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SHORT COMMUNICATION

FIRST RECORD OF THE SMALL BAMBOO BAT *TYLONYCTERIS FULVIDA* (PETERS, 1872) (MAMMALIA: CHIROPTERA: VESPERTILIONIDAE) FROM NEPAL

Basant Sharma, Anoj Subedi, Bandana Subedi, Shristee Panthee & Pushpa Raj Acharya

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FIRST RECORD OF THE SMALL BAMBOO BAT *TYLONYCTERIS FULVIDA* (PETERS, 1872) (MAMMALIA: CHIROPTERA: VESPERTILIONIDAE) FROM NEPAL

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Abstract: A bamboo bat of the genus *Tylonycteris* was captured near Gupteshore Cave of Kushma in Parbat, Nepal. Traditionally, two species of *Tylonycteris* (of *T. pachypus* complex and *T. robustula* complex) are known from the Indian subcontinent. Due to inconsistency in taxonomic classification, several changes were recently made within the genus *Tylonycteris*—*T. pachypus* was corrected to *T. fulvida* and *T. robustula* to *T. malayana*. The occurrence of *Tylonycteris* from Nepal's diversified zoogeography, however, was never mentioned. This note provides a new record of *Tylonycteris* from Nepal. Based on morphological characteristics and species distribution range, this note confirms the captured species as *T. fulvida*.

Keywords: Gupteshore Cave, Kushma, new record, Parbat, *Tylonycteris*.

A total of 128 species of bats are reported from the Indian subcontinent, including 115 species of yangochiropterans and 13 species of yinpterochiropterans (Srinivasulu et al. 2010). Nepal records 53 species of bats within the families Pteropodidae (5), Rhinolophidae (9), Hipposideridae (4), Megadermatidae (1), Emballonuridae (1), Vespertilionidae (31), and Miniopteridae (2) (Acharya et

al. 2010). The reported number of species represents the bat diversity of about 5% of the world and over 40% of southern Asia. Among these, two species are categorized as Critically Endangered, one as Endangered, two as Vulnerable, four as Near Threatened, 25 as Least Concern, and 19 as Data Deficient in the National Red List (Jnawali et al. 2011). Vespertilionidae is the most species-rich family with 58.5% of bat species from Nepal within 15 genera. *Myotis* (7) is the most species-rich genus within this family, followed by *Murina* (3) and *Pipistrellus* (3). There has been, however, no previous evidence of the genus *Tylonycteris* in Nepal.

Traditionally, *Tylonycteris* was classified as containing only two species: *T. pachypus* (Temminck, 1840) and *T. robustula* (Thomas, 1915). Several other taxa were included as subspecies within these two species groups (Simmons 2005). Later, Feng et al. (2008) described a third species, *T. pygmaea* (Feng, Li & Wang 2008), which is smaller than its congeners. It is endemic to the Yunnan Province in southern China, while the former two

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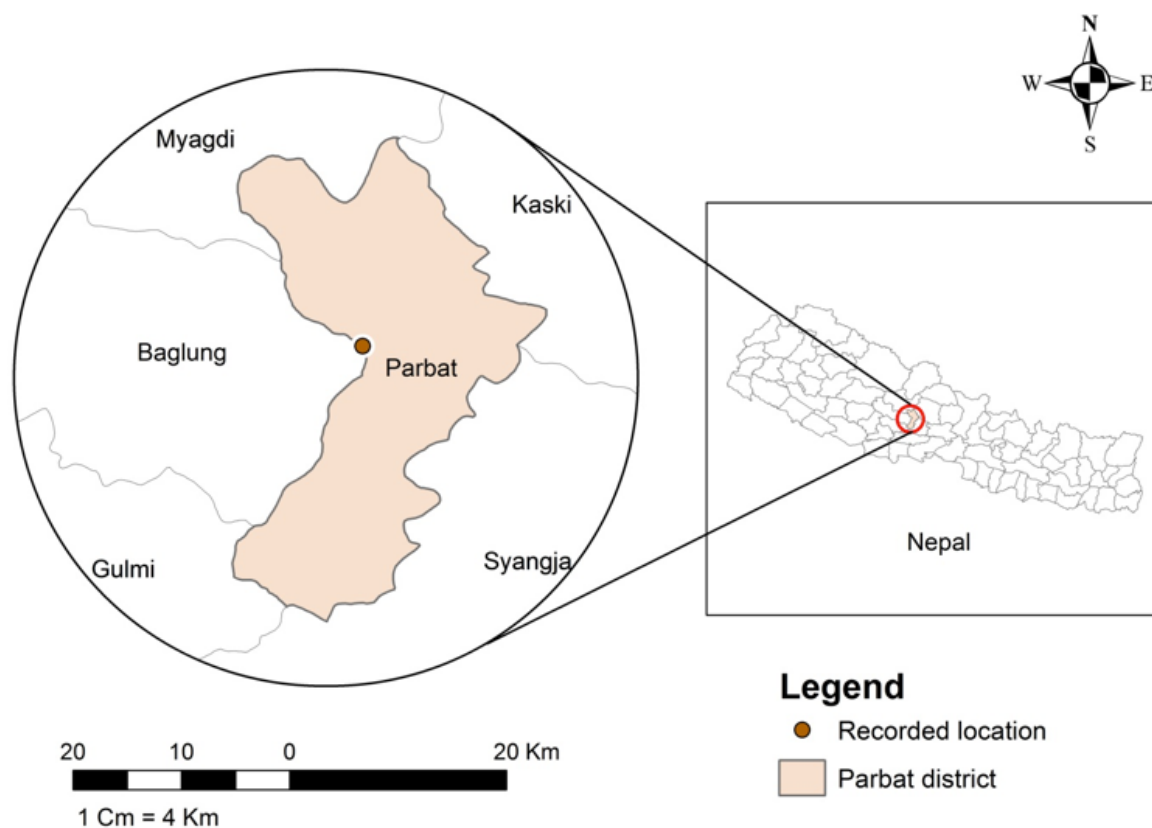


Figure 1. New record of *Tylonycteris fulvida* near Gupeteshore Cave of Kushma, Parbat, Nepal.

species have much more extensive geographic ranges that greatly overlap in southeastern Asia (Tu et al. 2017). Due to inconsistency in taxonomic classification, Tu et al. (2017) recently revalidated several changes within *Tylonycteris*—*T. pachypus* was corrected to *T. fulvida* (Blyth, 1859) and *T. robustula* to *T. malayana* (Chasen, 1940).

Both *T. fulvida* and *T. malayana* were previously recorded from the Indian subcontinent (Bates & Harrison 1997). *Tylonycteris fulvida* occurs in southern and northeastern South Asia, southern China, and much of southeastern Asia (Bates et al. 2008a). In southern Asia, this species is widely distributed in and known from India (Andaman Islands, Karnataka, Kerala, Manipur, Meghalaya, Mizoram, Sikkim, Tripura, and West Bengal) (Molur et al. 2002; Das 2003) and Bangladesh (Khan 2001; Srinivasulu & Srinivasulu 2005). *Tylonycteris malayana* ranges from northeastern India through parts of southern China to much of mainland and insular southeastern Asia (Bates et al. 2008b). In southern Asia, this species is only recorded from Mizoram and Andaman Islands in India (Molur et al. 2002; Srinivasulu et al. 2018). Both these species are listed as Least

Table 1. Morphometric measurements of *Tylonycteris* sp. captured Gupeteshore Cave at Kushma in Parbat, Nepal, compared with that of *T. fulvida* and *T. malayana*.

Parameters	Measurements (mm) (captured bat)	Bates & Harrison (1997)	
		<i>T. fulvida</i> (range)	<i>T. malayana</i> (range)
FA	26.9	26.1–29.0	26.6–28.1
HB	38.5	34.0–46.0	40.0–44.0
TL	25.8	26.0–33.0	26.0–31.0
HF	6.6	5.0–7.0	5.0–5.5
EL	9.3	9.0–10.0	8.5–10.5
TIB	11.6	-	-
3mt	26.4	23.8–27.0	25.8–26.4
1ph3mt	11.4	-	-
2ph3mt	14.6	-	-
4mt	26.6	23.8–26.9	25.4–26.0
1ph4mt	10.6	-	-
2ph4mt	7.1	-	-
5mt	26.1	23.2–26.0	24.8–25.6
1ph5mt	7.2	-	-
2ph5mt	3.5	-	-
BW (gm)	4	-	-



Image 1. Small Bamboo Bat *Tylonycteris fulvida* captured near Gupteshore Cave of Kushma, Parbat, Nepal: 1 - nostrils | 2 - shape of the head | 3 - ventral portion | 4 - lateral view | Blue circle - circular pads on thumbs | Red circle - pad on the sole of the hindfoot.

Concern in IUCN Red List (Bates et al. 2008a,b).

The study was conducted near the Gupeteshore Cave of Kushma (headquarters of Parbat District) during the field expedition of “Bats survey and conservation outreach programs along Kaligandaki Canyon of Nepal” funded by the Rufford Foundation (UK) in 2017. The cave is situated in steep slope pasture land with a small grove of trees forming a forest-like patch just above the cave structure, where trapping was conducted. The trapping area is dominated by *Dalbergia sissoo* and clusters of *Bambusa* sp.

Two mist nets (height 2.6m, lengths 4m & 6m, 38mm mesh) were deployed to capture the bats 30cm above

the ground. Mist nets were left open from 18.00h to 21.00h and continuously checked at 10-minute intervals to reduce entanglement of the trapped bats. External morphometric measurements of the trapped bats were taken using vernier callipers (0.01mm accuracy). The measurements taken include head and body length (HB), forearm length (FA), ear length (EL), tail length (TL), hind foot length (HF), tibia length (TIB), 3rd metacarpal and phalanges length (3mt, 1ph3mt, 2ph3mt), 4th metacarpal and phalanges length (4mt, 1ph4mt, 2ph4mt), and 5th metacarpal and phalanges length (5mt, 1ph5mt, 2ph5mt). Body fur and other special features were noted. Body weight (BW) was measured using a

Pesola spring balance (1gm accuracy).

A single male specimen of *Tylonycteris* sp. was caught in the mist net located at 28.226°N & 83.674°E at an elevation of 868m on 27 April 2018 at 19.30h (two hours after sunset). The morphometric measurements are given in Table 1. The recorded location of *Tylonycteris* sp. is given in Fig. 1. The bat was released after images were taken. It was identified by referring to Bates & Harrison (1997) and consultation with experts in the field.

We identified the bat on the basis of its morphological characteristics: 1) shape of head, 2) circular pads on the base of thumb, 3) pad on the sole of the hindfoot, 4) lengths of 3rd, 4th, and 5th metacarpal, and 5) pelage colouration. *Tylonycteris* is a minute bat. Its head was characteristically flattened with the nostrils projecting forward and slightly downwards (Image 1). The fleshy pads at the base of the thumb and on the sole of the hindfoot were the most striking features of *Tylonycteris* (Image 1). The wings were short with the 3rd, 4th, and 5th metacarpals about equal in length (Table 1). The dorsal pelage was thick, short, and golden-brown, except for the muzzle which was darker, while the ventral pelage was not so dense and was paler (Image 1).

The wide distribution of *T. fulvida* along southern Asia, recorded at the closest location from Nepal, i.e., in India at Sikkim and Darjeeling of West Bengal (near the border of Nepal and India), body size, and distinguishing pelage colouration strongly suggest the captured bat to be *T. fulvida* rather than *T. malayana*, as the latter has no further record from southern Asia except from Mizoram (at the border of India and Myanmar) and the Andaman Islands in India (Molur et al. 2002; Srinivasulu et al. 2018). Additionally, the pelage colouration in *T. malayana* is uniformly grey-brown dorsally (as opposed to that of the captured bat) and slightly paler ventrally (Bates & Harrison 1997; Srinivasulu et al. 2018). With this note, we confirm the presence of *T. fulvida* in Nepal, highlighting the first record for the country.

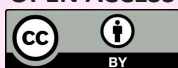
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