

Project Update: January 2017

The second round of data collection was initiated from 13th December 2016 till 10th January 2017. The sampling design remained same as that of first round data collection. Bat diversity was assessed in various habitat types (different forest types, open streams, settlements, forest clearings and trails) and additionally focused on acquiring information to capture Blandford's fruit bat (*Sphaerias blandfordi*). The project team was unsuccessful to rediscover Blandford's fruit bat which was reported its presence only in Ganghlakha from Bhutan by IUCN (2008). Thus, to increase its capture rate, project team has set to focus and allocate more time to rediscover *Sphaerias blandfordi* in next fieldwork (third round of data collection). The threats such as timber extraction, fencing poles, firewood collection, quarry, free grazing, and bamboo extraction were recorded in the area (Ganghlakha).

1. Awareness meeting in educational institute

The conservation awareness meeting with the College of Natural Resources, Royal University of Bhutan has been conducted. The event was chaired by the head of Sustainable Development Department and attended by the students and teaching faculties of the college. The event was held principally to disseminate basic knowledge on conservation of bats and to inculcate interest in bat conservation work. Moreover, the awareness meeting aimed to acquire their traditional and religious beliefs, and opinions on bats. The findings of first and second round field work were presented during the meeting. The project team observed the meeting as a success event as students including staffs actively interacted during the campaign.



Left: Presentation by project leader. Right: Interaction session after presentation

2. Bat species documentation

The mist nets of 6 and 9 m length, 2.5 m high were mounted vertically between two bamboo poles and erected on bat's flight paths, across streams, forest trails in human habitation and different forest types. Trapping was carried out after dusk till 10.00 or 10:30 PM as bats would become lethargic on confinement. It mainly depended on capture success and weather conditions. The live trapped bats were removed from the nets and kept in cloth bags. Data like weight and a set of morphometric measurements like length of ear, forearm, tibia, hind foot, thumb and other measurements were recorded. The capture site was visited only once to avoid trapping same individuals. A total of 33 individuals were trapped during the second round data collection. Three different species of bats belonging to one family (Rhinolophidae) were recorded; big-eared horseshoe bat (*Rhinolophus macrotis* Blyth, 1844), Chinese rufous horseshoe bat (*Rhinolophus sinicus* K. Andersen, 1905) formally *Rhinolophus rouxii sinicus* and intermediate horseshoe bat (*Rhinolophus affinis* Horsfield, 1823).



Project leader measuring weight of Bat



Rhinolophus macrotis (left), *Rhinolophus sinicus* (middle), and *Rhinolophus affinis* (right)

3. Recording vegetation

The vegetation was studied by laying quadrats of 1 x 1 m, 3 x 3 m and 10 x 10 m for herbs, shrubs and trees respectively in four directions from each trapping sites. Herbs like *Bidens pilosa* and *Swertia chirata* dominated ground cover in trapping sites of big-eared horseshoe bat. Trees like *Maccaranga denticulate* and *Michelia champaca* were dominant in the trapping sites of Chinese rufous horseshoe bat in warm broadleaved forest. *Eurya accumunita* and *Rubus ellipticus* were the most frequent tree and shrub species recorded respectively at trapping sites of intermediate horseshoe bat.

ANNEXES:



Bat's flight path: Forest clearings and trails (left), field assistant with volunteers during one of the trapping nights (middle), and field assistant erecting mist net (right).



Bats kept in cloth bags after removing carefully from mist nets during one of the successful trapping nights (left) and project leader identifying bat in the field (right).