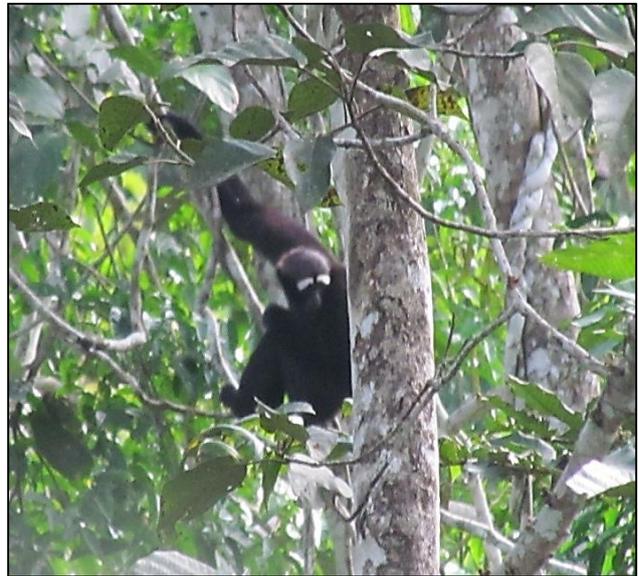




**Biodiversity Survey in Shwe Taung Mountain Area
in Indawgyi lake Wildlife Sanctuary
Mohnyi Township, Kachin State
Preliminary report**

December 2013 and January 2014

Saw Soe Aung & Aung Ko Lin



Myitkyina, February 2014



Report on Shwe Taung Mountain Area and Inkyin Mountain Area Biodiversity Survey, Kachin State (December 2013 and January 2014)

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Myanmar Primate Conservation Program

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Disclaimer: The views expressed in this report are those of the authors and do not necessarily represent those of the donors or partner organisations.

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Cover: Male Eastern Hoolock Gibbon in Shwe Taung Area

i. Abstract

This is the report of Biodiversity survey in Shwe Taung Area, north of Indawgyi Lake, Mohnyin Township, Kachin state. The results provided extended evidence for the presence of the species in Shwe Taung Area. And also our team recorded presence of mammals in the study area from hunter interviews.

ii. Report conventions

All georeferences are on the WGS84 datum.

All altitudes are in meters above sea level.

Where non-English words or names are provided, they are indicated by the use of *italics*.

Scientific and common names for mammals come from Francis (2008). Those for birds are from Robson (2008).

All maps were produced by the Hoolock Gibbon Status Review team unless otherwise stated.

Species threat status is taken from the IUCN Red List of endangered species, available at www.iucnredlist.org

At the time of the survey, one USD was roughly equivalent to 900 kyat

iii. Acronyms and abbreviations

FFI	Fauna and Flora International (international organisation, project partner)
IUCN	International Union for Conservation of Nature and Natural Resources
PRCF	People Resources and Conservation Foundation (international organisation, project partner)
USD	United States Dollar

iv. Acknowledgements

Financial support came from Arcus Foundation, European Union and ASEAN Centre for Biodiversity/GIZ.

Introduction

The report presents findings from a brief biodiversity survey in Shwe Taung Area in northern part of Indawgyi Lake, Inkyin Mountain Area in Northern part of Indawgyi Lake, Mohnyin Township, Kachin State, and north Myanmar. The field survey in Shwe Taung Area was conducted in 13-16 December 2013 and Inkyin Mountain Area was conducted in 20-21 of January 2014. The main objective of this survey was to confirm the presence or absence of Mammals species and how many groups of gibbons in Shwe Taung Mountain area and Inkyin Mountain Area. Other objectives included conducting a threat assessment to monkeys especially Eastern Hoolock, and which species are rare or common and to understand the status of threats to these mammals.

During survey, our team conducted gibbon survey and interviewed with two Villages from 2 hunters and recorded the sign of evidence such as skull, leg, horn, skin and also camera trapping.

Itinerary and Survey methods

An itinerary for the survey is provided in Table 1 of this report.

Table 1. Survey itinerary.

Day	Date	Activity	Remark*
1	13-15 Dec 13	Travel from Nantmon Village to Shwe Taung and short trip survey in Shwe Taung Area, interview in Tonsan Hka n Village	By Motorbike and Boat
2	16 Dec 13	Interview survey in Mana Kaw Village	
3	17-20 Dec 13	Setting Camera trap in Mana Khaw village	
4	22 Dec 13	Return to Nant Mon Village	By Motorbike
5	10 Jan 14	Checking Camera trap	Mana Khaw Village
6	20-21 Jan 14	Biodiversity Survey in Inkyin Mountain Area	3-hour Walking
5	25 Jan 14	Return to Myitkyina Township	By train

Survey participants included Saw Soe Aung , Aung Ko Lin. In addition, U Htay (local guide) from Shwe Taung joins in Gibbon survey. Scientific and common names for mammals come from Francis (2008); those for birds are from Robson (2008). Species threat status is taken from the IUCN Red List of endangered species (IUCN, 2011).

Field survey method is randomly recorded interview survey and Camera trapping in Mana Kaw Village.

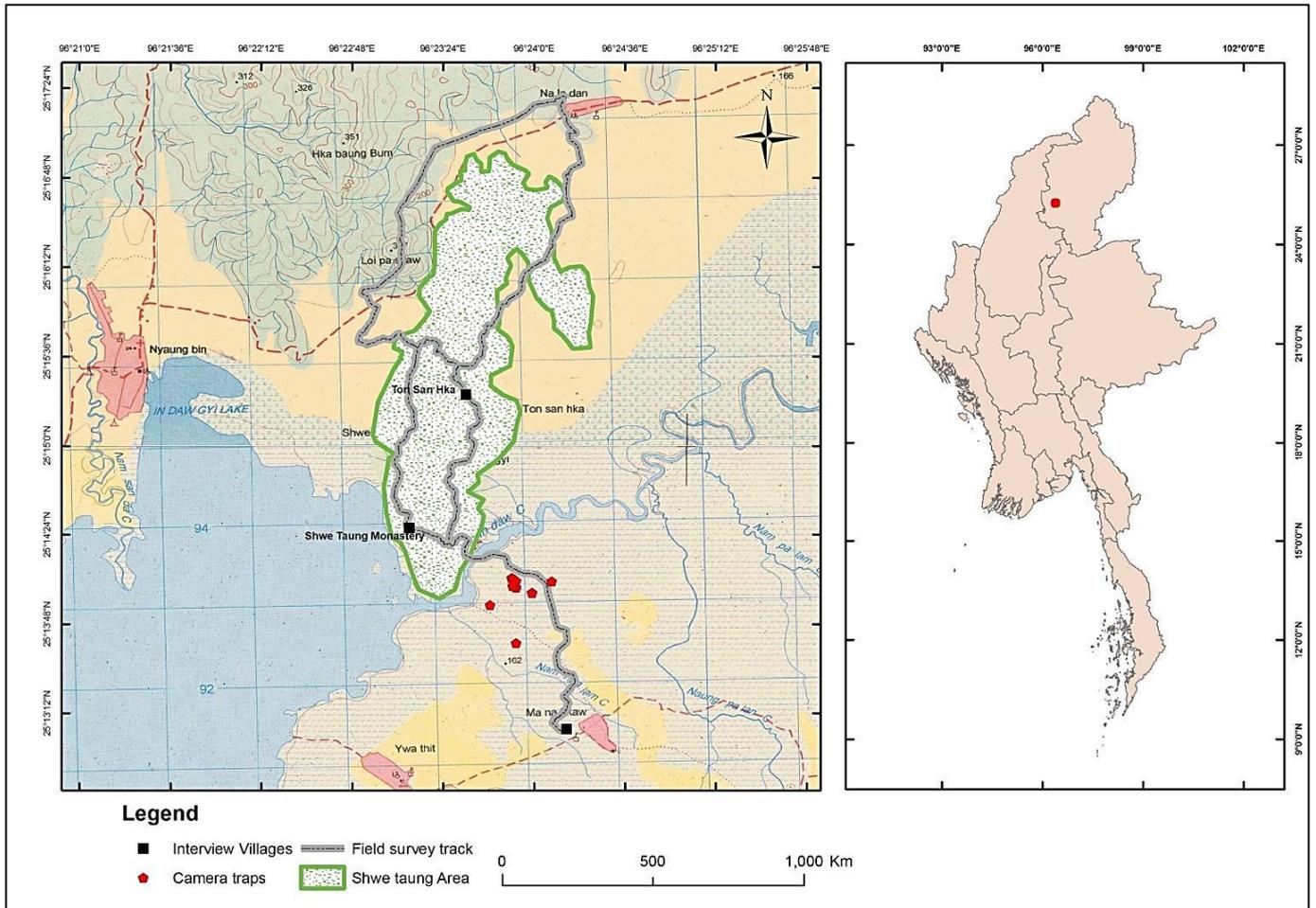


Fig 1. Map showing the location of Shwetaung Mountain and Camera trapping area

Results 1: Interviews survey in Shwe Taung Area and threat evaluation

Village profiles

Ton San Hka village, N 19.88078, E 094.32137

Households: 20

Population: 50 (Buddhism and a few are Christianity)

Ethnicity: Shan and Kachin

Interviewee: Htun Yin

- *Agriculture*: All families in this village practice paddy field cultivation. Other agricultural cash crops and subsistence crops include chilli, pumpkin, and banana plantation.
- *Perennial*: Most of the families own 5-10 of Mango tree and Jet fruit tree for selling and eating. Some families grow 10-15 betel nuts for selling to Village and Nyaung Bin Village. And also, some families start to grow Djenkol plant (*Pithecellobium*) in this year.
- *Livestock*: There are 4-6 pigs one per family, and chickens in every household. According to estimation of interview from local village, more than 100 cows and 90 buffalos are owned by the whole village for selling to Nyaung Pin Village.
- *Timber extraction*: Sagawa, Kanyin, Kyi Lan, Ingyin, Yie Ma Nay, Thabye, Kanaso, Louk Yar, Htauk Kyint, are common tree species used for house construction.
- *Wildlife extraction*: Some villagers hunt wild pigs, muntjacs and macaques by using their domestic dogs and snare.
- *Non-timber forest product collection*: bamboo, bamboo shoot, orchid and honey for selling and house construction.
- *Wildlife conflicts*: Currently, there is little hunting. Macaques and wild pigs invade the paddy fields during harvesting time. During the night, chicken and piglets are occasionally killed by wild animals (leopard cat, large Indian civet).
- *Development initiatives*: Villagers accepted some small loan from government for investment in paddy field. Moreover, medical treated mosquito nets were also distributed by government. Health department treated vaccine one time in one month.
- *Threats to forests / habitat*: The main threat to forest and habitat is extended cultivation and small logging for village use.
- *Threats to wildlife*: Hunting by local people is not assumed a serious threat. But threat to wildlife is habitat loss for gibbon and other species.

Mana Khaw , N 19.88078, E 094.32137

Households: 65

Population: 180 (Buddhism and a few are Christianity)

Ethnicity: Shan (Timelan) and a few are Kachin

Interviewee: U Paw Lar

- *Agriculture*: All families in this village practice paddy field cultivation. Other agricultural cash crops and subsistence crops include chilli, pumpkin, Mustard, bean and banana

plantation. Some family grow tomato and other vegetable after harvesting of paddy field and sell to Nantmon Village.

- *Perennial*: Most of the families grow Coconut, betel nut and jet fruit in home garden and only for home consumption. Some family go and sell to Nantmon Village.
- *Livestock*: There are 4-6 pigs one per family, and chickens in every household. According to estimation of interview from local village, more than 150 cows and 100 buffalos are owned by the whole village for selling to village and Nantmon Village.
- *Timber extraction*: Sagawa, Kanyin, Kyi Lan, Ingyin, Yie Ma Nay, Thabye, Kanaso, Louk Yar, Htauk Kyint, Jaw, Myauk Ma Kom Sar, Thit Net, Thit Phyu, Ka Laung, Teak, Ban Gar are common tree species used for house construction.
- *Wildlife extraction*: Some villagers hunt wild pigs, muntjacs and macaques by using their domestic dogs and snare.
- *Non-timber forest product collection*: bamboo, bamboo shoot, orchid and honey for selling and house construction.
- *Other income from labour*: In some seasons, they go to gold mining area such as Saing taung, Phar kant for income. Some are like general labour in their native. Some get income from Indawgyi lake for fishing
- *Wildlife conflicts*: Currently, there is little hunting. Macaques and wild pigs invade the paddy fields during harvesting time. During the night, chicken and piglets are occasionally killed by wild animals (leopard cat, large Indian civet).
- *Development initiatives*: Villagers accepted some small loan from government for investment in paddy field. Moreover, medical treated mosquito nets were also distributed by government. Health department treated vaccine one time in one month.
- *Threats to forests / habitat*: The main threat to forest and habitat is extended cultivation and small logging for village use.
- *Threats to wildlife*: Hunting by local people is not assumed a serious threat.

Result 2: One day trip Gibbon Survey in Inkyin Mountain Area

Inkyin Mountain Area is the hillside swidden field belonging to the family of U Gan Set, and is located approximately 5 km north of Nantmon Village on the northern part of Indawgyi Lake. The topography in this area is continuous with 11 mile ridges and also the same as Palin Mountain Area. Interviews were conducted with 5 people to identify locations, time and numbers of primate sighting and primates heard and identify the species based on described characteristics (size, tail, presence/absence, tail length, fur colouration, marks, locomotion, feeding behaviour, and habitat. Additional topics included: threats to the species and their habitat, population status (rare/common) and trends hunting methods (snaring/trapping, shooting, hunting with dogs), market prices, and trade chains for each present primate species.

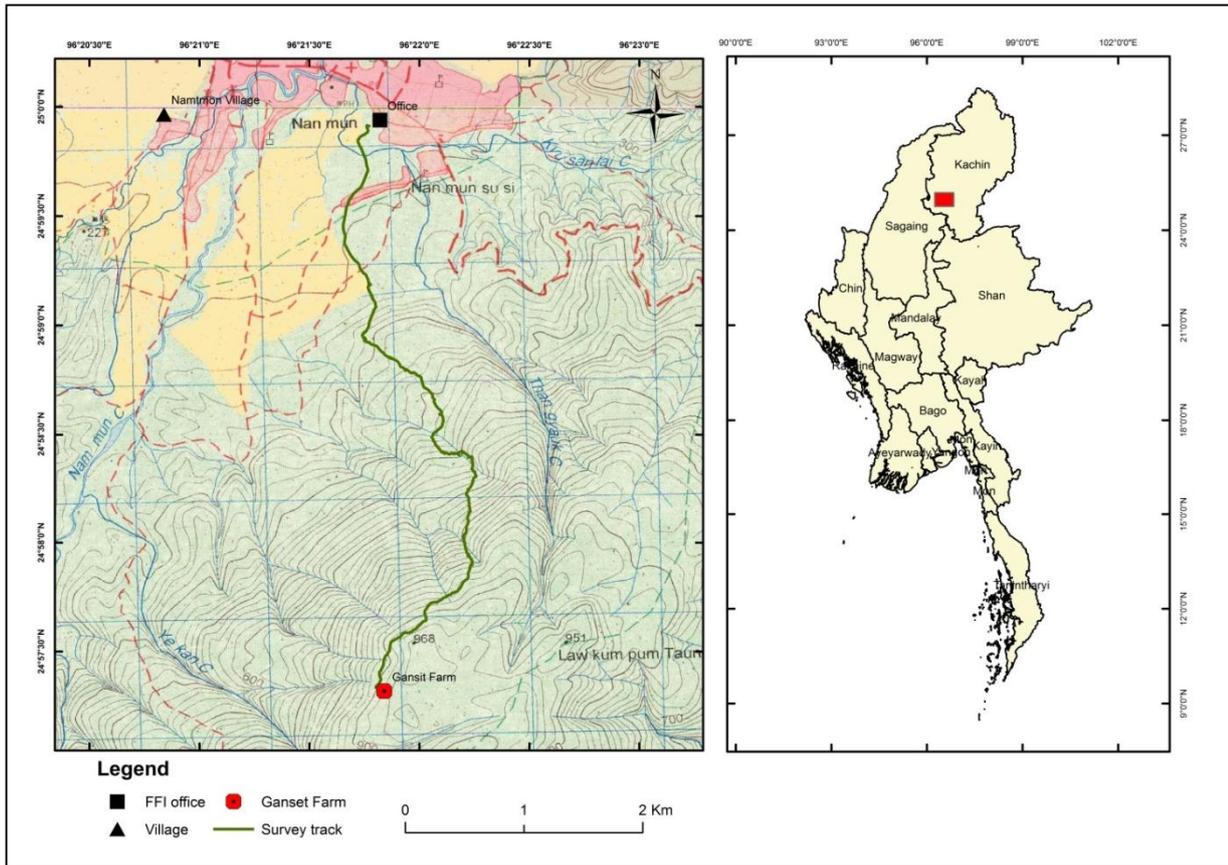


Fig 2. Map showing the location of Inkyin mountain and survey site

Village profile

U Gan Set is a farm owned by one household. They are resident in Nantmon Village, but temporarily move to the swidden fields during the growing season. According to U Gan Set, he stays in Inkyin Mountain Area for about 12 years. He grows long term plantation in his farm such as Tea leaf, orange and Djick . Now he can sell Dejack fruit to Nantmon Village. And also he starts to plant agar wood plantation in his farm.

According to him, three group of gibbon were around his farm through interview result from U Gan Set. Based on observation, the main impact for gibbon and other mammal in this area during survey is shifting cultivation and logging. According to U Gan Set, now three families from Nantmon Village come and made the shifting cultivation in Inkyin Mountain Area this year (2014) and also some people form Ze Kone Village sometimes come and extract the timber in gibbon habitat area. In this respect, gibbon and other mammal were faced so far with habitat loss.



Fig 3: Interview survey Camp and the habitat of Inkyin Mountain Area

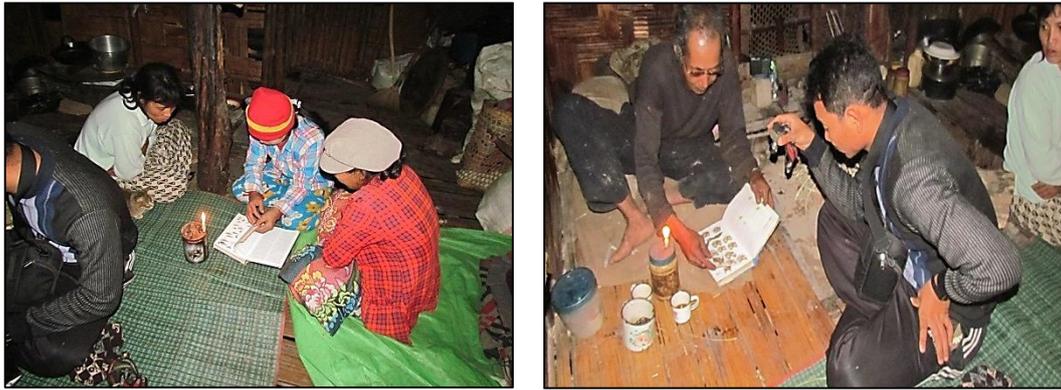


Fig 4: Gibbon Interview survey in Inkyin Mountain Area, Photo: Saw Soe Aung

Camera trapping

In camera trapping, according to interview survey in Mankhaw Village through local hunter our team set up the camera trap in two different areas near Indawgyi Lake grass land Area especially for Hog deer.

On 20 December, our team set up the three camera trap near the distance of 100 m away from the west of our interview village (Manakhaw Village). On 22 December, we took up of three camera traps; only one camera trap was got total of 46 pictures. And also, total of six camera trap were kept on setting in that area on 22 December and took out on 10 January 2014. At that time, only 4 species of mammal (Hog deer, Small Indian Civet, Large spotted Civet and wild pig) were recorded in Camera trap.

The following table and pictures show the result of Camera trapping in east of Indawgyi Lake grass land Area.

Set up Date	Take of Date	Coordinate	The main target species	No of Photos	Remark
20.12.2014	22.12.2013	N.25.66590 E.097.45445	Small cat and Hog deer	-	
20.12.2014	22.12.2013	N.25.66590 E.097:45445	Small cat and Hog deer	-	
20.12.2014	22.12.2013	N.25.66590 E.097.45445	Small cat and Hog deer	46	Only got Hog deer species
22.12.2013	10.1.2014	N.25.66590 E.097:45445	Small cat and Hog deer	2	Small Indain Civet
22.12.2013	10.1.2014	N.25.66590 E.097.45445	Small cat and Hog deer		
22.12.2013	10.1.2014	N.25.66590 E.097:45445	Small cat and Hog deer	6 6	-Small Indain civet -Hog deer
22.12.2013	10.1.2014	N.25.66590 E.097.45445	Small cat and Hog deer	27	Only hog deer
22.12.2013	10.1.2014	N.25.66590 E.097:45445	Small cat and Hog deer	-5 -6	-Small Indain Civet -Hog deer
22.12.2013	10.1.2014	N.25.66590 E.097.45445	Small cat and Hog deer	-36 -52	-Wild pig -Hog deer

22.12.2013	10.1.2014			-5 -67	-Small Indain Civet -Hog deer
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Fig 5. Recorded pictures with camera traps

Mammal record in Shwe Taung and Inkyin Mountain Area

1. Sunda Pangolin (*Manis pentadactyla*)

According to experience of local guide, the species of pangolin is rarely seen in Shwe Taung Mountain Area. Last two days before our team arrive; he got Chinese pangolin near the monastery. A villager from Hepu Village came and bought the pangolin with the cost of 75000 MKK.

3. Rhesus Macaque (*Macaca mulatta*)

According to interview result from two hunters from Mana Kaw Village and Tone San Hka Village, rhesus macaque was the kind of destroying animal in shifting cultivation, banana plantation and also they said that the species of rhesus macaque were more common than other species of macaque in Shwe Taung Mountain area.

On 14 of December 2013, the captivity of small rhesus macaque was observed at monastery in Shwe Taung. According to him, he got this species from Nyaung Pin Village and sometimes on the way to between Shwe Taung and Nyaung Pin Village; he encountered one group of this species.



Fig 6: Rhesus macaque at Shwetaung Monastery, Photo: Saw Soe Aung

5. Stump-tailed Macaque (*Macaca arctoides*)

On 13 of December 2013, two stump-tailed macaques' species were found in Shwe Taung Monastery. According to monk, he said that he got from Nyaung Pin Village and sometimes, a group of this species were found near the monastery.



Fig 7. Stump-tailed Macaque, Photo: Saw Soe Aung

6. Northern Pig-tailed Macaque (*Macaca arctoides*)

During the interview survey in Shwe Taung Mountain Area, the northern pig-tailed macaque does not see in Shwe Taung Mountain Area. On 13 of December 2013, northern pig-tailed macaque species was found in Shwe Taung Monastery. According to monk, he said that he got from Nyaung Pin Village. Even though he got this macaque species from Nyaung Pin Village, the original place was got from Tanine Area according to the owner from Nyaung Pin Village.



Fig 8. Northern Pig-tailed Macaque in Shwe Taung Mountain Area, Photo: Saw Soe Aung

6. Small Asian Mongoose (*Herpestes jaanicus*)

On 19 of December, three individual of Mongoose species were found on the way between Natmouk Kan Village and Lon San Village. At that time we could not take photo because of very fast. On 20 of December, the foot print of Mongoose species were observed in Camera trapping area. According to local guide from Manakhaw Village said that this species is still common in Camera trapping area.

7. Small Indian Civet (*Viverricula indica*)

According to local guide from Mana khaw Village, he said that the small Indian species is not rare in Camera trapping Area.

8. Large Spotted Civet (*Viverra megaspila*)

During survey in Camera trapping area, the foot print of Large Spotted Civet was observed on 20 of December 2014. According to local hunter, he said that the Large Spotted Civet sometimes came and killed the Kitchen in their farm. On 20 of December 2014, the foot print of this species was observed when we set the camera trap in Camera trapping area.

6. Eastern Hoolock Gibbon (*Hoolock leuconedys*)

According to interview result from Shwe Tang Area through hunter, three groups of gibbons calling were heard from north of Monastery everything morning this month and the hunter from Tone San Hka Village, he claimed that two groups of gibbon calling were heard every morning in the west of Village and sometimes, one group of gibbon was came and ate the fruit near the paddy field when the fruiting time.

In two day trip surveys in Shwe Taung Area, on 14 of December we encountered two group of Gibbon. One group was three individual in bamboo forest eating bamboo leaf and another group was two individual calling at top of tree.

On 15 of December, one individual was found and four individual (Male, Female, Juvenile and infant) were observed in west of Tone San Hka Village eating bamboo leaf.

During survey in Manakaw Village, two group of gibbon calling were heard from the distance of 2 km from Shwe Taung Mountain Area on 18 of December 2013.

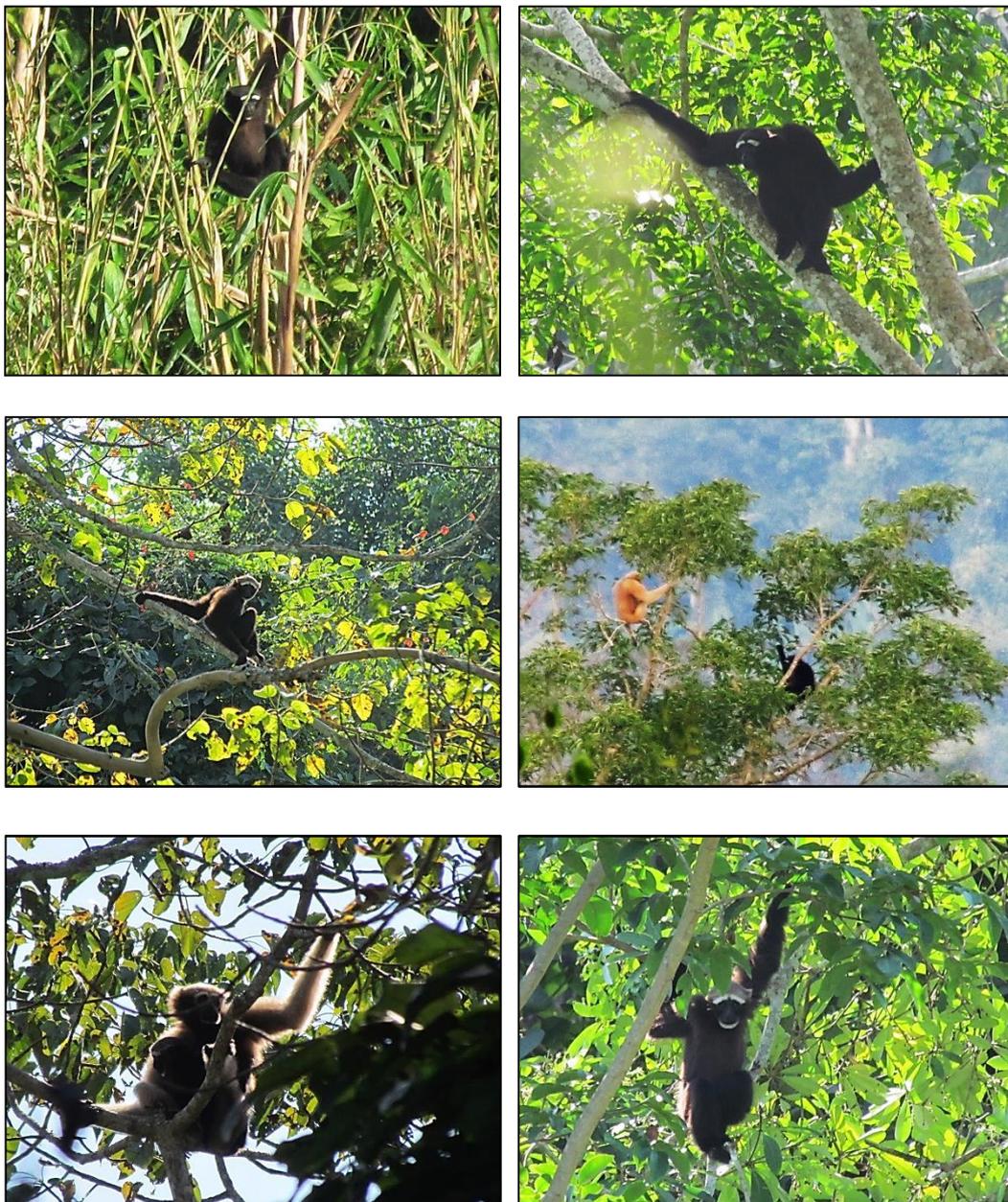


Fig 9. Gibbon in Shwe Taung Mountain Area, Photo: Saw Soe Aung

Habitat of gibbon survey in Shwe Taung Mountain Area

Shwe Taung is a mountain in the country of Myanmar with an average elevation of meter above sea level. The land area is mostly covered with closed to open broadleaved evergreen or semi-deciduous forest. Based on our field observations and additional information provided by hunters, the habitat of Shwe Taung Mountain Area is evergreen and bamboo forest.



Fig 10. The habitat of Shwe Taung Mountain Area, Photo: Saw Soe Aung

Threats to biodiversity

During survey, the main threat for mammal survey area is extension of plantation, habitat loss and small scale of logging. The hunting method that they use is snare, small iron trap and black powder gun. Their main target species are muntjack species, wild pig, hog deer, black bear, sun bear and pangolin. They are trapped with snare and iron trap. They can sell bears depending on the weight of their valuable parts (gall bladder, paws and legs). The pangolin can be sold for 75000 MMK for one viss (alive). According to local people, some wildlife trader from Chaungwa and Hepu come to village and buy muntjac skin, hog deer, Sambar and other bush meat. All meat can be sold for 6000 MMK for one viss. Base of the interview with hunter from Tone San Hka Village one black bear crossing the Indaw Chaung is hunted last three month ago (September, 2013).

According to local hunters from Tone San Hka and Mana Kaw Villge said that the hog deer species are rare and but sometimes easy to find found near the village when the grass are burnt in dry season and at the bottom of Shwe Taung area last two year. In this year 2013, because of extension of paddy field and forest fire, the hog deer species are rarely seen in their habitat area comparison with last two year.



Fig 11. the main threat for Gibbon in Shwe Taung Area, Photo: Saw Soe Aung

Conclusions

A total of 33 species of mammal were recorded by direct sighting and interview information including seven confirmed record of endangered species (Shortridge's langur, Hog deer, Sunda pangolin, Chinese Pangolin, Dhole, Eastern Hoolock Gibbon and Black Bear), nine Vulnerable species (Asian slow loris, Stump-tailed macaque, Sun bear, Bintrong, Marble Cat, leopard, Sambar, Guar and Red Serow) and six Near threatened (Assamese macaque, Hog bedgar, Chinese serow and Black giant squirrels). According to our field survey and interview survey results, habitat degradation is also a main threat to other wildlife.

Addition, two day field surveys in Shwe Taung Area, four groups of gibbons were recorded in direct sighting. According to field survey in Shwe Taung, the main threat for gibbon in that area is habitat loss and logging. And also one day interview survey in Inkyin Mountain area, the forest type is better than Shwe Taung Area. But gibbon population is decrease than Shwe Taung Aera because of logging and more hunting than Shwe Taung Area.

In summary, for the safeguard of gibbon population in Shwe Taung Area should seriously control and monitor not to extract the timber and hunt other wildlife under controlling and patrolling of wildlife department. According to observation result, Shwe Taung Area is the best place for Gibbon Park or priority gibbon target area. So we should negotiate with Wildlife Department in time and make awareness rising villages around the Shwe Taung Mountain Area.

References

- Francis, C. M. (2008). *A field guide to the mammals of South-East Asia*. Asia Books, Bangkok, 392 pp.
- IUCN (2010). *IUCN Red List of threatened species. Version 2010.1*. <www.iucnredlist.org>. Downloaded 14 May 2010. www.chinicom.com, [the travel location](#)

Appendix 1

Family	Species	Evidence				IUCN threat status ²
		Visual	Aural	Feces	Tracks	
Scandentia						
Tupaiaidae	Nothern Treeshew (<i>Tupaia belangeri</i>)					
Manidae	Sunda Pangolin (<i>Manis javanica</i>)					+ EN
	Chinese Pangolin (<i>M. pentadactyla</i>)					+ EN
Primates						
Lorisidae	Asian Slow loris (<i>Nycticebus bengalensis</i>)					+ VU
Cercopithecidae	Rhesus Macaque (<i>Macaca mulatta</i>)					+ VU
	Stump-tailed Macaque (<i>Macaca arctoides</i>)					+ VU
	Shortridge's Langur (<i>Trachypithecus shortridgei</i>)					+ EN
Hylobatidae	Eastern hoolock (<i>Hoolock hoolock Leucomedys</i>)	+	+			+ EN
Carnivora						
Canidae	Dhole (<i>Cuon alpinus</i>)					+ EN
Ursidae	Asian Black Bear (<i>Ursus thibetanus</i>)					+ VU
	Sun Bear (<i>Helarctos malayanus</i>)					+ VU
Mustelidae	Yellow-throated Marten (<i>Martes flavigula</i>)	+				+ VU
	Large-toothed ferret-Badger (<i>Melogale personata</i>)	+				+ VU
	Hog Badger (<i>Arctonyx collaris</i>)					+ NT
Lutrinae	Smooth Otter (<i>Lutrogale perspicillata</i>)					+ VU
Viverridae	Small Indian Civet (<i>Viverricula indica</i>)					+ VU
	Large Indian Civet (<i>Viverra zibetha</i>)	+				+ VU
	Common Palm Civet (<i>Paradoxurus hermaphrodites</i>)					+ VU
Herpestidae	Small Asian Mongoose (<i>Herpestes javanicus</i>)					+ VU
	Masked Palm Civet (<i>Paguma larvata</i>)					+ VU
	Common Palm Civet (<i>Paradoxurus hermaphrodites</i>)					+ VU
	Carb-eating Mongoose (<i>Herpestes urva</i>)					+ VU
Felidae	Leopard Cat (<i>Prionailurus bengalensis</i>)	+				+ LC
	Asian Golden Cat (<i>Catopuma temminckii</i>)					+ NT
Artiodactyla						
Suidae	Eurasian Wild Pig (<i>Sus scrofa</i>)	+				+ VU
Cervidae	Red Muntjac (<i>Muntiacus muntjak</i>)					+ VU
	Hog deer (<i>Axis porcinus</i>)					+ EN
	Sambar (<i>Rusa unicolor</i>)					+ VU
Bovidae	Gaur (<i>Bos frontalis</i>)					+ VU
	Red Serow (<i>Capricornis rubidus</i>)					+ VU
Rodentia						
Sciuridae	Black Giant Squirrel (<i>Ratufa bicolor</i>)					+ NT
Proboscidae						
Histricidae	Malayan Porcupine (<i>Hystrix brachyuran</i>)					+ VU
	Brush-tailed Porcupine (<i>Atherurus macrourus</i>)					+ VU