



## First record of Lesser Yellow House Bat *Scotophilus kuhlii* Leach, 1821 from Secunderabad, Andhra Pradesh, India with a note on its diet

Bhargavi Srinivasulu<sup>1</sup>, C. Srinivasulu<sup>2</sup> & P. Venkateshwarlu<sup>1</sup>

<sup>1,2</sup>Wildlife Biology Section, Department of Zoology, University College of Science, Osmania University, Hyderabad, Andhra Pradesh 500007, India  
Email: <sup>2</sup>hyd2masawa@gmail.com (corresponding author)

On 20 April 2007, we located a roosting site in a dilapidated house in the suburbs of Secunderabad consisting of five individuals of bats. From 21 April 2007 to 31 January 2008, we collected the pellets under the roosting site on a fortnightly basis. Collected pellets were stored in plastic containers for dietary analysis. On 5 February 2008 all individuals were mist netted, sexed, measured and, all but one, were released. One male specimen was retained as voucher (OUNHM.CHI.1.2008) and deposited in the Osmania University Natural History Museum, Department of Zoology, Osmania University, Hyderabad. Observations carried out on the individuals of the roost and morphometrics revealed them as the Lesser Yellow House Bat *Scotophilus kuhlii* Leach, 1821 (Bates & Harrison 1997). Analysis of the faecal pellets collected was done between 10 February and 10 March 2008.

Through this note, we report a new locality record of *Scotophilus kuhlii* Leach, 1821 in Andhra Pradesh and provide brief note on its diet.

The Lesser Yellow House Bat is a widely distributed species and has been recorded from Pakistan to Taiwan, Sri Lanka, Western Malaysia to Philippines and Indonesia (Bates & Harrison 1997; Simmons 2005). In India, it is distributed in Andaman and Nicobar Islands, Andhra Pradesh, Bihar, Gujarat, Madhya Pradesh, Maharashtra, Meghalaya, Karnataka, Kerala, Orissa, Rajasthan, Tamil Nadu, Tripura, Uttar Pradesh and West Bengal (Bates & Harrison 1997; Molur et al. 2002).

From Andhra Pradesh, *Scotophilus kuhlii* has been reported from Kotalcheruvu in Kurnool District (Chakraborty et al. 2004) and from Koduru, Balapalli and Thummalabailu in Cuddapah District (Bates & Harrison 1997). All these locations are south of Krishna River and so far there are no locality based reports of this species between rivers Krishna and Godavari in the eastern part of peninsular India.

*Scotophilus kuhlii* frequents both the rural and urban landscapes and is known to roost in crevices and holes in walls of huts and old buildings, caves, old temples, palm fronds, hollows in palm trees and dried leaves on trees (Wroughton 1915; Brosset 1962; Sinha 1986).

A brief description of the specimens from Secunderabad and their diet is provided below.

### Description

**External:** Dorsally, the pelage is soft and olive brown in colour and ventrally creamish (Image 1). On the throat, a distinct 'collar' is seen. The muzzle is broad and blunt. Ears are small compared to the head; the tragus is about half the size of the ear and is crescent shaped. The tragus is separated from the pinna by a distinct notch.

**Cranial:** The skull is robust and broad; the lambda is prominent and projects well above the supraoccipital; the lambdoid crests are well developed; the sagittal crest is well defined posteriorly and bifurcates in the interorbital region (Image 2).

**Dental:** The upper incisor ( $i^2$ ) is unicuspid and is nearly in contact with the canine; the single upper premolar is large and two-thirds the height of the canine;  $m^3$  is greatly reduced; the three lower incisors are bicuspidate; the

**Abbreviations:** OUNHM – Natural History Museum of Osmania University, FA – Forearm, HB – Head and Body Length, TI – Tail Length, E – Ear, Hf – Hindfoot, GTL Greatest length of the skull, CBL – Condylar-basal Length, CCL – Condylar-canine Length,  $CM^3$  – Maxillary toothrow,  $M^3-M^3$  – Posterior Palatal Width,  $C^1-C^1$  – Anterior Palatal Width, M – Mandible Length,  $CM^3$  – Mandibular Toothrow, ZB – Zygomatic Breadth, BB – Breadth of Braincase, PC – Postorbital Constriction, ZSI – Zoological Survey of India.

Date of publication (online): 26 September 2010  
Date of publication (print): 26 September 2010  
ISSN 0974-7907 (online) | 0974-7893 (print)

Editor: Sanjay Molur

#### Manuscript details:

Ms # o1989  
Received 19 May 2008  
Final revised received 27 May 2010  
Finally accepted 23 September 2010

**Citation:** Srinivasulu, B., C. Srinivasulu & P. Venkateshwarlu (2010). First record of Lesser Yellow House Bat *Scotophilus kuhlii* Leach, 1821 from Secunderabad, Andhra Pradesh, India with a note on its diet. *Journal of Threatened Taxa* 2(10): 1234-1236.

**Copyright:** © Bhargavi Srinivasulu, C. Srinivasulu & P. Venkateshwarlu 2010. Creative Commons Attribution 3.0 Unported License. JoTT allows unrestricted use of this article in any medium for non-profit purposes, reproduction and distribution by providing adequate credit to the authors and the source of publication.

**Acknowledgements:** We thank the Head, Department of Zoology, Osmania University for providing necessary facilities. Mast. C. Aditya Srinivasulu for his enthusiasm, assistance in the field and for locating the roost of this species. We acknowledge the DBT, Govt. of India for financial grant and the first author acknowledges the Research Associateship from Council for Scientific and Industrial Research, New Delhi..

OPEN ACCESS | FREE DOWNLOAD





Image 1. Lesser Yellow House Bat *Scotophilus kuhlii* Leach, 1821 from Secunderabad, Andhra Pradesh



Images 2-3. Lesser Yellow House Bat  
2 - Skull; 3 - Mandible

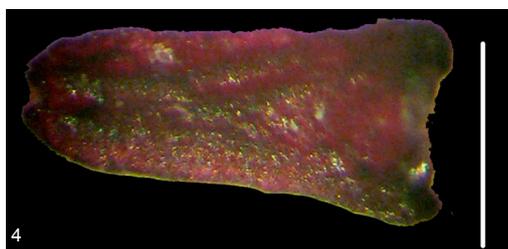


Image 4. Baculum of Lesser Yellow House Bat  
4 - Dorsal View (Scale 1mm); 5 - Lateral view

Table 1. External measurements (in mm) of *Scotophilus kuhlii* from Secunderabad

	Males (n = 2)	Females (n = 3)	Average (n = 5)
Forearm (FA)	49.15 - 49.36	47.02 - 49.24	48.55
Head to Body (HB)	60.33 - 62.25	59.57 - 61.89	60.85
Tail (TI)	46.80 - 47.12	41.24 - 45.56	44.96
Ear (E)	16.26 - 16.28	14.78 - 15.26	15.49
Hindfoot (Hf)	10.28 - 10.36	9.56 - 10.32	10.06

lower canine is large and curved; the first lower premolar (pm2) is very small and situated in between the canine and the well developed second premolar (pm4); the second premolar (pm4) is nearly two-thirds the height of the canine; m3 is very much reduced with the talonoid being reduced in comparison to the trigonoid (Image 3).

**Baculum:** The baculum is small, bluntnly triangular in shape. On the dorsal view, the base seems wider than the apex and is very narrow in lateral view with wide base (Images 4 & 5).

**Morphometric measurements (mm.):** External: FA - 49.15; HB - 60.33; TI - 48.80; E - 16.26; Hf - 10.8. Cranial: GTL - 18.48; CBL - 17.46; CCL - 17.09; CM<sup>3</sup> - 6.47; M<sup>3</sup>-M<sup>3</sup> - 8.30; C<sup>1</sup>-C<sup>1</sup> - 6.13; M - 13.74; CM3 - 7.37; ZB - 13.02; BB - 10.03; PC - 2.98. These measurements are that of the voucher specimen only, external measurements of other specimens of the roost is provided in Table 1.

**Dietary Analysis**

Dietary analysis was carried out following standard techniques (Whitaker 1988). From each collection of faecal pellets 10-12 individual pellets were randomly selected and analysed. Each individual pellet was moistened with alcohol and teased to reveal the insect parts. The insect parts were then identified to the lowest possible taxonomic level following standard literature (Borror & DeLong 1963; Shiel et al. 1997). The dietary analysis of *Scotophilus kuhlii* revealed that it majorly feeds on members of the orders Diptera, Coleoptera and Hymenoptera (Table 2). The dipterans included representatives of the families Anisopodidae, Chironomidae, Culicidae and Scatophagidae. The coleopterans included representatives of the families Carabidae and Scarabaeidae, while the hymenopterans were represented by Ichneumonidae.

**REFERENCES**

Bates, P.J.J. & D.L. Harrison (1997). *Bats of The Indian Subcontinent*. Harrison Zoological Museum Publications, Sevenoaks, United Kingdom, 258pp+8pls.  
Borror, D.J. & D.M. DeLong (1963). *An Introduction to The Study of Insects*. The Ohio State University, Columbus, Ohio, USA,

**Table 2. Dietary composition of Scotophilus kuhlii from Secunderabad**

Order	Family	% Volume	% Frequency
Diptera	Anisopodidae	28.4	82
	Chironomidae	21.1	
	Culicidae	18.9	
	Scatophagidae	7.6	
Coleoptera	Carabidae	8.9	16
	Scarabaeidae	8.1	
Hymenoptera	Ichneumonidae	7.0	02

819pp.

**Brosset, A. (1962).** The bats of central and western India - part II. *Journal of the Bombay Natural History Society* 59: 707-746.

**Chakraborty, S., T.P. Bhattacharyya, J.K. De, M.K. Ghosh, T.K. Chakraborty & A.K. Poddar (2004).** Mammals, pp. 1-96. In: Director, ZSI (ed.). *State Fauna Series 5: Fauna of Andhra Pradesh Part 2*. Zoological Survey of India, Kolkata.

**Molur, S., G. Marimuthu, C. Srinivasulu, S. Mistry, A.M. Hutson, P.J.J. Bates, S. Walker, K.P. Priya & A.R.B. Priya (eds.) (2002).** Status of South Asian Chiroptera:

Conservation Assessment and Management Plan (C.A.M.P.) Workshop Report. Zoo Outreach Organisation, Conservation Breeding Specialist Group South Asia, and Wildlife Information & Liaison Development Society, Coimbatore, India, viii+154pp.+CD.

**Shiel, C., C. McAney, C. Sullivan & J. Fairley (1997).** *Identification of Arthropod Fragments in Bat Droppings*. The Mammalian Society, Occasional Publication 17, 56pp.

**Simmons, N.B. (2005).** Chiroptera, pp. 312-529. In: Wilson, D.E. & D.M. Reeder (eds.). *Mammals Species of the World: A Taxonomic and Geographic Reference*. 3<sup>rd</sup> Edition - Vol. 1. The John Hopkins University Press, Baltimore, xxxv +2142pp.

**Sinha, Y.P. (1986).** The Bats of Bihar: taxonomy and field ecology. *Records of the Zoological Survey of India, Miscellaneous Publications, Occasional Paper* 77: 1-60.

**Whitaker, J.O. Jr. (1988).** Food habits analysis of insectivorous bats, pp. 171-189. In: Kunz, T.H. (ed.). *Ecological and Behavioral Methods for the Study of Bats*. Smithsonian University Press, Washington D.C., USA.

**Wroughton, R.C. (1915).** Report No. 16: Dry Zone, Central Burma and Mount Popa. Bombay Natural History Society's Mammal Survey of India, Burma and Ceylon. *Journal of the Bombay Natural History Society* 23: 460-480.

