the same area, civets repeatedly use the same resting trees with vines and holes are preferred for several consecutive days. Common Palm Civets live in forested habitat having matured fruit trees and undisturbed vegetation.



Common Name : **Small Indian Civet**
Scientific name : *Viverricula indica*
Family : Viverridae
Order : Carnivora
IUCN Status : Least Concern
WPA : Schedule-II (Part-I)
Local Name : Rai Phlang (Pnar)/ Kui(Khasi)
Location Reported : Narpuh Wildlife Sanctuary and other parts of Jaintia Hills region.

Description :

Morphology : General body colour grey, light grey or buff, with numerous dark spots that form longitudinal rows along back and sides. Throat white with dark lines and have a tail banded with 6-9 black and white rings and long pale tip. Typically civet-like in build, the absence of the dorsal crest distinguishes it from the Large Indian Civet.

Behaviour : Primarily nocturnal and terrestrial, but sometimes active during the day. Frequents relatively open areas, including long grass and scrub. It climbs well and can scale a vertical trunk with ease. Diet includes birds, small mammals, frogs reptiles, insects and fruits.



Common Name : **Large Indian Civet**
Scientific name : *Viverra zibetha*
Family : Viverridae
Order : Carnivora
IUCN Status : Least Concern
WPA : Schedule-II (Part-I)
Local Name : Rai Kydep (Pnar)/Kui Heh (Khasi)
Location Reported : Narpuh Wildlife Sanctuary and other parts of Jaintia Hills region.

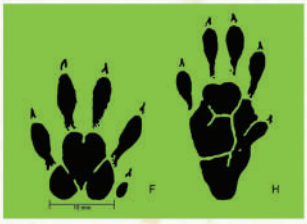


Description :

Morphology : The size is of a large dog with shorter legs, it is grayish with buff overtone. It can be recognized by its distinctive black and white bands on the sides of the neck. The grey face has a white patch on the muzzel. It has a distinct black spotting on the flank, dark limbs and a black and white banded tail. It has a dark dorsal crest of varying height running from shoulder to tail, th throat and fore chest are black, and the slightly large ears are widely set on the forehead. The dark and white bands on the tail are broader. The fore feet are dark brown than the hind feet.

Behaviour : The Large Indian Civet is solitary and nocturnal. It spends most of the time on the ground. Its diet includes fish, birds, lizards, frogs, insects, scorpions and other arthropods, crabs, as well as poultry and rubbish. It breeds throughout the year and has two litters per year, with two to four young per littler.





Common Name : Crab Eating Mongoose
Scientific name : *Herpestes urva*
Family : Herpestidae
Order : Carnivora
IUCN Status : Least Concern
WPA : Schedule-II (Part-I)
Local Name : Psong long/Chymphong Tham (Pnar)
Bsong long (Khasi)
Location Reported : Narpuh Wildlife Sanctuary and other parts of Jaintia Hills region.

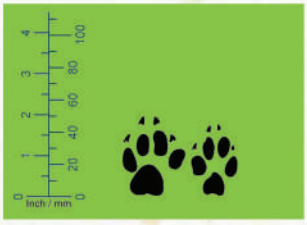
Description :

Morphology : The Crab-eating Mongoose has a coat that varies from grey to dark brown with individual hairs being ringed black and white, giving it a grizzled appearance. It has a broad white stripe on its neck, starting from its cheeks and progressing past its chest. The throat is conspicuously paler. The yellowish brown muzzle has a flesh coloured nose pad with a deep grove on it. The ears are short and rounded, and the eyes have a yellowish brown iris.

Behaviour : Crab-eating mongooses are usually active in the mornings and evenings. They are found in a variety of forest and scrub habitats, often near streams. Despite their common name, their diet consists not only of crabs, but also just about anything else they can catch, including fish, snails, frogs, rodents, birds, reptiles, and insects. The Crab Eating Mongoose can squirt a strong smelling fluid from anal glands near base of the tail, presumably for defence.



Common Name : **Golden Jackal**
Scientific name : *Canis aureus*
Family : Canidae
Order : Carnivora
IUCN Status : Least Concern
WPA : Schedule-II (Part-I)
Local Name : Bhew (Pnar)/Pyrbhew/Myrsiang (Khasi)
Location : Kharkhana, Mukhaialong and other parts of Jaintia Hills region



Description :

Morphology : It is a medium sized wolf-like canid. The Buff coat is interspersed with black hair especially on the back as if it has donne a grizzled coat while the head and the sides of the legs are tawny red in colour. The underside throat and the eyes and lips are white. The tail is bushy and medium in seize and has a black tip. The jackal also has a shorter muzzle and overall lean, long-limbed look of a wolf. Male jackals are larger than male.

Behaviour : It is commonly found in around the Human settlement. The golden jackal is a social species, the basic social unit of which consists of a breeding pair and any young offspring. It is very adaptable, with the ability to exploit food ranging from fruit and insects to small ungulates. They will attack domestic fowl and domestic mammals up to the size of domestic water buffalo calves.





Common Name : **Himalayan Black Bear**
Scientific name : *Ursus thibetanus*
Family : Ursidae
Order : Carnivora
IUCN Status : Vulnerable
WPA : Schedule-I (Part-I)
Local Name : Dngiem long (Pnar)/ Dngiem bah (Khasi)
Location Reported : Narpuh Wildlife Sanctuary and other parts of Jaintia Hills region.

Description :

Morphology : The Himalayan Black Bear has black fur, a light brown muzzle, and a distinct white 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. Its tail is short. They are the most bipedal of all bears, and have been known to walk upright for over a quarter of a mile.

Behaviour : They live in family groups consisting of two adults and two successive litters of young. They are good climbers of rocks and trees, and will climb to feed, rest, Sun, elude enemies and hibernate. Half of their life is spent in trees and they are one of the largest arboreal mammals. Asian black bears are omnivorous and feed on insects, beetle larvae, invertebrates, termites, grubs, carrion, bees, eggs, garbage, mushroom, grasses, fruits, nuts, seeds, honey, herbs, acorns, cherries, dogwood and grain.



Common Name : **Large Toothed Ferret Badger**
Scientific name : *Melogale moschata*
Family : Mustelidae
Order : Carnivora
IUCN Status : Least Concern
WPA : Schedule-II (Part-I)
Local Name : Sniang Joid (Pnar)/ Nianglijoid (Khasi)
Location Reported : Narpuh Wildlife Sanctuary and other parts of Jaintia Hills region.



Description :

Morphology : The Large Toothed ferret-badger is a mustelid widely distributed in Southeast Asia. Distinctive mask-like face markings distinguish it from most other oriental mustelids. The average body size of the Chinese ferret-badger is 33 to 43cm with a tail of 15 to 23 cm.

Behaviour : The Large Toothed ferret-badgers are active at dusk and at night. They rest during the day in burrows of small rodents, or natural formations, such as rock crevices. They also construct makeshift shelters in shallow depressions in the ground. Large Toothed ferret-badgers are omnivores feeding on fruit, insects, small animals, and worms. Earthworms, amphibians, and insects are important components of their diet. They also eat fleshy fruits.





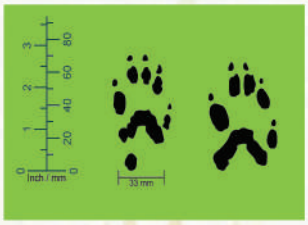
Common Name : **Hog badger**
Scientific name : *Arctonyx collaris*
Family : Mustelidae
Order : Carnivora
IUCN Status : Vulnerable
WPA : Schedule-I (Part-I)
Local Name : Sniang Ju (Pnar)/ Niangliju/Niangri (Khasi)
Location Reported : Narpuh Wildlife Sanctuary and other parts of Jaintia Hills region.

Description:

Morphology : Hog badger has a stocky body, medium-length brown hair, white throat, pink, pig-like snout, and two black stripes on their elongated white face. The head-and-body length is 55 to 70 cm, the tail measures 12 to 17 cm, and the bodyweight is 7 to 14 kg. With weights regularly reported from 8.4 – 12 kg. The hog badger's tail has long white hair and its forefeet have white claws. Hog badgers' fur colour ranges from brown to dark grey, while the tail colour ranges from light yellow to white.

Behaviour : It is regarded as one of the world's largest terrestrial still living mustelids. The hog badger is said to be active both at night and day. The hog badger is an omnivorous animal; its diet consists of roots, fruits, and small animals. There is no report or information about the lifespan of a hog badger in the wild. However, in captivity hog badgers are known to live up to approximately 14 years.





Common Name	:	**Yellow Throated Marten**
Scientific name	:	*Martes flavigula*
Family	:	Mustelidae
Order	:	Carnivora
IUCN Status	:	Least Concern
WPA	:	Schedule-II (Part-I)
Local Name	:	Phyllad (Pnar)/ Phyllad (Khasi)
Location Reported	:	Narpuh Wildlife Sanctuary and other parts of Jaintia Hills region.

Description :

Morphology : The yellow-throated marten is a large, robust, muscular and flexible animal with an elongated thorax, a small pointed head, a long neck and a very long tail which is about 2/3 as long as its body. Its fur is brightly coloured, consisting of a unique blend of black, white, golden-yellow and brown and emits unpleasant odour. The back of the ears are black, while the inner portions are covered with yellowish grey. The chest and lower part of the throat are a brighter, orange-golden colour than the back and belly. The tail is of a shiny pure black colour.

Behaviour : It is active during the day, but sometimes at night. Agile, moving fairly quickly on the ground or in the tree canopy. It is an omnivore, whose sources of food range from fruit and small mammals. They usually rest in tree holes and on large branches. Usually alone or in pairs, but sometime in family groups and live in a wide variety of forest types, both natural and disturbed.





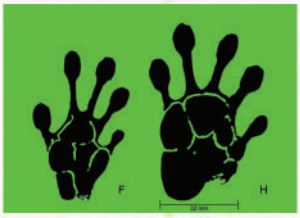
Common Name : **Smooth-Coated Otter**
Scientific Name : *Lutrogale perspcillata*
Family : Mustelidae
Order : Carnivora
IUCN Status : Vulnerable
WPA : Schedule II (Part-I)
Local Name : Ksih Waiong (Pnar)/Ksih long (Khasi)
Location Reported : Narpuh Wildlife Sanctuary and other parts of Jaintia Hills region.

Description :

Morphology : This is the most common Otter in India; the smooth coated is easily identified by its well groom grey-brown coat. The lips, cheek, throat and chest are lighter in colour having V shape nostril. The tail is flattened at the tip like a paddle. The feet are well webbed on all digit and the webbings extend to the second joint in each digit with the third joint being free of webbing its paw are brown and lighter than the body. Like other Indian Otter the female smooth coated otter has two pairs of mammae.

Behaviour : It is known to roll around grassy banks after defecation. In this District it is found to inhibit in many of the River bank. They prefer sloping bank with vegetation.





Common Name : **Oriental Small Clawed Otter**
Scientific Name : *Aonyx cinereus*
Family : Mustelidae
Order : Carnivora
IUCN Status : Vulnerable
WPA : Schedule-I (Part-I)
Local Name : Ksih Khian (Pnar)
Location Reported : Narpuh Wildlife Sanctuary and other parts of Jaintia Hills region.

Description:

Morphology : The small-clawed Otter has incomplete webbing on its digits and short, spiky claw. Its dorsal fur is short, velvety and dark brown with a grey sheen, and its underside is light brown to yellow. The pink nose pad is trapezoid in shape and the nostrils are placed below a sharp tip of the nose. The eyes are larger, proportional to the head, than other Otters, giving it a babyish look. The incomplete webbing also gives it more dexterity in handling crustaceans. The tail is about a third of its total body length and is long, thick and muscular.

Behaviour : They are Diurnal and their diet includes crabs, other crustaceans and molluscs, as well as some fish. Occurs in many habitats where there is permanent water and some tree cover, from the coast to inland hill forest including large rivers, small hill streams, ponds and lakes.



Common Name : **Back Striped Weasel**
Scientific Name : *Mustela strigidorsa*
Family : Mustelidae
Order : Carnivora
IUCN Status : Least Concern
WPA : Schedule-II
Local Name : Shyrtin (Pnar)/Sharyntin (Khasi)
Location Reported : Narpuh Wildlife Sanctuary and other parts of Jaintia Hills region.

Description:

Morphology : The back-striped weasel is distinguished from all other Mustela species by the presence of a narrow, silvery dorsal streak extending from the occiput almost to the root of the tail, with a corresponding yellowish ventral streak from the chest along the abdomen. The tail and limbs are of the same hue as the back. The upper lip from the rhinarium, the chin and the throat up to the level of the ears are pale varying from whitish to ochreous. On the hind throat and fore chest, the pale hue gradually narrows in extent, and is quite narrow between the forelegs, where it passes into the ventral streak, which expands on the inguinal region between thighs. It has two pair of mammae.

Behaviour : This weasel is active at night. It is found both in the temperate and evergreen forest foraging on ground, where it presumably catches a range of small animals.

ORDER – PROBOSCIDAE

Proboscideans or trunk creature are large land mammals The elephant of Asia and Africa comprise the order Proboscidae. They are with naked wrinkled grey skin and large incisors that form the tusks, an elongated snout that forms a trunk, extra-large ears that aid cooling of the body, columnar legs that support their massive body and a medium seize tail with stiff bristled forming a tuft at the end. They are intelligent animals with complex social structure and have a long life span averaging 60 years or more.

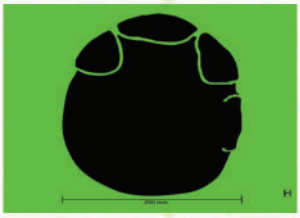
Elephant are large thus requires a large amount of food for nourishment. A full grown cow elephant may eats up to 240Kg of fresh plant materials over 18 hours. Their large grinding molar ensure that they eats any kinds of plants Their flexible trunk ensures that vegetation out of reach of most ungulates' can be utilized.

Elephant use a range of vocalization to communicate from tummy rumbles to low chirps, roars and loud trumpets. The latter two are largely used in aggression or when disturbed and by juveniles in Play.

Elephants are intelligent, social animals that live in closely knit family groups led by a matriarch. Being matriarchal, elephant societies are usually centered around an older female called the matriarch. This animal leads a family adult and sub adult females and calves. Males are sexually matures by 15 years and female give birth by 12 years







Common Name : **Indian Elephant**
Scientific Name : **E*lephas Maximus***
Family : Elephantidae
Order : Proboscidea
IUCN Status : Endangered
WPA : Schedule-I (Part-I)
Local Name : Hati (Pnar)/ Hati (Khasi)
Location Reported : Narpuh Block-I and other parts of Jaintia Hills region.

Description:

Morphology : The largest mammal in India, the Asian Elephants' grey wrinkled skin long trunk and sail like ears make it one of the most easily recognized animals. It has a convex or humped back with ridge along the spine, double doomed fore head smooth trunk ending in one tip. Only male Asian Elephant have large tusk, while the female have very small dental protuberance called tushes. Some male Makna are tusk-less and can be distinguished in the field from the adult female by the penis bulge below the tail.

Behaviour : Elephant move over a long distance in search of food and water and uses the same forest corridor for hundreds of years. This is because the elephant is a mega herbivore and due to its size requires a huge amount of forage every day. Elephant are also attracted to human settlement by crop or crude alcohol distilleries that they can smell from miles away. It uses mixed deciduous forest and evergreen forest, scrub flood plain and grassland.

ORDER – ARTIODACTYLA

Artiodactyla are even –toed hoofed mammals that include Musk deer, antelope, cattle, sheep, camel pigs, hippotamus and giraffe. The feet of these ungulates are designed and well adapted for continuous travel long distances. Three families represent this order In NE India these are Suidae (pigs), Bovidae (Oxes and goat) and Cervidae (deer).

The Cervidae or deer family are ruminant ungulates that have a moist, naked nose and prominent facial glands. The male deer have solid branched appendages on their head called antlers. They do not possess a gall bladder and have no incisor in the upper jaw. Ungulates of the family Bovidae are either sheep, goat or antelope are called bovid. Their most obvious difference from deer is their bony branched horns that are perennial unlike deer that shed annually. Goat- antelopes differ from true goat in four distinct ways, small facial glands, similar sizes sexes, non-beard males and female four mammae. Pigs are artiodactyls with well developed outer toe. They are non-ruminants with capped molars and incisor in their upper jaws. Their stomach is single chamber unlike a typical ruminant and cannon bones are not developed in their feet. All Ungulates except pigs are herbivores and are either grazers or browser or both. All bovids and cervids are ruminant and have four chambered stomach

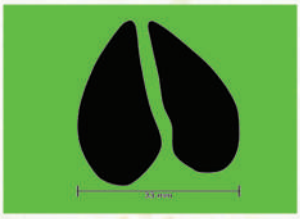
Bovid are generally fast movers and some of them are among the fastest of all ungulates in the world. Cervids are similar to Bovids in most locomotive morphologies. Pigs move across walk but they can gallop or leap when alarm.

Forest dwelling ungulates are solitary and those that are resident in open grassland plains have evolve more complex social group.









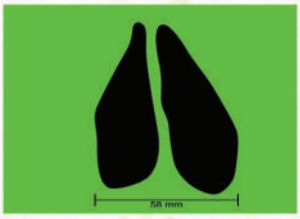
Common Name : **Indian Muntjak**
Scientific name : *Muntiacus muntjak*
Family : Cervidae
Order : Artiodactyla
IUCN Status : Least Concern
WPA : Schedule-III
Local Name : Skai Ladaw (Pnar)/ Skei Rang (Khasi)
Location Reported : Narpuh Wildlife Sanctuary and other parts of Jaintia Hills region.

Description :

Morphology : Barking deer or rib-faced deer are small deer of the genus Muntiacus. This muntjac has soft, short, reddish brown coat and grayish or white under pars. Its forelimbs are longer than the hind limbs. Males have well developed but small antlers that are mounted on long pedicles and two black lines marks these down the face. Antlers have short brow tine at the tips and curved inwards. Females have bony frontal ridges but no antlers. It is among the smallest deer species.

Behaviour : It is an omnivore and eats grass, fruit, shoots, seeds, bird eggs, and small animals, and occasionally scavenges on carrion. Its calls sound like barking, often when frightened by a predator. The Indian muntjac (*M. muntjak*) is the mammal with the lowest recorded chromosome number: The male has a diploid number of 7, the female only 6 chromosomes.





Common Name :Sambar
Scientific name :*Rusa unicolor*
Family :Cervidae
Order :Artiodactyla
IUCN Status :Vulnerable
WPA :Schedule-III
Local Name :Sier (Pnar)/Sier (Khasi)
Location Reported :Narpuh Wildlife Sanctuary and other parts of Jaintia Hills region.
Description :

Morphology : This is the largest deer in India with shaggy coat can be from yellowish brown to dark grey in colour, and while it is usually uniform in colour, and robust three tined tier antlers. The antler in sambars are three-tined with long acutely angled antler, Sub-adult that are over two years of age grow a main beam and a browtine, thus having a two-tined antler, and adult who have reached four years of age grow a three-tined antler. Ears are large and pinkish with dark marking inside.

Behaviour : They often feed in shallow water and when chased by predator take to water, splashing loudly with their hooves to confuse their attacker. They move through forests very silently for their exceptionally large size. Like most deer, sambars are generally quiet, although all adults can scream or make short, high-pitched sounds when alarmed. However, they more commonly communicate by scent marking and foot stamping.



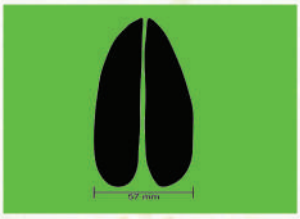
Common Name : **Himalayan Serow**
Scientific name : *Capricornis rubidus*
Family : Bovidae
Order : Artiodactyla
IUCN Status : Vulnerable
WPA : Schedule-I
Local Name : Rynjang (Pnar)/ Khiat saw (Khasi)
Location Reported : Narpuh Wildlife Sanctuary and other parts of J aintia Hills region.

Description :

Morphology : An appearance of a goat with donkey –like ears and a habit of standing with forelegs astraddle, make the serow an ungainly goat-antelope. Its coarse coat is chest nut brown, both sexes have coarse dark mane. The ears are ovate and long like a donkey with creamy white hair inside, fringed black. The hooves are black. It has a lighter cream chin, throat and belly, but the rest of the body including the legs is uniform rufous colour.

Behaviour : When alarmed, the serow bounds away with what has been variously described as a hissing snort or a whisling scream. It is abundant inside the Narpuh Wildlife Sanctuary, earlier there were reports from many part of the district but due to habitat loss mostly confine to the good stock forest and thickly forest gorges. With dense cover and boulder –strewn hills.





Common Name : **Wild Boar**
Scientific name : *Sus scrofa*
Family : Suidae
Order : Artiodactyla
IUCN Status : Least Concern
WPA : Schedule-III
Local Name : Sniang Khloo (Pnar)/ Sniang Khlaw (Khasi)
Location Reported : Narpuh Wildlife Sanctuary and other parts of Jaintia Hills region.

Description :

Morphology : It has a short muzzle, with the snout disc, has no facial wrats and has large ears. The fur is brown, tinged with black and grey hairs. There is a stiff mane of hog bristles along the back. The face cheeks and throat have a whitish marking. The legs are long and narrow and the medial hooves are long. It grows relatively large, visible upper tushes in males. The sow is distinctly smaller than the male. The sow is smaller than the male has shorter tushes and has 4 to 6 pair of mammae. The piglets have longitudinal stripes for the first six months or so.

Behaviour : Boars are typically social animals, living in female-dominated sounders consisting of barren sows and mothers with young led by an old matriarch. Wallows in mud. The wild boar inhabits a diverse array of habitats, including scrub, mixed deciduous and evergreen forest and in the agricultural field along the forest.

ORDER – RODENTIA

Rodents are a diverse group of mammals with a single pair of incisors in both jaws, which grow continuously through life. Rodents are gnawing animals include squirrels, rats and mice, porcupine and their alies. This is also the largest order of mammals worldwide. These small mammals are distinguished from all other mammals by their distinctive teeth.

The incisors are very visible in the field, though the rodents may be small. Nearly 40 per cent of all mammals worldwide and more than 25 per cent in India are rodents. India has typical rodent genera in all its biogeographic zones. Porcupines are the largest rodents of the subcontinent with modified dorsal hair that are thick and stiff and known as quills. Squirrels are medium to large sized rodents with long bushy tail.

Most rodents are quadrupedal, but some including jerbils show bipedality. While others such as flying squirrels have evolved to glide in the air. Rodents have varying speeds ranging from 10.3 kmph to 17.1 kmph on land.

Rodents have varied diets but are largely herbivorous. Carnivory is also known. Rats and mice are gramnivorous.

The palm squirrel's call is one of the commonest voices with a scolding chatter, repeated frequently. Giant squirrel in forest have a loud rattling call too. Both hoarry bellied and orange bellied squirrel have a very loud crackling cry. Flying squirrels are very vocal at night.

Rats emit ultrasonic vocalization as pup distress call during mating.







Common Name : **Himalayan Crestless Porcupine**
Scientific name : *Hystrix brachyura*
Family : Hystricidae
Order : Rodentia
IUCN Status : Least Concern
WPA : Schedule-II (Part-I)
Local Name : Dyngkheid (Pnar)/ Dyngkheid (Khasi)
Location Reported : Narpuh Wildlife Sanctuary and other parts of Jaintia Hills region.



Description :

Morphology : The Indian crested porcupine is a large rodent, weighing 11–18 kg. Their body (from the nose to the base of the tail) measures between 70 and 90 cm with the tail adding an additional 8–10 cm. It is covered in multiple layers of modified hair called quills, with longer, thinner quills covering a layer of shorter, thicker ones. The quills are brown or black with alternating white and black bands. They are made of keratin and are relatively flexible. Each quill is connected to a muscle at its base, allowing the porcupine to raise its quills when it feels threatened.

Behaviour : Indian crested porcupines are mainly terrestrial, digging extensive burrows under forest floor and feeds on fallen fruits including tree bark, roots and tubers.



Common Name : **Asiatic Brush-Tailed Porcupine**
Scientific Name : *Atherurus macrourus*
Family : Hystricidae
Order : Rodentia
IUCN Status : Least Concern
WPA : Schedule-II (Part-I)
Local Name : Iyngkhied (Pnar)/ Dyngkhied, Brai (Khasi)
Location Reported : Narpuh Wildlife Sanctuary and other parts of Jaintia Hills region.

Description :

Morphology : It is the smallest of all the Indian porcupines; it lacks the long body quills of the other species. The first third of its long scaly tail is spineless and the rest covered in quills that seem beaded due to rice grain sized thickening on them.

Behaviour : It constructs burrows, which may be occupied by up to three animals. It is a nocturnal and fossorial species, occurring in subtropical and tropical montane forests. It is found on the forest floor, often in areas with profuse undergrowth interspersed with cane and bamboo. The female produces one or two litters a year, of a single young, after a gestation period of 100 to 110 days.



Common Name : **Malayan Giant Squirrel**
Scientific Name : *Rutafa bicolor*
Family : Sciuridae
Order : Rodentia
IUCN Status : Near Threatened
WPA : Schedule-II (Part-I)
Local Name : Phaidong (Pnar)/Khmud long (Khasi)
Location Reported : Narpuh Wildlife Sanctuary and other parts of Jaintia Hills region.

Description:

Morphology : Black giant squirrel is characterized by their distinct seize and pelage. They are found in the heavily forested area Are one of the largest member of the squirrel family with deep brown (appearing Black) coat and a creamy buff on the ventral side. It has large black ears with hairy tuffs a black tail, unlike other squirrel its tail do not curl over its back, instead its tail limb behind its back, and has a black mark below its eyes. The forelegs are black in front and buff on the back.

Behaviour : Black giant squirrel are known to be diurnal, making its nest in the top canopy of the tallest trees, like most of the squirrel they are solitary in nature, and were found in group only during the mating season. Black giant squirrel will forage in the ground for fruit and nut in extending their range below their normal habitat the canopy. Like many other squirrel they use alarm call when they see a predator. Because of their affinity to fruits and nut they assist in dispersal of large trees.



Common Name : **Red Giant Flying Squirrel**
Scientific Name : *Petaurista petaurista*
Family : Sciuridae
Order : Rodentia
IUCN Status : Least Concern
WPA : NA
Local Name : Pader Snieh(Pnar)/Syllieh Saw (Khasi)
Location Reported : Narpuh Wildlife Sanctuary and other parts of Jaintia Hills region.

Description :

Morphology : It is also called the Large Brown Flying Squirrel or the Common Flying Squirrel. It is capable of gliding flight using a skin membrane stretched between front and hind legs. It has black to gray brown fur, long and soft on the under parts and somewhat shorter underneath the body, with a grizzled appearance. A wing membrane between the forelimb and hindlimb, paler coloured underneath, allows gliding between trees. The tail is hairy and blackish to gray-brown, the feet are black, and the nose is pale pink with black vibrissae.

Behaviour : Mostly nocturnal, but becomes active shortly before dusk and are seen climbing up trees or gliding between trees just before dark. Occasionally active during day or seen resting on exposed parts of tall trees until mid-morning and can make continuous glides of up to 100m. They usually rest in holes in large trees, at least 10m above the ground. They feed on leaves and seeds.



Common Name : **Indian Giant Flying Squirrel**
Scientific Name : *Petaurista philipensis*
Family : Sciuridae
Order : Rodentia
IUCN Status : Least Concern
WPA : Schedule-II (Part-I)
Local Name : Syllieh/Pader Snieh(Pnar)/Syllieh(Khasi)
Location Reported : Narpuh Wildlife Sanctuary and other parts of Jaintia Hills region.

Description :

Morphology : Petaurista Philipensis is similar to Red giant flying squirrel, its coat varies from coffee- brown to grey grizzled with white. It has white or pale grey underside and rufous patagium. Its head is the same colour as the rest of its body and its ears are reddish brown margin. The tail is uniformly brown- grey with the tip being noticeable darker in some individuals.

Behaviour : The Indian giant flying squirrel is nocturnal and arboreal, spending most of its life in the canopy. Nests are made in tree hollows lined with bark, fur, moss, and leaves. Vocalizations are similar to those of the spot-bellied eagle-owl. The species is mainly frugivorous, preferring the fruits of Ficus racemosa, It also takes bark, tree resins, shoots, leaves, insects, and larvae. Female gives birth to a single offspring during mid June. Pups born blind, with a head that is disproportionately large when compared with the body



Common Name : **Hoary Bellied Squirrel**
Scientific Name : *Callosciurus pygerythrus*
Family : Sciuridae
Order : Rodentia
IUCN Status : Least Concern
WPA : NA
Local Name : Risang thoh Wyrlieh (Pnar)
Risang Byrlieh Bthuh (Khasi)
Location Reported : Narpuh Wildlife Sanctuary and other parts of Jaintia Hills region.
Description :

Morphology : A small brown squirrel, the Hoary bellied has a pale grey venter, a buffy belly and a rufous tinged at the base of its limb. It is smaller than Pallas squirrel, its muzzle is blunter than oranged bellied Squirrel and it does not have a bright ventral of either species. The dorsal hairs have a hoary or grizzled look. It has a long tail, approximately as long as head and body length.

Behaviour : Like other squirrel they are diurnal and arboreal. It is generally found near the human habitation.



Common Name : **Pallas's Squirrel**
Scientific Name : *Callosciurus erythraeus*
Family : Sciuridae
Order : Rodentia
IUCN Status : Least Concern
WPA : NA
Local Name : Risang wa soo (Pnar)/ Khmud Saw (Khasi)
Location Reported : Narpuh Wildlife Sanctuary and other parts of Jaintia Hills region.

Description :

Morphology : This squirrel also known as the red-bellied tree squirrel is a medium size olive brown grizzled squirrel, it has a reddish maroon orange – brown bellied and the long olive brown tail having a black or pale tip.

Behaviour : Pallas's squirrels are primarily herbivorous. They eat a wide range of different foods, and have differing diets in different parts of their broad range. However, primary foodstuffs include leaves, flowers, seeds, and fruit. They also eat small quantities of insects, as well as occasional bird eggs. Pallas's squirrels are diurnal, and inhabit much of the forest canopy. The squirrels make calls to warn neighbours of predators, and have been observed to mob tree-climbing snakes, with females protecting young being particularly likely to join in. Males also make loud calls prior to, and after, mating.



Common Name : **Himalayan Striped Squirrel**
Scientific Name : *Tamiops mcclellandii*
Family : Sciuridae
Order : Rodentia
IUCN Status : Least Concern
WPA : NA
Local Name : Risang (Pnar)/ Risang (Khasi)
Location Reported : Narpuh Wildlife Sanctuary and other parts of Jaintia Hills region.

Description:

Morphology : In the close view it reveal its shorter nose smaller white tipped ears and black mid dorsal stripe running from nape to tail and flanked by two indistinct pale stripes, which are in turn flank by two broader black stripes and finally by two more pale stripes running from the base of the tail to the nose in continuous line. The venter is buff and there is no trace of red in the sparsely furred grizzled tail which is about the length of its head and body. It is arboreal in habit.

Behaviour : Diurnal and arboreal. Uses a variety of forest types, from primary hill forest to gardens and fruit trees. Diet consists of fruits, vegetable matter and some insects. Uses holes in trees for shelter.



Common Name : **Orange Bellied Himalayan Squirrel**
Scientific Name : *Dremomys Lokriah*
Family : Sciuridae
Order : Rodentia
IUCN Status : Least Concern
WPA : NA
Local Name : Risang Stem Kpoh/Risang Khne (Pnar)
Khmud (Khasi)
Location Reported : Narpuh Wildlife Sanctuary and other parts of Jaintia Hills region.
Description :

Morphology : This is a medium sized forest squirrel has a chunky body short limbs small ears and pointed snout. Although long nose squirrel, it has the shortest snout. The thick and soft hairs of the dorsal coat are brown at the base, yellow in the middle and black at the tip. The tail is shorter than the head and body. Female has three pairs of mammae, has a pale yellow venter. There is a rufous patch at the base of the tail.

Behaviour : They are diurnal and found mainly near ground level in both primary and secondary forest. It nests in tree holed close to the ground. Its habitat is forested hills and foot hills.