

## SOME NEW RECORDS OF BATS FROM MIZORAM, INDIA

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### INTRODUCTION

Faunistic surveys were conducted in Mizoram, specially for mammals during December, 1993 - January, 1994 and March-May, 1995 by scientists of the Zoological Survey of India. The collections thus obtained contain several species of bats, of which, eight, namely, *Megaerops niphanae* Yenbutra and Felten, *Macroglossus sobrinus sobrinus* Anderson, *Rhinolophus lepidus lepidus* Blyth, *Hipposideros lankadiva* Kelaart, *Hipposideros Cineraceus* Blyth, *Tylonycteris pachypus fulvida* (Blyth), *Barbastella leucomelas darjelingensis* (Hodgson), *Harpiocephalus mordax* Thomas were found to be unrecorded from that state (Blanford 1891, Roonwal 1950, Ellerman and Morrison-Scott 1966, Lekagul and McNeely 1977, Corbet and Hill 1992, Agrawal *et al.* 1992, Wilson and Reeder 1993, Das *et al.* 1995). Since the finalization of a detailed faunal account of mammals of Mizoram will take some more time, it was thought worthwhile to publish the new distributional records of these bats hereunder. In addition, some remarks on their habitat have been given.

External measurements have been taken in the field and the skull-measurements in the laboratory. All measurements are in millimetres and have been taken after Khajuria (1953), except cranial rostrum which has been taken after Sinha (1969).

Following is a list of abbreviations used for various measurements

- $c^1 - c^1$  = distance between outer surface of upper canines ;
- $ccl$  = condylocanine length ;
- $cw$  = cranial width ;
- $E$  = length of ear ;
- $Fa$  = length of forearm ;
- $F \& Cl$  = length of foot and claw ;
- $iw$  = least interorbital width ;

<i>l</i>	=	greatest length of skull ;
$m^3 - m^3$	=	distance between outer surface of upper molars ;
<i>ml</i>	=	mandibular length ;
<i>mtr</i>	=	length of maxillary tooth-row ,
Tb	=	length of tibia ;
<i>zw</i>	=	zygomatic width.

### SYSTEMATIC ACCOUNT

Order : CHIROPTERA

Family : PTEROPODIDAE

#### *Megaerops niphanae* Yenbutra & Felten, 1983 (Niphan's Fruit Bat)

1983. *Megaerops niphanae* Yenbutra & Felten, *Senckenberg Biol.*, **64** : 2 (Thailand).

*Material examined* : Mizoram : Aizwal district : 1 ♂, 1 ♀, North Khawbang (c 1500 m), coll. A.K. Mandal, 16 Dec 1993, in spirit, ZSI Reg. Nos. 24428, 24429. Lunglei district : 1 ♂, 1 ♀, Sairep (c 1500 m), coll, T.P. Bhattacharyya, 17 Apr 1995, in spirit, ZSI Reg. Nos. 24430, 24431.

*Measurements* : External : 2 ♂ : Fa 58.0, 60.7 ; E 17.5, 18.5 ; Tb 23.0, 24.8 ; F & Cl 13.0, 13.7. 2 ♀ : Fa 60.7, 62.3 ; E 17.2, 17.8 ; Tb 25.7, 25.4 ; F & cl 12.8, 12.0. Cranial : 1 ♂, 1 ♀ : *l* 27.9, 28.7 ; *ccl* 24.4, 27.1 ; *mtr* 9.1, 9.1 ;  $c^1 - c^1$  5.4, 5.4 ; *iw* 5.2, 6.0 ; *cw* 12.3, 12.0 ; *zw* 17.7, 18.8 ;  $m^3 - m^3$  8.3, 8.6 ; *ml* 20.4, 20.9.

*Distribution* : *Megaerops niphanae* was described from Thailand (Yenbutra & Felten 1983). Koopman (1989) confirmed the occurrence of this species in Pashok (Darjiling district, West Bengal, India) and Vietnam. Mandal *et al.* (1993) recorded its occurrence from Manipur. The present specimen, therefore, constitute the first record of this species from Mizoram.

*Remarks* : The habitats of North Khawbang and Sairep were undulating, hilly terrain, with mixed forests. Specimens were entangled in the uppermost tier of the nylon mist net at a height of about 3.5 m, alongwith *Cynopterus* sp.

#### *Macroglossus sobrinus sobrinus* Anderson, 1911 (Greater Long-tongued Fruit Bat)

1911. *Macroglossus minimus sobrinus* Anderson, *Ann. Mag. nat. Hist.*, **7** : 642 (Gunong Igari, 2000' = c 610 m, Perak, Peninsular Malaysia).

*Material examined* : Mizoram : Chintuipui district : 1 ♂, 1 ♀ : Ngengpui (c 200 m), coll. T.P. Bhattacharyya, 8 Apr 1995, dry, skin & skull, ZSI Reg. Nos. 24432, 24433.

*Measurements* : External : 1 ♂, 1 ♀ : Fa 41.8, 41.7 ; E 15.6, 15.8 ; Tb 19.0, 18.4 ; F & Cl 11.8, 11.4. Cranial : 1 ♂, 1 ♀ : *l* 29.5, 29.1 ; *mtr* 9.6, 9.9 ;  $c^1 - c^1$  5.4, 5.2 ; *iw* 5.3, 5.0 ; *cw* 12.2, 11.8 ; *zw* 16.1, 14.0 ;  $m^3 - m^3$  6.4, 6.1 ; *ml* 22.4, 22.2.

**Distribution** : *Macroglossus sobrinus sobrinus* is known within Indian limits from West Bengal, Meghalaya, Tripura and Arunachal Pradesh. Hence, the present specimens constitute the first authentic record of this species from Mizoram.

**Remarks** : The habitat of Ngengpui was undulating, hilly terrain. Mist nets were set up in the valley, having banana plantation. The specimens were collected along with *Cynopterus* sp.

Ellerman & Morrison-Scott (1966) maintained *sobrinus* as a subspecies of *Macroglossus minimus*. Most of recent authors (Lekagul & McNeely 1977, Corbet and Hill 1992), however, considered *minimus* and *sobrinus* as distinct species.

Family : RHINOLOPHIDAE

***Rhinolophus lepidus lepidus*** Blyth, 1844  
(Little Indian Horse-shoe Bat)

1844. *Rhinolophus lepidus* Blyth, *J. Asiat. Soc. Beng.*, 13 : 486 (vicinity of Calcutta, Calcutta district, West Bengal).

**Material examined** : Mizoram : Aizawl district : 3 ♂, Teirei (Dampa) (c 250 m), coll. A.K. Mandal 27 Dec 1993, in spirit, ZSI Reg. Nos. 24434-24436.

**Measurements** : External : 3 ♂ ; Fa 37.7, 38.7, 38.7 ; E 13.5, 13.7, 13.4 ; Tb 15.5, 16.4, 15.7 ; F & cl 7.3, 7.5, 7.7. Cranial : 2 ♂ : l 15.9, 16.0 ; ccl 13.9, 13.9 ; mtr 5.8, 6.0 ; c<sup>1</sup> - c<sup>1</sup> 3.9, 3.9 ; iw 2.1, 2.2 ; cw 6.6, 6.7 ; zw (1) 7.7 ; m<sup>3</sup> - m<sup>3</sup> 5.2, 5.1 ; ml 9.9, 9.9.

**Distribution** : Within the Indian limits, *Rhinolophus lepidus lepidus* is reported from Delhi, Rajasthan, Uttar Pradesh, Madhya Pradesh, Maharashtra, Karnataka, Kerala, Tamil Nadu, Andhra Pradesh, Orissa, Bihar, West Bengal and Meghalaya. The present specimens, thus, constitute the first authentic record of this species from Mizoram.

**Remarks** : The specimens were collected in mist net along with *Rhinolophus rouxi* by the side of a stream, in deep forest.

***Hipposideros lankadiva*** Kelaart, 1850  
(Sri Lanka Gigantic Leaf-nosed Bat  
or Kelaart's Leaf-nosed Bat)

1850. *Hipposideros lankadiva* Kelaart, *J. Ceylon Branch R. Asiat. Soc.*, 2 : 216 (Kandy, Ceylon = Sri Lanka).

**Material examined** : Mizoram : Aizawl district : 1 ♂, Teirei (Dampa) (c 250 m), coll. Arun Gupta, 10 May 1995, in spirit, ZSI Reg. No. 24437.

**Measurements** : External : 1 ♂ : Fa 91.9 ; E 26.3 ; Tb 38.8 ; F & Cl 18.7. Cranial : 1 ♂ : ccl 30.0 ; mtr 14.3 ; c<sup>1</sup> - c<sup>1</sup> 8.6 ; iw 3.8 ; cw 14.2 ; zw 21.2 ; m<sup>3</sup> - m<sup>3</sup> 13.0 ; ml 25.5.

**Distribution** : *Hipposideros lankadiva* is known from Karnataka, Andhra Pradesh, Maharashtra, Madhya Pradesh, Orissa, West Bengal, Meghalaya, and Manipur in India. Hence, the present specimen constitutes the first authentic record of this species from Mizoram.

**Remarks** : The specimen was collected with the help of nylon mist-nets placed on the hill-

top besides bamboo plantation. It was found entangled in the net, at about 10 P.M., 3 m above the ground level along with specimens belonging to the genera *Cynopterus* and *Pipistrellus*.

Brosset (1962) did not consider the variation in colour in the present species as zoogeographically related and he considered this species as monotypic.

***Hipposideros cineraceus* Blyth, 1853**

(Least Leaf-nosed Bat or  
Blyth's Leaf-nosed Bat)

1853. *Hipposideros cineraceus* Blyth, *J. Asiat. Soc. Beng.*, **22** : 410 (Bhera, near Pind Dadan Khan, Punjab Salt Range = Bhera, c 32 km Sw of Pind Dadan Khan, Salt Range, The Punjab, Pakistan).

*Material examined* : Mizoram : Aizawl district : 1 ♂, Terei (Dampa) (c 250 m), coll. A.K. Mandal, 25 Dec 1993, in spirit, ZSI Reg. No. 24438 ; Lunglei district : 1 ♂, Sairep (c 1500 m), coll. T.P. Bhattacharyya, 18 Apr 1995, in spirit, ZSI Reg. No. 24439.

*Measurements* : External : 2 ♂ : Fa 34.3, 34.5 ; E 14.5, 15.3 ; Tb 16.5, 16.0 ; F & Cl 5.5, 5.9. Cranial : 2 ♂ : l 15.8, 15.2 ; ccl 13.4, 13.0 ; mtr 5.0, 5.9 ; c<sup>1</sup> - c<sup>1</sup> 2.6, 2.5 ; iw 2.4, 2.6 ; cw 6.8, 7.1 ; zw 7.0, 7.2 ; m<sup>3</sup> - m<sup>3</sup> 4.8, 4.8 ; ml 8.9, 8.7.

*Distribution* : *Hipposideros cineraceus* is reported from Haryana, Uttar Pradesh, West Bengal, Assam, Meghalaya and Arunachal Pradesh in India. These specimens, thus, constitute the first authentic record of this species from Mizoram.

*Remarks* : The specimens were entangled in nylon mist-net set near a hill stream.

Ellerman & Morrison-Scott (1996) have recognised two subspecies of *Hipposideros cineraceus* but Hill and Francis (1984) considered this species as monotypic.

Family : VESPERTILIONIDAE

***Tylonycteris pachypus fulvida* (Blyth, 1895)**

(Club-footed Bat)

1859. *Scotophilus fulvida* Blyth, *J. Asiat. Soc. Beng.*, **28** : 293 (Schwegyin, Sittang River, southeastern Myanmar).

*Material examined* : Mizoram : Aizawl district : 1 ♀, Teirei (Dampa) (c 250 m), coll. A.K. Mandal, 24 Dec 1993, in spirit, ZSI Reg. No. 24440.

*Measurements* : External : 1 ♀ : Fa 34.2 ; E 12.5 ; Tb 17.4 ; F & Cl 6.5. Cranial : 1 ♀ : l 14.5 ; ccl 12.6 ; mtr 5.5 ; c<sup>1</sup> - c<sup>1</sup> 3.6 ; iw 3.1 ; cw 7.1 ; zw 8.3 ; m<sup>3</sup> - m<sup>3</sup> 5.7 ; ml 9.7.

*Distribution* Within the Indian limits, *Tylonycteris pachypus fulvida* is reported from Karnataka, Kerala, West Bengal, Sikkim, Tripura, Meghalaya, Manipur and Andaman Islands. Hence, the present specimen constitutes the first authentic record of this species from Mizoram and also fills the lacunae in its distributional range between Tripura and Manipur.

*Remarks* : The specimen was collected by setting mist-nets near a hill stream, having bamboo plantation nearby, at about 8 P.M.

***Barbastella leucomelas darjelingensis*** (Hodgson, 1855)  
(Eastern Barbastelle)

1855. *Plecotus darjelingensis* Hodgson, in Horsfield, *Ann. Mag. nat. Hist.*, 2(16) : 103 (Darjeeling, North-Eastern India = Darjiling, Darjiling district, West bengal, India).

*Material examined* : Mizoram : Lunglei district : 2 ♂, Sairep (c1500 m), coll. T.P. Bhattacharyya, 26 Apr 1995, in spirit, ZSI Reg. Nos 24441, 24442.

*Measurements* : External : 2 ♂ : Fa 38.8, 38.4 ; Tb 17.7, 18.6 ; E 16.9, 17.2 ; F & Cl 6.2, 7.6. Cranial : 2 ♂ : l 15.0, 15.4 ; cr 4.3, 4.4 ; mtr 4.7, 4.7 ; c<sup>1</sup> – c<sup>1</sup> 3.2, 3.7 ; iw 3.8, 4.0 ; cw 8.3, 8.2 ; zw 6.7, 6.8 ; m<sup>3</sup> – m<sup>3</sup> 5.2, 5.3 ; ml 8.9, 9.3.

*Distribution* : *Barbastella leucomelas darjelingensis* is reported from Himachal Pradesh, Jammu & Kashmir, Rajasthan, Uttar Pradesh, Sikkim, Meghalaya and West Bengal in India. Hence, the present specimens constitute the first authentic record of this species from Mizoram.

*Remarks* : The habitat at Sairep was undulating, hilly terrain with reasonable undergrowth of ferns and shrubs. The specimens were collected between 7 and 7.30 P.M. by placing mist-nets near a water source inside the forests.

***Harpiocephalus mordax*** Thomas, 1923  
(Broad-skulled Hairy-winged Bat)

1923. *Harpiocephalus mordax* Thomas, *J. Bombay nat. Hist. Soc.*, 29 : 88 (Mogok, northern Mayanmar).

*Material examined* : Mizoram : Lunglei district : 1 ♂, Sairep (c1500 m), coll. T.P. Bhattacharyya, 25 Apr 1995, dry, skin & skull, ZSI Reg. No. 24443.

*Measurements* : External : 1 ♂ : Fa 50.5 ; TI 52.4 ; E 17.7 ; Tb 24.4 ; F & Cl 11.4. Cranial : 1 ♂ : l 23.0 ; ccl 19.9 ; mtr 6.7 ; c<sup>1</sup> – c<sup>1</sup> 6.6 ; m<sup>3</sup> – m<sup>3</sup> 7.4 ; iw 5.6 ; cw 9.0 ; zw 13.8 ; ml 16.7.

*Distribution* : *Harpiocephalus mordax* is known from West Bengal, Sikkim and Meghalaya, in India. Hence, the present specimen constitutes the first authentic record of this species from Mizoram.

*Remarks* : Ellerman & Morrison-Scott (1966) considered *Harpiocephalus mordax* as a subspecies of *Harpiocephalus harpia*, with some doubt. But McBee *et al.* (1986) have treated it as a distinct species. The specimen was collected by setting mist-net near a water source down in the valley.

SUMMARY

*Megaerops niphanae*, *Macroglossus sobrinus sobrinus*, *Rhinolopus lepidus lepidus*, *Hipposideros lankadiva*, *Hipposideros cineraceus*, *Tylonycteris pachypus fulvida*, *Barbastella leucomelas darjelingensis* and *Harpiocephalus mordax* have been recorded for the first time from Mizoram, India. Their collection locality, measurements, distribution in India and some remarks on their habitats have been appended.

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