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NOTE

RANGE EXTENSION OF THE LEAST LEAF-NOSED BAT

HIPPOSIDEROS CINERACEUS BLYTH, 1853 (MAMMALIA: CHIROPTERA: HIPPOSIDERIDAE): TO CENTRAL INDIA

M. Kamalakannan, C. Venkatraman, Tauseef Hamid Dar & Kailash Chandra

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The Least Leaf-nosed Bat *Hipposideros cineraceus* Blyth, 1853 is small in size and one of the nine species of leaf-nosed bats (Family: Hipposideridae) of India (Bates & Harrison 1997; Wilson & Reeder 2005) and 83 species of the world (Murray et al. 2012). It is wide ranging but sparsely distributed from South Asia to Southeast Asia, and it has been recorded in only a few locations in India, viz., Uttarakhand (Scully 1887), Meghalaya (Hinton & Lindsay 1926), West Bengal, Assam, and Arunachal Pradesh (Bates & Harrison 1997) at an elevation ranging from 62–1,480 m (Bates & Harrison 1997; Molur et al. 2002). There is little information available on the natural history of this species; it roosts in hollows of trees in forests (Bhat & Jacob 1990; Bates & Harrison 1997; Molur et al. 2002).

On 24 December 2004, three bat specimens were collected using a mist net by a survey team of the Zoological Survey of India (ZSI) from N.P. Kailash Cave in Kanger Khati National Park (18.7787°N & 81.9971°E; Fig. 1), Jagdalpur District of Chhattisgarh. The wet preserved specimens were misidentified as male specimens of *H. cineraceus* and deposited in the National Zoological Collections (NZC) of Mammal & Osteology section, ZSI, Kolkata under the registration numbers 25794, 25795 & 25796 (Image 1a). The authors have recently re-examined the specimens in NZC and found that they are female specimens of *H. cineraceus* and were not as reported earlier by the collector. The specimens were identified as *H. cineraceus* based on the keys provided by Bates & Harrison (1997) and Douangboubpha et al. (2010).

RANGE EXTENSION OF THE LEAST LEAF-NOSED BAT *HIPPOSIDEROS CINERACEUS* BLYTH, 1853 (MAMMALIA: CHIROPTERA: HIPPOSIDERIDAE): TO CENTRAL INDIA

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Identification characteristics: *Hipposideros cineraceus* can easily be diagnosed through its internarial septum and the anterior leaf (Image 1b) from related species such as *H. ater* and *H. durgadasi* (bicolor species). In *H. cineraceus*, the internarial septum is slightly triangular in shape and its tip is blunt, and there is a slight emargination on the anterior leaf without any supplementary leaflets (Image 2a). In *H. ater*, the internarial septum is clearly triangular in shape and its tip is pointed, and there is no emargination on the anterior leaf, with one pair of rudimentary supplementary leaflets (Image 2b). In *H. durgadasi*, the internarial septum is bulbous in shape and

Abbreviations used: External measurements: FA: Forearm length; HB: Head Body length; T: Tail Length; Tail tip: Tail tip length; E: Ear Length; HF: Hindfoot length; Hw: Horseshoe width; Tib: Tibia length; 3mt: Length of the third metacarpal; 4mt: Length of the fourth metacarpal; 5mt: Length of the fifth metacarpal; 1st ph3rd D: First phalanx of the third Digit; 2nd ph3rd D: Second phalanx of the third Digit; 1st ph4th D: Length of the first phalanx of the fourth digit; 2nd ph4th D: Length of the second phalanx of the fourth Digit.

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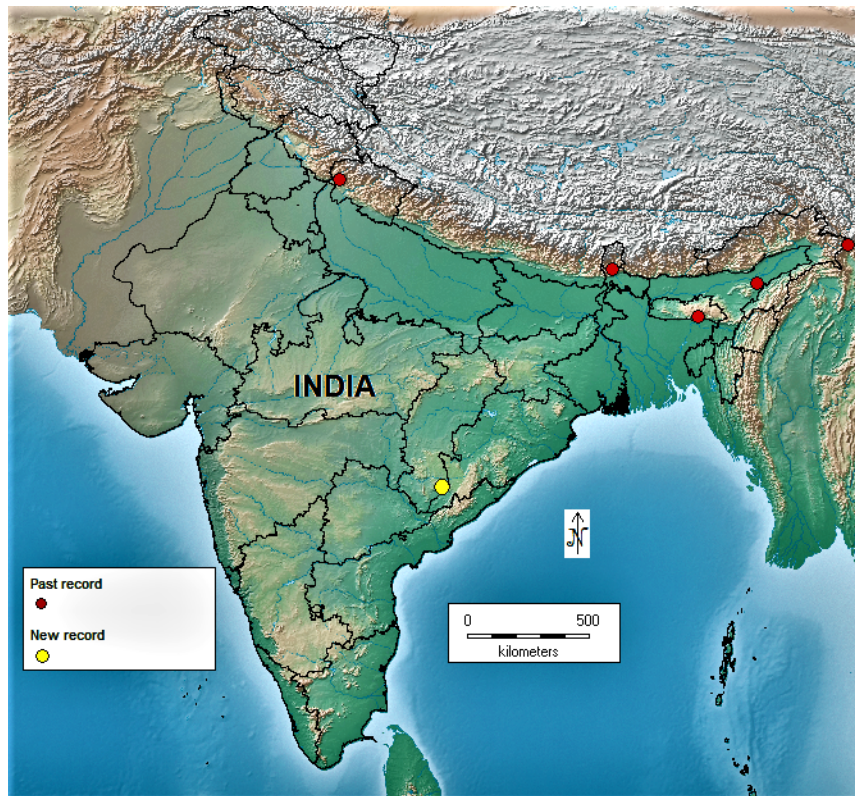


Figure 1. Distribution map of Least Leaf-nosed Bat *Hipposideros cineraceus* showing detailed recorded localities in India (in red) and new record (in yellow) from Kanger Khati National Park, Jagdalpur District of Chhattisgarh.



Image 1. Least Leaf-nosed Bat *Hipposideros cineraceus* (Reg. No. 25794): (a) dorsal view with tag; (b) profile of nose-leaf; (c) small protruding tail. © M. Kamalakannan

Table 1. Morphological measurements of *Hipposideros cineraceus* specimens from Chhattisgarh.

External characters	Morphological measurements of the three individuals (mm)			<i>H. ater</i> (Bates & Harrison)	<i>H. cineraceus</i> (Bates & Harrison)	<i>H. durgadasi</i> (Kaur et al.)
	Reg. No. 25794	Reg. No. 25795	Reg. No. 25796			
HB	41.00	40.35	40.00	38.0–48.0	33.0–42.0	36.45–41.12
FA	37.26	36.90	38.39	34.9–38.0	33.0–36.3	34.45–35.95
E	16.20	15.13	16.11	14.8–20.0	13.0–17.0	12.70–13.48
Tib	15.43	14.88	16.02	15.2–17.8	13.8–16.7	15.38–16.43
HF	5.05	5.27	6.13	5.3–7.2	6.0–7.0	5.1–6.7
T	28.13	30.17	27.72	20.0–30.0	22.0–30.0	21.21–22.94
Tail tip	0.91	1.02	0.98	--	--	1.22–2.38
3 rd mt	27.95	29.08	29.44	26.1–30.1	24.4–26.6	26.12–28.0
4 th mt	30.40	30.43	31.00	27.2–32.2	26.9–28.8	27.62–29.61
5 th mt	29.25	29.85	29.90	26.2–31.2	26.2–27.8	25.75–27.71
1 st ph3 rd D	15.16	15.40	15.77	14.3–17.5	14.3–16.2	13.78–15.11
2 nd ph3 rd D	14.00	13.75	13.50	14.3–17.4	12.5–15.3	14.0–15.47
1 st ph4 th D	9.37	9.51	9.35	8.7–10.9	8.4–11.2	8.24–8.76
2 nd ph4 th D	6.16	4.81	7.22	7.0–9.2	6.2–8.6	7.63–8.26
Hw	3.91	3.59	3.32	--	--	--

its base is pointed, and there is a median emargination on the anterior leaf without any supplementary leaflets (Image 2c). The average length of the tip of the tail of *H. cineraceus* is 1mm, whereas in *H. durgadasi* it is > 1mm (Image 1c). Other morphological measurements do not provide any significant differences between the relative species (Table 1).

Douangboubpha et al. (2010) provided the significant keys to differentiate *Hipposideros halophyllus*, *H. ater* and *H. cineraceus* and they clearly show that the slight triangular shape of the internarial septum and slight emargination on the anterior leaf without any supplementary leaflets distinguish *H. cineraceus* from its close relatives *H. ater* and *H. durgadasi* (Image 2a–c). In India, this species is known only from the Himalayan states and northeastern states of India. Csorba et al. (2008) claims the distribution of this species in Tamil Nadu, but the range map does not indicate this. Based on Molur et al. (2002) there is no distribution of this species in Tamil Nadu and the report made by Csorba et al. (2008) as occurring in Tamil Nadu is erroneous. The records of *H. cineraceus* in Madhya Pradesh and Karnataka are referred to as either *H. ater* or *H. durgadasi* (Bates & Harrison 1997; Kaur et al. 2014). Hence, our report of the presence of *H. cineraceus* from Chhattisgarh in central India for the first time based on the National Zoological Collections (ZSI) extends the distribution of this species further south more than 1,400km from its nearest known locality in

Sangser, Kalimpong, West Bengal. A systematic survey in the Odisha part of the Eastern Ghats and adjoining areas (Kanger Ghati National Park) may reveal hitherto unknown yangochiropterans (Debata et al. 2015).

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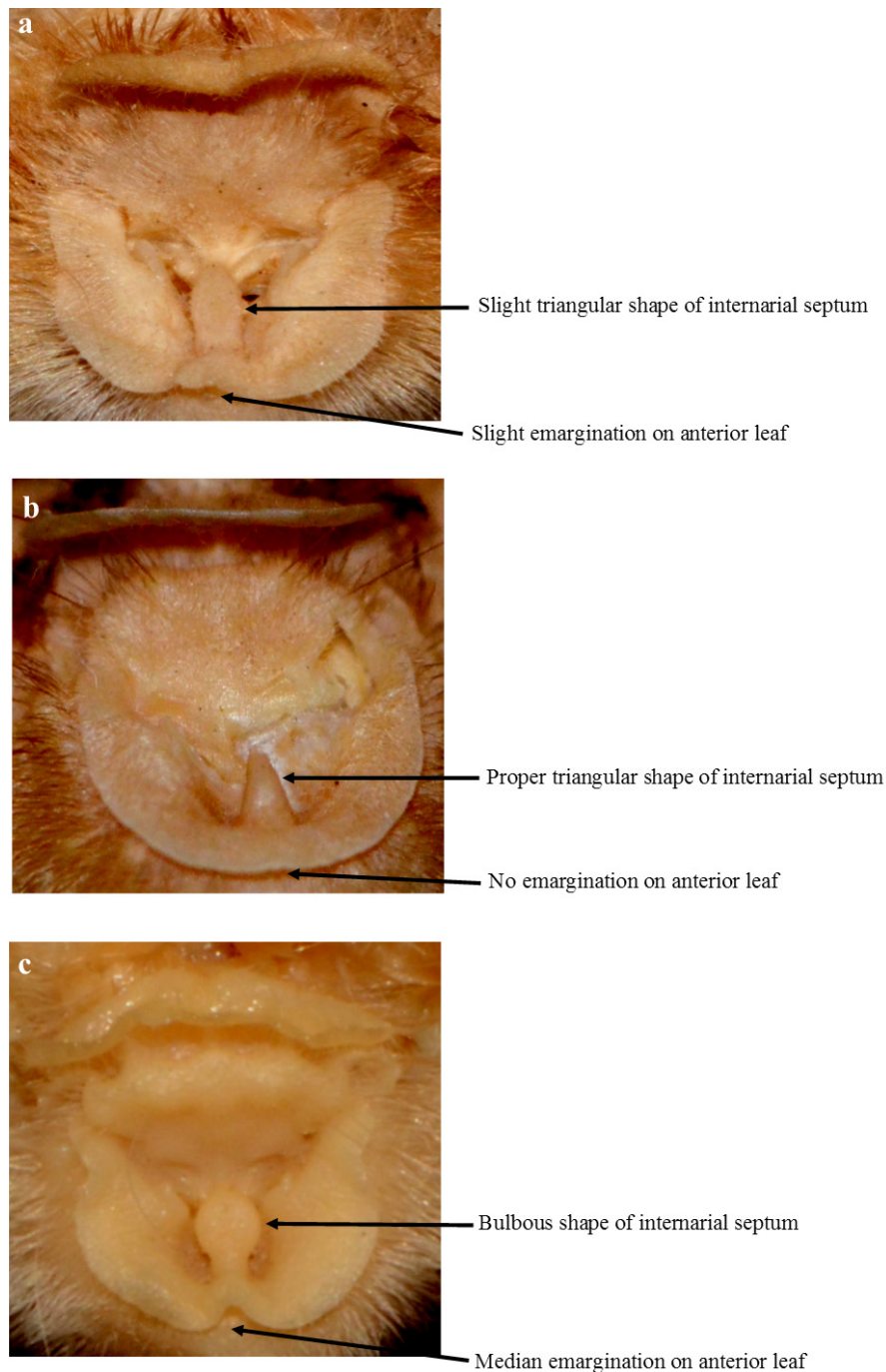


Image 2. Showing the leaf-nose:
(a) *Hipposideros cineraceus* (Reg. No. 25794);
(b) *Hipposideros ater* (Reg. No. 20522);
(c) *Hipposideros durgadasi* (Reg. No. 26414).
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