

ON THE NUMBER OF SPECIMENS, REPOSITORY, AND THE HETEROGENEITY  
OF THE TYPE-SERIES OF *VESPERTILIO MONTIVAGUS*  
DOBSON, 1874 (MAMMALIA : CHIROPTERA).

By

P. K. DAS

*Zoological Survey of India, Calcutta*

ABSTRACT

Confusion exists as to the total number of type-specimens of *Vespertilio montivagus* Dobson, 1874, and the current repository of these specimens. It has been shown that the original type-series of *Vespertilio montivagus* consisted of a total of six specimens (one male and five females) and that all the specimens were originally deposited in the Indian Museum, Calcutta. Subsequently, two specimens of the type-series were handed over to the British Museum, on two different occasions. At present, four of the syntypes of *Vespertilio montivagus* are in the National Zoological Collection of India, housed in the Zoological Survey of India, Calcutta, while the two other syntypes are at the British Museum (Natural History), London. Further, as one of the specimens of the type-series of *Vespertilio montivagus* Dobson, 1874, has been found not to be an example of *montivagus* at all, the type-series has been regarded as heterogeneous. External and cranial measurements, and other relevant particulars of the specimens of the type-series have been appended. The skull of the male specimen of the type-series maintained at the Zoological Survey of India, has been figured.

INTRODUCTION

Dobson (1874), while describing *Vespertilio montivagus*, was silent about the number of type-specimens. Later, however, he (Dobson 1876) mentioned a total of six type-specimens of *Vespertilio montivagus* present at the Indian Museum, Calcutta. But Anderson (1881) listed only five specimens as types of the same taxon present at the same museum, while Hill (1962) stated: '.....the co-typical specimens of

*Vespertilio montivagus* Dobson, both of which are now preserved in the collections of the British Museum (Natural History)'. Again, Khajuria *et al.* (1977) listed only three of these type-specimens in the collection of the Zoological Survey of India.

Thus, confusion exists as to the total number of type-specimens of *Vespertilio montivagus* Dobson and the current repository of these specimens. It was, therefore, felt necessary to make an attempt to clear this confusion.

NUMBER OF TYPE-SPECIMENS AND  
THEIR REPOSITORY

As has been stated earlier, Dobson (1874) did not specifically mention the number of type-specimens in the original description of *Vespertilio montivagus*. In this connection, he only stated: 'The above description is taken from adult male and female specimens preserved in alcohol, obtained by Dr. J. Anderson during the Yunan Expedition, and deposited in the Indian Museum, Calcutta. However, two years after the publication of this description, the same author (Dobson 1876) appended a catalogue of the specimens of bats present in the collection of the Indian Museum, Calcutta, to his monograph of the Asiatic Chiroptera, wherein he listed a total of six specimens (one male and five females, bearing his Catalogue Numbers 658 to 663) as the types of *Vespertilio montivagus*. It, therefore, appears quite safe to assume that there were a total of six specimens before Dobson when he was describing *Vespertilio montivagus*. Following the general practice of the day, Dobson (1874) did not specify any of the type-specimens as 'the type' (*i. e.*, holotype). Accordingly, all the six specimens of the type-series (Dobson 1876) are to be accepted as syntypes.

Under *Vespertilio montivagus*, Dobson (1878) listed one alcohol-preserved, unsexed, adult specimen from the type-locality (Hotha, Yunan), as present at the British Museum, with the indication that it was obtained in exchange from the Calcutta Museum (*i. e.*, Indian Museum, Calcutta). He, however, simultaneously stated: 'Type in the collection of the Indian Museum'. On the other hand, Anderson (1881) mentioned only

five specimens (one male and four females, bearing his Catalogue Numbers 178*a* to 178*e*) of this taxon, as types and present at the Indian Museum, Calcutta. It would, therefore, follow that the specimen listed by Dobson (*op. cit.*) is one of the type-series of *Vespertilio montivagus* which was obtained by the British Museum in exchange from the Indian Museum, Calcutta, between 1876 and 1878. In fact, Hill (1962) mentioned an alcohol-preserved female specimen bearing British Museum Registration Number 76.3.10.5 as one of the syntypes of *V. montivagus*. The registration number clearly indicates that the said specimen was received by the British Museum at a period not later than 1876. Obviously, this specimen makes up the discrepancy in the number of type-specimens of *V. montivagus*, as given by Dobson (1876) and Anderson (1881). The Zoological Survey of India which received the entire mammalian collection of the Indian Museum in 1916, should, therefore, have five of these six type-specimens. In the forties of this century, however, Dr. M. L. Roonwal, the then Officer-in-Charge of the mammalian collection of the Zoological Survey of India, could locate only four of these specimens, bearing Anderson's Catalogue Numbers 178*a* to 178*c* and 178*e*. Therefore, a second specimen bearing Anderson's Catalogue Number 178*d*, also appeared missing from the collection of the Zoological Survey of India, even at that time. Hill (1962) also mentioned a second type-specimen of *Vespertilio montivagus* to be present at the British Museum, bearing the Registration Number 9.4.4.5. This specimen, according to Hill (*op. cit.*), is a male, and was obtained by the British Museum as a donation from the Indian

Museum. The registration number indicates that this specimen was received by the British Museum at a period not later than 1909. This explains why Dr. Roonwal could find only four specimens of the type-series of *V. montivagus*.

Subsequently, Khajuria *et al.* (1977) found only three of the type-specimens mentioned above (bearing Anderson's Catalogue Numbers 178a to 178c), in the collection of the Zoological Survey of India.

However, a thorough search conducted by the present author, resulted in locating the missing fourth type-specimen in the general collection. This specimen bears Dobson's Catalogue Number 663 and Anderson's Catalogue Number 178e.

It is, therefore, clear that the type-series of *Vespertilio montivagus* Dobson, 1874, originally consisted of a total of six specimens and that all the specimens of the type-series were initially deposited in the Indian Museum, Calcutta. But one female specimen (bearing Dobson's Catalogue Number 660) of the type-series was given to the British Museum, in exchange, in 1876, while a second specimen was donated to the same museum in 1909 (Hill 1962). Thus, the National Zoological Collection of India, housed in the Zoological Survey of India (which received the entire mammalian collection of the Indian Museum) has, at present, only four of the original six syntypes of *Vespertilio montivagus* Dobson, while the British Museum (Natural History), London, has the other two. The relevant particulars and current repositories of these type-specimens have been given in Table 1.

#### HETEROGENEITY OF THE TYPE-SERIES

The skull of one of the syntypes (No. [ F ]

76.3.10.5) of *Vespertilio montivagus* present at the British Museum, has been extracted and cleaned. The skull of the other syntype housed in the same museum has not been extracted (Hill 1962). The skull of none of the four syntypes present in the Zoological Survey of India, was extracted till 1966 when G. Topal of the Hungarian Natural History Museum, during his visit to India, extracted and cleaned the skull of one of these specimens. The skull of two other syntypes were extracted and cleaned by the present author, while that of the fourth syntype present in the Zoological Survey of India, has not been extracted yet.

Careful examination of the skulls of the syntypes of *Vespertilio montivagus* present in the Zoological Survey of India, has revealed that in one skull (Anderson's Catalogue Number 178b) the second upper premolar, though small, is not minute, and all the three upper premolars are in the tooth-row. The relative sizes and positions of the upper premolars of this skull, which are quite different from those of the upper premolars of *Vespertilio montivagus*, as given in the original description, clearly establish that this specimen is not at all an example of *V. montivagus*. Unfortunately, due to lack of sufficient comparative material, the specific identity of this example cannot be determined with certainty. The skull of the second syntype present at the British Museum should also be specially examined to ascertain whether it is an example of *montivagus* or not. Incidentally, the sex of this specimen is also to be re-examined, as there exists some controversy on this point. Both Dobson (1876) and Anderson (1881) mentioned only one example of male specimen in the type-series of *Vespertilio montivagus*. The male specimen

was at the Indian Museum from where it was transferred to the Zoological Survey of India, the institution which still maintains it. But according to Hill (1962), the second syntype present at the British Meuseum, is also a male.

The skull of the male specimen (Dobson's Catalogue Number 658, Anderson's Catalogue Number 178a, Zoological Survey of India Registration Number 15579) of the type-series

of *Vespertilio montivagus* Dobson, 1874, present in the Zoological Survey of India, is figured to illustrate the skull of this species (Fig. 1).

The relevant particulars, current repositories, and external and cranial measurements of specimens of the type-series of *Vespertilio montivagus* Dobson, 1874, are given in Tables 1, 2 and 3.

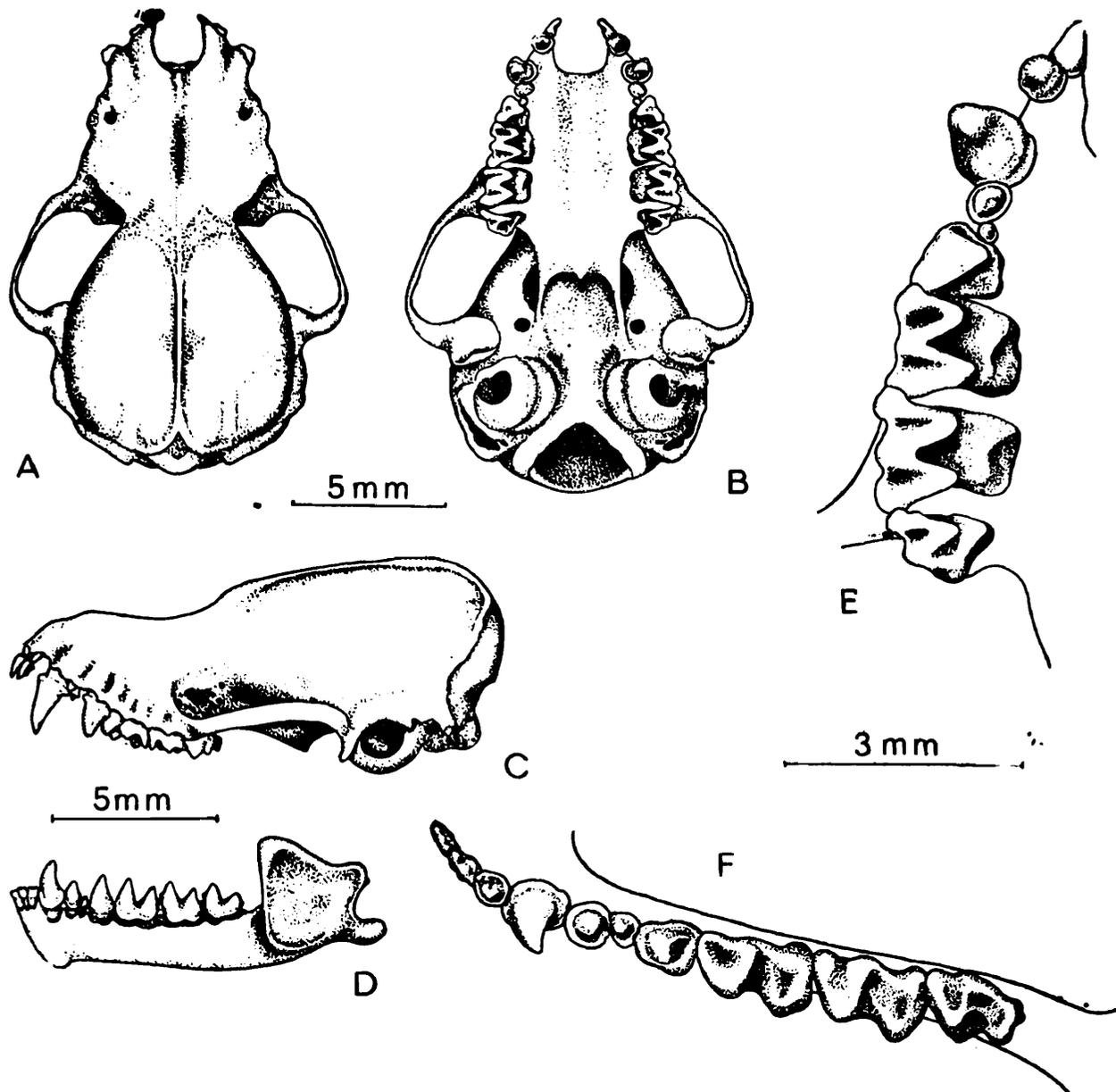


Fig. 1. Skull of *Vespertilio montivagus* Dobson, 1874 : A. dorsal view, B. ventral view, C. lateral view, D. lateral view of the lower jaw of the left side, E. upper tooth-row of the right side, F. lower tooth-row of the left side.

*List of abbreviations used in Tables 1, 2 and 3.*

- III<sup>1</sup> = length of the first phalanx of the third digit  
 III<sup>2</sup> = „ „ „ second „ „ „ „ „  
 III<sup>m</sup> = „ „ „ third metacarpal  
 V<sup>1</sup> = „ „ „ first phalanx of the fifth digit  
 V<sup>2</sup> = „ „ „ second „ „ „ „ „  
 V<sup>m</sup> = „ „ „ fifth metacarpal  
 And. Cat. No. = Anderson's Catalogue Number  
 BM = British Museum (Natural History)  
 Cal = Calcar  
 cb = condylobasal length  
 c<sup>1</sup>-c<sup>1</sup> = canine width  
 ccl = condylocanine length  
 c-m<sup>3</sup> = length of the maxillary tooth-row  
 cw = cranial width  
 Dob. Cat. No. = Dobson's Catalogue Number  
 E = length of ear  
 Fa = „ „ forearm  
 F & Cl = length of foot and claws  
 iw = least interorbital width  
 l = greatest length of the skull  
 m<sup>3</sup>-m<sup>3</sup> = molar width  
 ml = mandibular length  
 mstw = mastoid width  
 NZCI = National Zoological Collection of India  
 Reg. No. = Registration Number  
 Tb = length of tibia  
 Tl = „ „ tail  
 Tr = „ „ tragus  
 ZSI = Zoological Survey of India  
 zw = zygomatic width

TABLE 1 : Relevant particulars and current repositories of specimens of the type-series of *Vespertilio montivagus* Dobson, 1874, collected from Hotha, Yunan, China, by Dr. J Anderson in 1868, during the First Expedition to Yunan.

| Dob. Cat. No. | Sex | And. Cat. No. | ZSI Reg. No. | BM Reg. No. | Repository |
|---------------|-----|---------------|--------------|-------------|------------|
| 658           | ♂   | 178a          | 15579        | —           | NZCI       |
| 659           | ♀   | 178b          | 15580        | —           | NZCI       |
| 660           | ♀   | —             | —            | 76.3.10.5   | BM         |
| 661           | ♀   | 178c          | 15581        | —           | NZCI       |
| 662           | ?♀  | 178d          | —            | 9.4.4.5     | BM         |
| 663           | ♀   | 178e          | 20170        | —           | NZCI       |

TABLE 2: External measurements of specimens of the type-series of *Vespertilio montivagus* Dobson, 1874.

| Reg. No.         | Fa   | Tl   | F & Cl | E    | Tb   | Tr  | III <sup>m</sup> | III <sup>1</sup> | III <sup>2</sup> | VIII | V <sup>1</sup> | V <sup>2</sup> | Cal  |
|------------------|------|------|--------|------|------|-----|------------------|------------------|------------------|------|----------------|----------------|------|
| ZSI<br>15579     | 39.2 | 39.6 | 8.4    | 13.4 | 16.5 | 6.0 | 35.3             | 14.6             | 14.8             | 33.6 | 9.4            | 7.0            | 15.0 |
| ZSI<br>15580     | 37.3 | 35.7 | 9.4    | 13.4 | 16.1 | 6.9 | 34.3             | 12.5             | 14.9             | 32.4 | 8.9            | 8.4            | 13.7 |
| BM<br>76.3.10.5* | 41.5 | —    | —      | 14.5 | —    | —   | —                | —                | —                | —    | —              | —              | —    |
| ZSI<br>15581     | 40.0 | 38.5 | 8.2    | 11.9 | 16.9 | 6.0 | 35.8             | 14.9             | 13.8             | 33.5 | 9.3            | 7.1            | 15.3 |
| BM<br>9.4.4.5    | —    | —    | —      | —    | —    | —   | —                | —                | —                | —    | —              | —              | —    |
| ZSI<br>20170     | 39.9 | 37.3 | 8.3    | 10.5 | 16.9 | 6.0 | —                | 15.0             | 13.3             | 34.3 | 9.3            | 7.3            | —    |

TABLE 3: Cranial measurements of specimens of the type-series of *Vespertilio montivagus* Dobson, 1874.

| Reg. No.        | l    | ccl  | cb   | zw   | iw  | cw  | mstw | c <sup>1</sup> -c <sup>1</sup> | m <sup>a</sup> -m <sup>a</sup> | c-m <sup>a</sup> | ml   | Remarks   |
|-----------------|------|------|------|------|-----|-----|------|--------------------------------|--------------------------------|------------------|------|---|
| ZSI<br>15579    | 15.0 | 13.9 | 14.4 | 10.8 | 3.6 | 7.5 | 7.6  | 4.4                            | 6.5                            | 6.0              | 11.8 | Skull extracted by author.                            |
| ZSI<br>15580    | 15.0 | 13.9 | 13.9 | 9.8  | 3.4 | 7.4 | 7.5  | 3.8                            | 6.0                            | 5.8              | 10.6 | Skull extracted by author.<br>Not <i>montivagus</i> . |
| BM<br>76.3.10.5 | 15.4 | 14.0 | —    | —    | 3.8 | 7.1 | 7.9  | 4.3                            | 6.7                            | 6.0              | 11.5 | Measurements from Hill(1962).                         |
| ZSI<br>15581    | 15.3 | 13.8 | 14.5 | 10.5 | 3.4 | 7.0 | 7.8  | 4.4                            | 6.8                            | 6.1              | 12.0 | Skull extracted by G. Topal<br>in 1966.               |
| BM<br>9.4.4.5   | —    | —    | —    | —    | —   | —   | —    | —                              | —                              | —                | —    | Skull not extracted.                                  |
| ZSI<br>20170    | —    | —    | —    | —    | —   | —   | —    | —                              | —                              | —                | —    | Skull not extracted.<br>Lower jaw broken.             |

## REFERENCES

ANDERSON, J. 1881. Catalogue of Mammalia in the Indian Museum, Calcutta. Pt. 1. Indian Museum, Calcutta.

DOBSON, G. E. 1874. Descriptions of new species of Chiroptera from India and Yunan. *J. Asiat. Soc. Beng.*, 43 (Pt. 2) : 237-238.

\* Measurements from Hill (1962).

- DOBSON, G. E. 1876. Monograph of the Asiatic Chiroptera, and catalogue of the species of bats in the collection of the Indian Museum, Calcutta ; Taylor and Francis, London.
- DOBSON, G. E. 1878. Catalogue of the Chiroptera in the collection of the British Museum. British Museum, London.
- HILL, J. E. 1962. Notes on some insectivores and bats from Upper Burma. *Proc. zool. Soc. Lond.*, 139 : 119-137.
- KHAJURIA, H., CHATURVEDI, Y and GHOSHAL, D. K. 1977. Catalogue Mammaliana : an annotated catalogue of the type specimens of mammals in the collection of the Zoological Survey of India. *Rec. zool. Surv. India, Occ. Pap.* (7) : i-iv + 1-44.

