

**CURRENT STATUS AND CONSERVATION OF PRIMATE IN
DIBANG WILDLIFE SANCTUARY IN THE STATE OF
ARUNACHAL PRADESH, INDIA**

Project Report



**DILIP CHETRY
REKHA CHETRY**

Aaranyak

www.aaranyak.org

50, Samanwoy Path (Survey)
Beltola, Guwahati – 781 028 ASSAM: INDIA
Tel: +91-361-2230250 Fax: +91-361-2228418

All Photography: Dilip Chetry

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Dilip Chetry, Ph.D

Rekha Chetry, Ph.D

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INTRODUCTION

The state of Arunachal Pradesh in Northeast India occupies a unique place in the eastern Himalayan biodiversity hot spot because of its rich bio-diversity. However, the state's biodiversity is yet to be explored and documented scientifically to a great extent. The taxon primate is one of the least documented groups, although the different species of the taxon are major components of this diversity. Out of 25 primate species found in India 11 species occur in Tropical and Sub-tropical forest of the northeast region. Out of these 11 species, 9 species viz. Slow loris, Rhesus macaque, Assamese macaque, Stump-tailed macaque, Pigtail macaque, Arunachal macaque, Capped langur, Western Hoolock gibbon and Eastern Hoolock gibbon are currently found in Arunachal Pradesh. Earlier Borang and Thapliyal (1993), and Chetry (2002) reported seven species of primate from Arunachal Pradesh. However, Chetry (2002), Chetry et al., (2003a) and Choudhury (2002) encountered one macaque group in Arunachal Pradesh which is yet to be properly identified. Again, Choudhury (1998), reported tentative occurrence of Peer David's macaque from this region. There is report of another group of macaque from Paho National Park which is yet to be identified properly (Chetry et al., 2003b). These doubtful groups of macaque have given new dimension to the primate diversity in Arunachal Pradesh. Due to the bio-geographical continuity of the state with China and Myanmar, there remains the possibility of occurrence of other species or subspecies of primate in the area, besides the known species. Therefore, in any case the possibility of the unidentified macaque of becoming another species or subspecies of any of the existing macaque species cannot be totally overruled. Mishra et al. (2004) and Sinha et al., (2005) reported a species of macaque from Twang district of Arunachal Pradesh and have named it as Twang macaque / Arunachal Macaque (*Macaca manual*) which was new to science. With this *Macaca manual*, the number of primate's species in Arunachal Pradesh rise up to 8. Then Das et al. (2006) and Chetry et al., (2008) records the occurrence of Eastern Hoolock gibbon from Arunachal

Pradesh. Now the state with 9 species of primate becomes the second primate diverse state after Assam.

The Dibang Valley Wildlife Sanctuary in the Dibang Valley district of Arunahal Pradesh is a unique storehouse of bio-diversity. Due to its bio-geographical continuity with Myanmar and China, there remains the possibility of occurrence of high primate diversity in Dibang area. Besides, this region is the extreme point of distribution of the primates in India. Chetry, ET .al. (2007) first reported on the primate diversity in the Dri river valley area in Dibang Valley Wildlife. However, the primate diversity of the Dibang Valley Wildlife Sanctuary is yet to be uncovered to a great extent till now. Therefore, in the existing scenario of wanton destruction of habitat loss and fragmentation in the entire distribution range in the region, the current project has been proposed to study the status and diversity of primates of the Dibang Wildlife Sanctuary covering two other areas namely Malini and Mipi.

OBJECTIVES

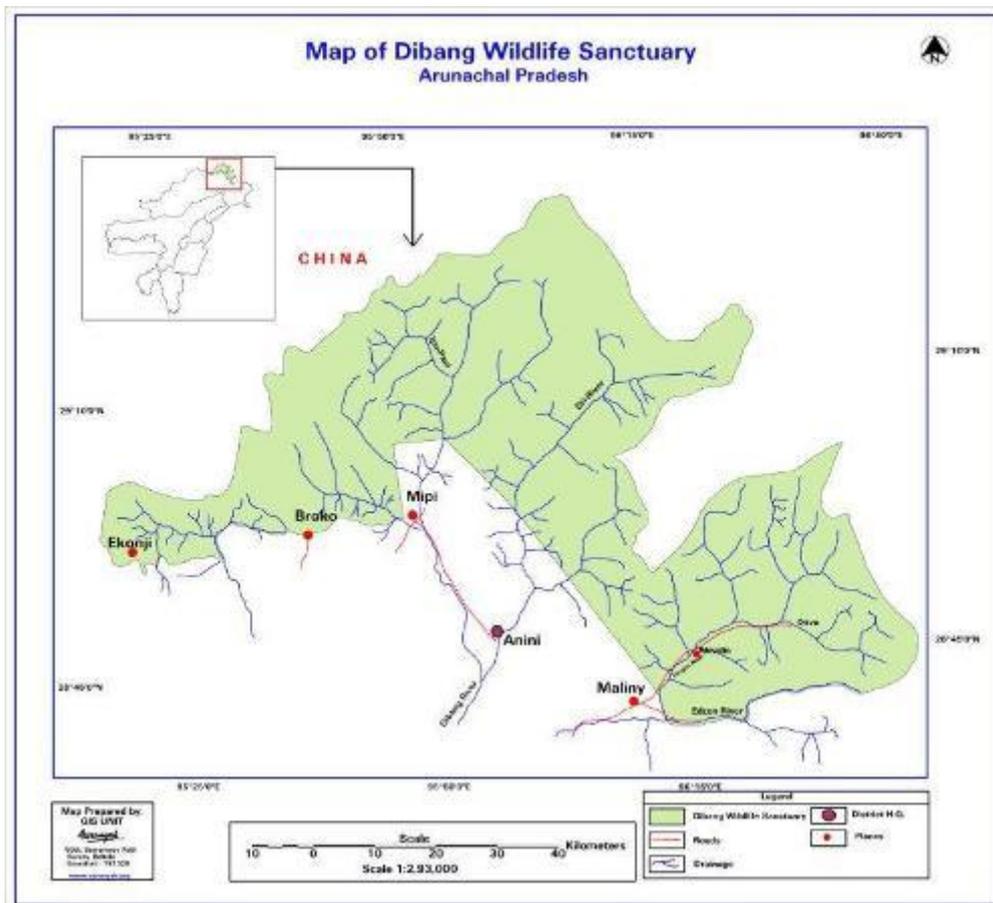
- i. To know the diversity of primate in the area.
- ii. To know about the status of different primate species in the area.
- iii. To identify both area specific and species specific threat.
- iv. To formulate long term conservation and management plan for the primates

STUDY SITE

The Dibang Wildlife Sanctuary (4149 sq.km) is located in the Upper Dibang Valley District of Arunachal Pradesh, in Northeast India. The sanctuary lies between 95°25'18" to 96°36'12" E longitude and 28°35'35" to 29°29'07" N latitude. The area is located in the range of the Himalayas, at the junction of the eastern end of Arunachal Pradesh. The

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vegetation in the area is a mosaic of sub tropical broad leaf hill forest, Himalayan moist temperate Forest, Sub alpine Forest and alpine moist scrub.



Vegetation type





METHODS

i. Direct methods

Modified line transects method (Burnham et al., 1980; NRC 1981, Struhsaker 1997, Indo-US Primate Project, 1995) was followed depending upon the habitat and the forest condition, covering 30% of the total area. The transect was laid in a stratified random manner to cover all representative areas of the park (Mueller-Dombois et.al., 1974, Kent et al., 1994). Three observers walked randomly through existing forest trails and occasionally without forest tracts covering on an average of 10-15 kms per day. The walk transect was initiated in the morning and terminated in the evening. The observers walked slowly through the transect pausing at regular intervals of 500m. On sighting primates, the group structure and individual detail like age, sex and number of individuals were recorded. The sighting and sign of other wild animals were also recorded.

At 500m intervals and at each location where primates were encountered, the observers estimated the tree height and canopy cover within an area of 10m radius and also took a note on the evidences and degree of grazing and logging in the study area.

ii. Indirect Methods

Primates' presence was also recorded by indirect sources like grunts, branch shaking, sounds associated with locomotion and feeding etc. All such indications were used to trace the animals and stopped for ± 10 min. to collect the details of the group or the animal. Secondary information was gathered through interacting with the local people from the fringe areas.

Field Condition





PROJECT ACTIVITIES:

Survey:

The survey was conducted in the Mipi and Malini areas of the sanctuary during. To survey the Mipi area, the base camp was established at the Mipi headquarter. The interior areas were then covered from temporary tent camps which were established as per convenience. Similarly, Malini was the base camp for the surveying the neighbouring areas. The study was conducted during 2008-2009.



EDUCATIONAL AND AWARENESS PROGRAMME

As a part of education and awareness program 2 Lecture-cum slide shows on the Primate conservation, one each at Mipi and Malini were organized. Posters and stickers of primates were also distributed among the village people to motivate the local people towards the conservation of primate as well as other wildlife. Informal discussions were also held with village people

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to know their views. Moreover, the local people who were engaged as field assistants and other interested people were also taught the basic of idea of primate survey. The education and awareness program of the project reached to the persons from different walks of life.



PROJECT OUTCOME

Diversity of primates:

According to the current study there are three species of primate in the Mipi and Malini areas of the Dibrang Wildlife Sanctuary. These – species are namely, Assamese macaque (*Macaca assamensis*), Rhesus macaque (*Macaca mulatta*) and slow loris (*Nycticebus bengalensis*). Out of these three species two species (Assamese macaque & Rhesus macaque) could be confirmed through direct sighting while the presence of the species slow loris was recorded on the basis of indirect information. The sighting rate is very low and animals were found to be very shy and scared. They escaped at the slightest pretext of human presence even at a distance. Not a single call of gibbon was heard during the survey period. Interaction with the local people also indicate a non occurrence of gibbon this part. *Supported By The Rufford Small Grants Foundation (“RSGF”)*

Similarly for capped langur also there was neither direct sighting nor any indirect clue.

Table I Recorded Primates

Common name	Species	Sighting	Remarks
Assamese macaque	<i>Macaca assamensis</i>	Direct	Very Shy & Rare
Rhesus macaque	<i>Macaca mulatta</i>	Direct	Very Shy & Rare
Slow loris	<i>Nycticebus bengalensis</i>	Indirect	Yet to be find out

Range of Altitudinal distribution:

Altitudinal records were maintained during the survey for every direct sighting. The study records distribution of primates from 1270 msl to 1834 msl.

Table 2 Primates in Different Altitudinal gradients

Species	Altitude (m)	Location
Assamese macaque (1 group)	1834	N29°01'40.7" E 95°48'34.4"
Assamese macaque (1 group)	1624	N29°01'03.9" E 95°48'28.4"
Rhesus macaque (1 group)	1270	N28°40'11.7" E 96°06'19.0"

OTHER FAUNA

Besides Non-human primates this area harbors different kinds of wild animal. We have recorded the presence of 30 different mammalian species during our survey both directly and indirectly. Significantly out of this 30 species 50% (15 species) are schedule –I according to the Wildlife (Protection) Act of India, 1972. Most importantly one of these species i.e. Mishimi Takin is endemic to this part only.

Avifaunal diversity of the sanctuary is also very high. A number of birds were sighted during the survey. The sighted list of birds includes important birds species like – Red breasted Hill Partridge (*Arborophila mandellii*), Blyth’s Tragopan (*Tragopan blythii*), Sclater’s Monal (*Lophophorus sclateri*), Beautiful Nuthatch (*Sitta formosa*), Wlard’s Tragon (*Harpactus wardi*) and Khalij pheasant(*Lophura leucomelana*).For the birds community also hunting is the major threat in the sanctuary.

HIGHLIGHTS OF THE SURVEY

The survey could not record the presence of Capped langur and Hoolock gibbon in both Mipi and Malini. Thus this study confirms that there is no distribution of Capped langur and gibbon.

THE THREATS

During the survey period we tried to identify the threats of wildlife in general and primate in particular in the two selected sites of Mipi and Malini. The sanctuary is no doubt situated in a remote and inaccessible corner, but here also wildlife and their habitat are not fully secure. The set of problems which the area and the wildlife here experiences are somewhat not alike to those in other parts of the state. The problems are intricately associated with the local communities and cultural traditions.

1. Hunting

Hunting in general is one of the major threats to wildlife in Arunachal Pradesh. Hunting is associated with culture of the majority of the communities in the state and as a tradition almost all communities practice hunting of wild animals. The present study sites, is not an exception and thus practice of hunting by the locals in this part is a common feature. Animals are hunted mainly for meat. At the same time there is local demand for skin, teeth, feather beaks and other parts, which are used as a part of traditional dresses. This study identifies hunting as the primary threat for primates and other wildlife in Dibang. In both study sites- Mipi and Malini, hunting is prevalent. People from all walks of life are involved in hunting. Large mammals are hunted mainly with gun. All the households usually have guns. A section of people also uses various indigenous traps (Locally called phasi) for capturing large mammals, medium sized and small mammals and even small birds. The traps are mainly used in the winter season. As indirect evidences of hunting we found skins, horns, hairs and skulls of different species in the houses of local people. Based on these parts we have listed some of the species which are hunted by people.

Table II: Different skin /horn/skull found in the local people's house

Sl.No	Local name	Latin name
1	Assamese macaque	<i>Macaca assamensis</i>
2	Leopard	<i>Panthera pardus</i>
3	Leopard cat	<i>Felis bengalensis</i>
4	Snow leopard	<i>Panthera uncia</i>
5	Indian porcupine	<i>Hystrix indica</i>
6	Red panda	<i>Ailurus fulgens</i>
7	Musk deer	<i>Moschus moschiferus</i>
8	Barking deer	<i>Muntiacus muntjak</i>
9	Wild dog	<i>Cuon vulpinus</i>
10	Sun Bear	<i>Helartos malayanus</i>

11	Goral	<i>Nemorhaedus goral</i>
12	Mainland serow	<i>Naemorhedus sumatraensis</i>
13	Wild boar	<i>Sus scrofa</i>
14	Blue sheep	<i>Pseudois nayaur</i>
15	Serow	<i>Capricorniss umatraensis</i>
16	Common otter	<i>Lutra lutra</i>
17	Takin	<i>Budorcas taxicolor</i>
18	Large Indian Civet	<i>Viverra zibetha</i>

DIFFERENT PARTS OF HUNTED ANIMALS







Local Hunter



Local Idu man

2. Trans-boundary hunting:

Trans-boundary hunting is another major threat. Chinese hunters regularly come to the Indian Territory. According to the local hunters Chinese hunters use to come in groups of 4-6 persons and they equip themselves with sophisticated weapons. This situation is really alarming and need timely intervention from the state/ Central Government of India.

3. Poaching:

The study further identifies poaching as an emerging threat for the wildlife of the area. Along with traditional hunting nowadays poaching has also come up. Leading the situation towards a more critical state recently the hunting and poaching of this remote corner has established link with the international network of illegal trade in wildlife products. At the same time issuing of more number of gun licenses has emerged as a great threat to the wildlife population. If this trends goes on then the larger mammals will be in more danger in coming years.

Bears (*Ursus thibetanus*, *Helartos malayanus*) are hunted mainly for gall bladder, teeth and skin. Another major shot after species is Musk deer (*Moschus moschiferus*) which is killed for musk pods. It has the highest demand in the illegal wildlife market. During the summer (from June to October), the villagers usually go for musk deer hunting.

Lack of infrastructure:

Lack of infrastructure in the Department of Environment and Forest, Govt. of Arunachal Pradesh which is in charge of enforcement and management of forests in Arunachal Pradesh, including Dibang Wildlife Sanctuary. As the legal custodian the department of Environment and Forest, Govt. of Arunachal Pradesh is yet to provide necessary emphasis to Conservation of Dibang Wildlife Sanctuary. The inadequacies can be felt in different levels.-

- i. A distinct boundary demarcation for the sanctuary is still lacking.
- ii. Communication gap between the department and local communities is also creating problem. People here at Mipi and Malini have no idea about the declaration of the sanctuary and till now they consider the entire area as their ancestral property.
- iii. Lack of adequate staff in the department is another problem. The department does not have any staff even to carry out regular patrolling duty. Vast boundary of the sanctuary is yet to be brought under patrolling network.

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- iv. There is no checkpoint of police or Forest battalion camp in metal road that goes to district headquarters at Anini or Roing .Taking advantage of this situation lots of illegal activities on forest products are going on through this route.

4. Jhum cultivation

Jhum cultivation is another additional problem. In future course it may cause more damage to the sanctuary. Jhum Cultivation (Slash and burn shifting cultivation) in the fringe may be one of the major threats for wildlife of the sanctuary in long run.



CLEARING OF FOREST FOR JHUM CULTIVATION



CLEARING OF FOREST FOR JHUM CULTIVATION

CONSTRAINS and LIMITATION

Incessant rain during the summer and snow fall in winter remained to be the major constrains throughout the survey period. Both rainfall and snowfall affected project work to a great extent. The road from Roing to Anini remained blocked for many times. Again road from Anini to Mippi and Malini remained close frequently for several days together due to land slide and snow fall. In this unpredictable conditions several times the survey team has to return back from Anini to stay at Roing. At other times because of the blockage of the road even after reaching Anini they could not move to their destination and remained stranded at Anini. In the absence of any local forest staffs the team had to depend entirely upon the local people.





CONSERVATION

Considering the potentiality of the Dibang Valley Wildlife Sanctuary as a unique storehouse of bio-diversity in the current context we recommend the following points for the long term conservation of wildlife in general and primate in particular.

Check on hunting: Hunting being the major conservation problem in the Mipi and Malini, Police and Forest Department should take care in strict implementation of Wildlife Protection Act 1972.

Check on poaching: Poching Wildlife should be checked. Anti-poaching and monitoring camp should be set up at strategic sites and well trained and well equipped ant poaching staff should be appointed in these camps.

Infrastructure development:

- a. Establishment of Divisional Forest office (wildlife) at Anini(district head quarter) can be instrumental for the monitoring and management of the of the sanctuary
- b. At least three Forest Range Offices – one each at Dambin, Mippi and Malini should be established for the monitoring and management of these remote ranges of the sanctuary. Field staffs should be posted in different camps to carry out regular patrolling.
- c. Better infrastructural facilities such as Vehicles, Motor Bike and modern fire arms should be provided to the field staff.
- d. Signage of the Dibang Wildlife Sanctuary should be placed in the public areas as well as on the highway.

Conservation education and public awareness:

Conservation education and public awareness programme should be conducted in all the educational institutions as well as community level in the district where the protected area exists.

WHAT NEXT?

An Idu couple

We would like to continue the survey in other parts of Dibang-Dihang Biosphere Reserve. It is quite essential to develop a better understanding on diverse aspects of the reserve apart from the status and diversity of primates in particular and biodiversity as whole.

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