



ISSN Print: 2394-7500
ISSN Online: 2394-5869
Impact Factor: 5.2
IJAR 2020; 6(10): 554-556
www.allresearchjournal.com
Received: 18-08-2020
Accepted: 22-09-2020

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First distributional record of short-nosed fruit bat *Cynopterus sphinx* (Vahl, 1797) (Chiroptera: Pteropodidae) from Dhubri district of Assam, Northeast India

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DOI: <https://doi.org/10.22271/allresearch.2020.v6.i10i.7391>

Abstract

A hiding roost of Short-nosed Fruit Bat *Cynopterus sphinx* was located on 13.03.2019 during routine survey period in the garden forest area of B. N. College campus of Dhubri district of Assam which has been recognised as the first distributional record for this fruit bat species from the westernmost part of Assam of Northeast India. Previous study revealed two different species of the Genus- *Cynopterus* from the northeastern parts of India which were namely *Cynopterus sphinx sphinx* and *Cynopterus brachyotis*. Addition of the present new distributional location has confirmed the distribution of *Cynopterus sphinx* in Assam from the westernmost “Dhubri district” of lower Assam to the extreme end part of the upper Assam “the Tinsuka district” of Brahmaputra Valley along with the extension of the species to the “Cachar district” of Barak Valley of Assam, Northeast India.

Keywords: *Clarias gariepinus*, valeur nutritive, huile de poisson, alimentation, pool malebo, kinshasa

1. Introduction

In our rich diversity of vertebrate fauna, bats are unique in being the only group of mammals that, like birds, are capable of true flight. One of the 26 mammalian orders, the Chiroptera includes 1117 species of bats world over in rather two unequal suborders - the Megachiroptera (consisting 186 species of Old World fruit bats in one family) and the Microchiroptera (consisting 931 species in 17 families). Out of that a total of 128 species of bats are reported from South Asia which includes 115 numbers of microchiropterans and 13 megachiropteran species (Molur *et al.* 2002; Srinivasulu *et al.* 2010) [8, 14].

In Assam, both the *Cynopterus* species were earlier reported by Y. P. Sinha (1999) [13] from Assam but from Cachar district of Barak Valley not from Brahmaputra valley of Assam. Recently Rahman A, and P. Choudhury (2017) [10] has reported the species *C. sphinx* from Southern Assam of Barak Valley located around 328 km away towards southeast of Guwahati city, the state capital. However Bates and Harrison (1997) [4] referred the works of Hinton & Lindsey (1926) and mentioned that *Cynopterus sphinx* was earlier located from Margherita area which is currently in Tinsukia district of Upper Assam and also from Golaghat district of Upper Assam before my current new distributional record from Dhubri of western Assam. Ali and Basistha (1999) [2] also reported *Cynopterus sphinx* from Guwhati City of Central Assam. From other parts of Northeast India, Saha (1985) [11] reported *Cynopterus angulatus* (= *Cynopterus sphinx*) from Namdapha, Tirap district of Arunachal Pradesh; while Chakraborty & Sen (1991) [5] gave the distributional record of *Cynopterus brachyotis* from Dibang valley district of Arunachal Pradesh. On the other hand, Sinha (1999) [13] reported one record from West Garo Hills district of Meghalaya as well as another one from Mon district of Nagaland (Sinha, 1995) [12]. From the Tripura State of Northeast India, Agarwal and Bhattacharjya (1977) [1] reported distributional record of *Cynopterus sphinx* from Agartala, Charilam, Garjee, Abhoya, Teliamura, Ampa, Ambassa, Ganganager, Chailingta and Kanchanpur.

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2. Study area and climate

B. N. College is one of the oldest and premier Higher Educational Institution in western Assam which is located at Dhubri Town, the head quarter of Dhubri District, Assam which shares international border with Bangladesh and inter-state border with Meghalaya and West Bengal. Geographical location of Dhubri district is 25°-27° NL and 89°-91° EL and about 34 metres or 110 feet above sea level. Dhubri is an old town on the northern bank of the River Brahmaputra, with historical significance. In 1883, the town was first constituted as a Municipal Board under British regime.

General climatic conditions of the area recorded with muggy climate with average maximum temperature of 29 °C and minimum temperature of 17 °C along with high humidity which ranges between 60% to 90%.

3. Material and Methods

The current distributional study was a part of routine survey regularly conducted by the author for monitoring the faunal diversity of B. N. College campus of Dhubri with special reference to bats and birds population. Identification and population count of the species was done with the help of “direct roost counts” method (Kunz *et al.*, 1996) [7]. Survey was mostly done with naked eyes. For confirmation of external morphological details, a Russian Binocular (Pathiscope, de Luxe; Field-10×50) was used. Photographic evidences were collected with the help of a Nikon digital camera. Bat species was identified and all the external morphological characters were studied and confirmed with the help of the field guide book entitled “Bats of the Indian Subcontinent” written by Bates and Harrison (1997) [4].

4. Results and Discussion

A small, three member colony of *Cynopterus sphinx* (Vahl, 1797) [15] was located on a Toddy Palm tree (*Borassus flabellifer*) on 13.03.2019 during a routine survey at the garden forest area situated in front of the Chemistry Department of B. N. College campus of Dhubri town of Assam which is the westernmost part of Northeast India near West Bengal border.

Cynopterus sphinx is commonly known as ‘Short-nosed Fruit Bat’. Initially it was named as *Vespertilio sphinx* by Vahl (1797) [15]. Later the genus has been changed to *Cynopterus* (Cuvier, 1824) [6] and Zelebor (1869) [16] subsequently renamed it as *Cynopterus marginatus*. Finally Andersen (1910) [3] named the species as *Cynopterus sphinx gangeticus*. Later Sinha (1999) [13] described the *Cynopterus* species of Northeast India as a the subspecies and named as *Cynopterus sphinx sphinx* (Vahl, 1797) [15].



Fig 1: *Cynopterus sphinx* colony of B. N. College campus, Dhubri, Assam, India



Fig 2: Author in front of the roosting tree (*Borassus flabellifer*)

Bates and Harrison (1997) [4] explained *Cynopterus sphinx* as a medium-sized fruit bat with an average forearm length of 70.2mm (64-79mm). The wings arise from the flanks and therefore there is no narrowing of dorsal pelage; the membranes are dark brown throughout, but with pale fingers on the wing. The medial part of the interfemoral membrane is hairy, above and below. The ears are simple and essentially naked. The forehead and nape of the neck are darker, a rich russet brown. Nostrils are well forwards. All the external morphological characters of the three individuals spotted in the present roost of Dhubri were found correct and exactly similar after examining with the help of binocular. We didn't wanted to disturbed the population by catching in the roost since it is the lone roosting site in the campus.

If we consider the the distributional records of Hinton & Lindsey (1926), Agarwal and Bhattacharjya (1977) [1] Chakraborty & Sen (1991) [5], Bates and Harrison (1997) [4], Sinha (1995 & 1999) [12, 13], Ali and Basistha (1999) [2] and the present distributional data of Dhubri, one can conclude that Short-nosed Fruit Bat *Cynopterus sphinx* (Vahl, 1797) [15] may be found throughout the length of Assam extending from Dhubri, the westernmost part of Assam to Tinsukia-Sadia, the easternmost part of Assam covering both Brahmaptra and Barak Valley (Cachar district) of Assam, Northeast India, a biodiversity hotspot.

5. Acknowledgement: Author would like to thank all those who helped him directly or indirectly in the study.

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