



Notes on Natural History

Record of *Tylonycteris pachypus* (Lesser Bamboo Bat) from Andaman Islands

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Study Area: Andaman, Nicobar, India

**Coordinates: 06° 45' N to 13° 41' and
92° 12' E to 93° 57' E**

Key words: Bamboo bat, Cave roosting bats,
microchiropteran, *Tylonycteris pachypus*

Introduction

There was very limited and fragmented information on the bat fauna in the Andaman Islands before the study initiated in the Islands (2003-2007) and during this survey 25 species of bats were recorded along with the roosts and habitats. Our survey reconfirmed the presence of the bamboo bat after almost 3 decades from its last report by Hill in 1967. Bamboo bats are a group of small bats with unique skull and morphology. This species has been recorded from southern and northeastern South Asia, southern China, and much of Southeast Asia. In South Asia, this species is widely distributed and is presently known from Bangladesh (Chittagong and Sylhet divisions) and India (Andaman Islands, Karnataka, Kerala, Manipur, Meghalaya, Mizoram, Sikkim, Tripura and West Bengal (Bates *et al.*, 2008). They roost inside hollow bamboo stems. During survey, we examined 8 specimens of *Tylonycteris* from Andaman Islands of which six were caught by local inhabitants and 2 were mist netted across fresh water pond in Webi (North Andaman Island). The earlier record of this specimen from this zone was without any proper information regarding its proper distribution and habitats.

Specificity of the Island:

The Andaman and Nicobar Islands sprawl in a crescent from, south off the Myanmar coast to near Sumatra, situated 06° 45' N to 13° 41' and 92° 12' E to 93° 57' E. Politically most of the islands are a part of the Republic of India, except a few northern islands administered by Myanmar. The Islands are the largest archipelago system in the Bay of Bengal, consisting of 306 islands and 206 rocky outcrops. In the entire Andaman Archipelago, only 11 islands are inhabited. The land area is 8249 km², of which 7171 km² is notified as protected area or comes under the reserve forest. These islands contain some of the last remaining pristine rainforest habitats, with unique assemblage of flora and fauna distinct from the mainland (Rodgers &

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Panwar, 1988). These islands have a tropical climate throughout the year with the temperature varying from 18° C to 34° C. The mean annual rainfall is about 3000-3500mm. The islands receive rains during southwest and northwest monsoon, with relative humidity varying from 75% to 95%. The mammalian fauna of the Andaman and Nicobar Islands comprises of a rich assemblage, of rodents and bats (Miller, 1902; Hill, 1967; Saha, 1980; Pande *et al.*, 1991).



Tylonycteris pachypus

Bat Survey:

During the bat survey, mist netting was employed to sample bats active in different habitats outside the protected areas. A total duration of more than 1000 hrs of mist netting was carried out. Sampling was normally carried out between 17:00 hrs and 02:00 hrs. around a number of habitats: evergreen forest, grasslands, perennial streams, plantations (coconut, areca nut, mixed), subterranean caves and manmade water bodies. Nets over streams and freshwater pools were placed so that the lowest or the fourth shelf was just above the water level. In order to cover more areas, three mist nets each 9 feet long with four shelves were erected in a single night. The time of net placement and removal were properly recorded to calculate the total sampling effort in the habitat sampled. Bats sampled via nets were immediately removed and temporarily kept in cloth bags for recording morphometric data. After morphological measurements they were released close to the capture sites. All the methods used in the study were in accordance with internationally accepted procedures described (refer- Kunz, 1989).

During measurements of the captured individuals we included forearm length (FA), ear length (EL), sex, weight, presence or absence of tail, nose length (NL), nose width (NW) and pelage description. Measurements of specimens up to 200 mm were taken with vernier calipers to the nearest 0.1mm and for the flying foxes the FA was measured by using a tape measure to the nearest 1.0mm. Pesola spring balances of 10g, 30g, 50 g, 100g and 1000g were used for weighing individuals. The forearm measurements were used to confirm the genus as well as species level of the individuals which were sampled. Voucher specimens were collected for proper identification which were further deposited in Zoological Survey of India, Calcutta branch and Natural History Museum, New Delhi for future reference.

Excluding the *Tylonycteris pachypus* the commonly netted species were mostly Microchiropteran species. These included *Myotis horsfieldii dryas* (endemic sub species); *Rhinolophus yunanensis* (new record for the Andaman Islands); *R. cognatus* (endemic species); *Hesperotenus tickeli* (new record for the Andaman Islands); *Pipistrellus javanicus*; *Taphozous melanopogon*, *Megaderma spasma*, *Murina cyclotis* (new record for the Andaman Islands). Except *Murina cyclotis*, *Hesperotenus tickeli* and *Tylonycteris pachypus* are cave dwelling species.

However, *Tylonycteris pachypus* is the smallest known bat from the Andaman Islands with a fore arm of 27.6 mm (n = 8). It is known to roost inside the bamboo and probably shares a symbiotic relationship with the rhinoceros beetle. The rhinoceros beetle bores into bamboo internodes, through which the bamboo bat enters and makes a roost. We located six individuals in Karmatang, North East of Middle Andaman and one sample was collected by a local informant. During sampling we envisaged the occurrence of *T. pachypus* in the bamboo on the basis of tree's age and which further got confirmed by the fluttering behaviour of the bat within the bamboo while disturbing the same.

This species is restricted in its distribution to the North and Middle Andaman Island Group and is completely absent in the Nicobar Group. We did not record it from the South Andaman Group of islands and our following resurveys in the Andaman Islands too did not record its occurrence in the South Andaman Group. However, no major threats have been found which can restrict its distribution and populations in the archipelago. This study was only able to plot its distribution but not its ecological information. Studies on the ecology and behaviour need to be initialised to determine its status. Thus, whether its IUCN status should be reinterpreted is to be yet finalized.

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