

## **Report on the Bats (Chiroptera) obtained by the Zaire River Expedition**

by

MICHAEL D. GALLAGHER and DAVID L. HARRISON

### **Introduction**

The aim of the Zaire River Expedition (4 October 1974 — 26 January 1975) was to attempt the first full navigation of the 2,700 mile Zaire River (previously called the Congo River) and its main tributary the Lualaba River (see Map, Fig. 1), conducting scientific projects en route. The venture took place on the centenary of H. M. Stanley's trans-African journey when he discovered the Congo and followed the river to the Atlantic.

Scientific projects required the prior approval of an Expedition sub-committee in UK chaired by Dr. P. H. Greenwood of the British Museum (Natural History), and in the field were dependent upon a logistic base for transport, food and other supplies. The advanced base moved by bounds behind the boat party from Kolwezi in the south-east to Kisingani, where it paused until mid-January before closing and moving to Kinshasa, the capital. The 50 doctors, scientists and naturalists formed into groups and chose sites for study compatible with the restrictions imposed by time, distance and shortage of transport. MDG was to collect bats in addition to his expedition duties in support of some of these groups, the first of which was the fish team in the Upemba National Park. Thereafter he followed the course of the river to Kisingani, with pauses, the longest of which was for three weeks field work in forest SW of Kindu. From Kisingani he established two camps ENE in the Ituri forest and one NW in forest near Yangambi. On 14 January 1975 he flew to Kinshasa for a final 10 days work on a site near the river.

### **Method of Collection**

The Expedition had been asked not to bring shot guns, so collection using dust shot was impossible. Some mist nets were available and these were deployed in various ways whenever the situation allowed. Whereas some fruit bats (Pteropodidae) were easily trapped, some other species were seen to avoid the nets with some success and agility. Others often gnawed their way through the nylon mesh in a matter of seconds unless seized immediately they entered the net. Searches for roosts met with some success, except in pure forest; but villagers, particularly children, brought in bats and were suitably rewarded.

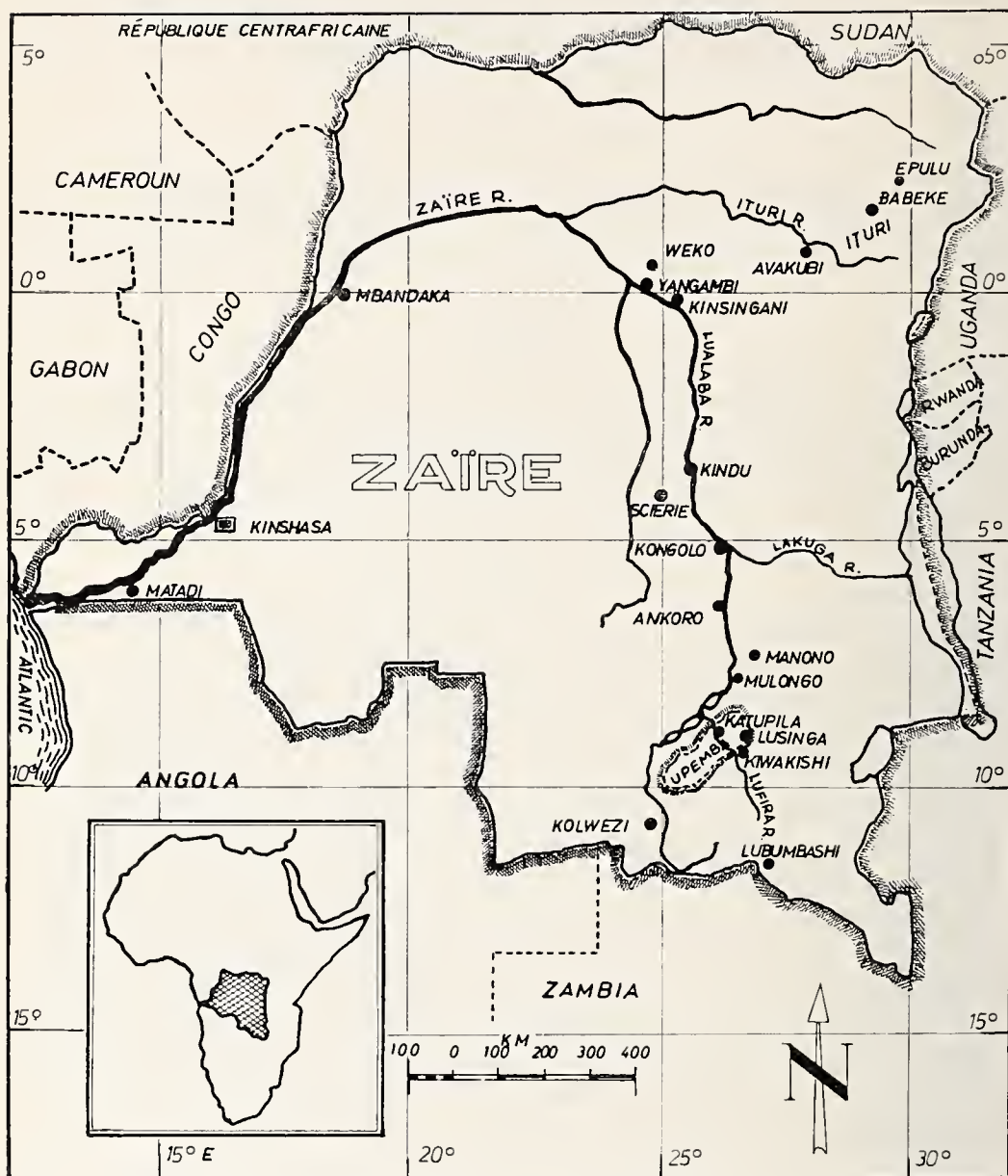


Fig. 1: Map of collecting localities of Chiroptera obtained by M. D. Gallagher on the Zaire River Expedition; (positions are approximate).

Preservation was whole in Industrial Methylated Spirit; specimens were later wrapped in muslin, packed wet in double plastic bags and transported in steel boxes for subsequent skinning by DLH in UK. The stock of IMS ordered from UK as Expedition stores did not reach Lubumbashi terminal airport, so small personal stocks were used; these were supplemented by a weaker substitute purchased from chemist shop in Kindu and Kinsangani, but which did not achieve uniformly satisfactory results.

### Localities

A summary of the collecting localities follows in chronological order (see Map and Table 1).

**Parc National de l'Upemba** (13–26 Oct. 1974) on the high plateaux of Shaba (formerly Katanga), draining into Lufira River, Lake Upemba and marshes to the west. Park HQ at Lusinga (c. 1 650 m., where bats were seen), from which excursions were made to Grottes Kiwakishi and Katupila Ferry.

**Grottes Kiwakishi** (18 Oct.). Outside the Park boundary, 35 km south of Lusinga in sloping rocky country covered with scrub and small trees. A series of subterranean caves a km or two in length with a pool at the far end. About 20 bats present, which avoided mist nets stretched across the centre except for one *Hipposideros ruber* and the only example of *Miniopterus schreibersi* obtained on the expedition.

**Katupila ferry**, Lufira River (21 Oct.). Low wooded hills with open areas of grass and rock. One specimen of *Nycteris macrotis* was found dead below trees near the river. Villagers reported bats to be very common along the opposite river bank near Katupila village.

**Mulongo** (27 Oct. — 1 Nov. 1974). 5 km west of the town on the right bank of the Lualaba River, a narrow flood plain of tangled scrub, backed by villages and cultivation. Bats present in two old warehouses on the bank. The mummified carcase of the only expedition specimen of *Lavia frons* was found on the floor. With the help of Dr. R. G. Bailey mist nets were placed across openings after dusk. Between 7 and 10 pm numbers of *Pipistrellus nanus* and *Tadarida pumila* returned to the warehouses from the direction of the river. Nets placed in the open sustained some bat damage, and two were stolen by villagers; a single specimen of *Epomophorus labiatus* was obtained at dawn. Boys brought in a number of specimens of the common species and one of *Eptesicus rendalli* said to be from the roofs of houses.

**Manono** (1/2 Nov. 1974) c. 600 m a.s.l. The party slept on the floor of a mission hut in town. Several bats entered to feed under the electric lights and to rest in the eaves. Nets stretched across the room caught three specimens of *T. pumila*.

**Ankoro** (2–5 Nov. 1974). c. 580 m. a.s.l. A village and almost deserted mission lying on the steep but fertile left bank of the Lualaba River, backed by forest. The bank was too crowded to permit the use of nets, but one example of *Nycteris hispida* was brought in.

**Kongolo** (7–10 Nov. 1974) 560 m. A small town on the left bank, Lualaba River, with trees, gardens, cultivation and rough vegetation; secondary forest was not seen within 5 km. *P. nanus* frequented gardens and buildings, but were trapped with difficulty. Large roosts of *Tadarida condylura* were found in the roofs and chimneys of several buildings, where they were a nuisance, their guano staining the walls; specimens were taken by hand and net, and many were brought in, some of them with one or two young clinging to the mothers' teats by mouth alone. Boys also brought in the only expedition specimen of *Scotophilus nigrita*. Large fruit bats were observed roosting in trees above village huts.

**Scierie** (14–28 Nov. 1974). c. 600 m. A semi-deciduous rain forest from which all but a few giants have been removed to the timber mill and railway near the village of this name. Secondary *remanier* growth is well advanced. Trails are frequented by hunters, but a trail had to be cut through thick evergreen undergrowth to reach a small stream. Nets were deployed across unused trails, across

an old clearing, in undergrowth and in the swampy area by the stream; a net was also suspended from a tree. Bats were seen to avoid nets across open trails, but a line of nets in the clearing took a single specimen of *Tadarida gallagheri* on the first evening; nothing more was secured here, though nets sustained damage overnight, until three specimens of *Myonycteris torquata* were trapped on 24/25 November. Single specimens of *Rhinolophus alcyone* and *N. hispida* were taken on 22 November in nets newly erected along a trail under thick canopy with little undergrowth; thereafter bats were seen to avoid these nets.

**Ituri** (8—15 Dec. 1974). Near the Ituri River bridge, opposite A v a k u b i village. The disturbed edge of primary forest, with clearings, plantations and two small earth quarries surrounded by trees. Nets placed across a rain pool in one quarry caught the only specimen of *Glauconycteris beatrix* (9 Dec.), the third example of *N. hispida* (10 Dec.) and the first four of *Epomops franqueti* (10/11 Dec.). None was caught in nets placed in the forest.

**Ituri** (16—23 Dec. 1974), near B a b e k e village, Isai River, on the road eastwards to Epulu. Undisturbed primary rain forest, with giants, medium and small trees, and thick evergreen undercover, marshy in places. Nets placed in various places in the forest and in a nearby village plantation caught only one *E. franqueti* in the latter. The one net suspended across the river by means of a fallen forest giant caught 13 specimens of seven species, mostly between 7 and 10 p. m.; including the only expedition specimens of *Myotis bocagei*, *Mimetillus moloneyi*, *Tadarida nanula* and *T. thersites*. In addition, the only specimen of *Nycteris arge* was brought in by a Pygmy.

**Weko** (27 Dec. — 3 Jan. 1975). Undisturbed forest near this small village NNE of Yangambi and NW of Kisingani. Large trees with a thick evergreen undercover, many kilometres from water. Nets were placed in cuttings made in the undercover and in village plantations. Small single bats were seen feeding low (1—2 m) amongst vegetation immediately after dusk, but these meticulously avoided nets. Two lines of nets in the forest trapped over 12 female *E. franqueti* (29—30 Dec.), the lowest at 1.2 m; the nets were closed when it was seen that several of these large bats were in parturition.

**Yangambi** (4—6 Jan. 1975). An agricultural research station on high ground overlooking Zaire River. Nets were placed on the hillside and in a grove of gum trees. Only *E. franqueti* were caught, including the only male specimen. Others released flew slowly between the trees.

**Kisingani** (6—14 Jan. 1975). c. 397 m. On grassy clearings backed by secondary woodland on the right bank of the Tshopo River. Nets were placed amongst evergreen undercover, in clearings on the forest edge and amongst tall grass, with the kind permission of the Director of the neighbouring Zoological Gardens. Only *E. franqueti* and *P. nanus* were observed and trapped.

**Kinshasa** (15—26 Jan. 1975). On scrub-covered hillsides at c. 300 m. sloping down to the Zaire River below a textile factory (CAP — Zaire) east of the city. Nets were placed at different levels on the hillside. Large fruit bats (presumably *E. franqueti*) flew south-westwards down river at dusk in a steady but well dispersed stream at least 1 km. broad (i. e. as far as the eye could see on either side in failing light), with a noticeable altitudinal dispersion; some bats swerved as if to catch food on the way. Villagers said that they came from huge roosts on islands in the river. None was seen to come below 300 m., but a total of four trapped during three nights showed that they came lower later. The most common species caught in nets here and not recorded elsewhere during the Expedition was

Table 1: List of species with collection locality

|                                         | Upemba | Mu-<br>longo | Ma-<br>nono | An-<br>koro | Kon-<br>golo | Scierie | Ituri<br>River | Ituri<br>Babeke | Weko | Yan-<br>gambi | Kisin-<br>gani | Kin-<br>shasa | Total |
|-----------------------------------------|--------|--------------|-------------|-------------|--------------|---------|----------------|-----------------|------|---------------|----------------|---------------|-------|
| Fam. Pteropodidae                       |        |              |             |             |              |         |                |                 |      |               |                |               |       |
| <i>Epomophorus labiatus</i>             |        | 1            |             |             |              |         |                |                 |      |               |                |               | 1     |
| <i>Epomops franqueti</i>                |        |              |             |             |              |         | 4              | 4               | 12   | 6             | 2              | 4             | 32    |
| <i>Micropteropus pusillus</i>           |        |              |             |             |              |         |                |                 |      |               |                | 31            | 31    |
| <i>Myonycteris torquata</i>             |        |              |             |             |              | 3       |                | 2               |      |               |                |               | 5     |
| Fam. Nycteridae                         |        |              |             |             |              |         |                |                 |      |               |                |               |       |
| <i>Nycteris hispida</i>                 |        |              |             | 1           |              | 1       | 1              |                 |      |               |                |               | 3     |
| <i>Nycteris macrotis</i>                | 1      |              |             |             |              |         |                | 1               |      |               |                | 3             | 4     |
| <i>Nycteris arge</i>                    |        |              |             |             |              |         |                |                 |      |               |                |               | 1     |
| Fam. Megadermatidae                     |        |              |             |             |              |         |                |                 |      |               |                |               |       |
| <i>Layia frons</i>                      |        | 1            |             |             |              |         |                |                 |      |               |                |               | 1     |
| Fam. Rhinolophidae                      |        |              |             |             |              |         |                |                 |      |               |                |               |       |
| <i>Rhinolophus alcyone</i>              |        |              |             |             | 1            |         |                |                 |      |               |                |               | 1     |
| Fam. Hipposideridae                     |        |              |             |             |              |         |                |                 |      |               |                |               |       |
| <i>Hipposideros ruber</i>               | 1      |              |             |             |              |         |                |                 |      |               |                | 2             | 3     |
| Fam. Vespertilionidae                   |        |              |             |             |              |         |                |                 |      |               |                |               |       |
| <i>Myotis bocagei</i>                   |        |              |             |             |              |         |                | 1               |      |               |                |               | 1     |
| <i>Pipistrellus nanus</i>               |        | 29           |             |             | 15           |         |                | 1               |      |               | 2              |               | 47    |
| <i>Eptesicus rendalli</i>               |        | 1            |             |             |              |         |                |                 |      |               |                |               | 1     |
| <i>Mimetillus moloneyi</i>              |        |              |             |             |              |         |                | 3               |      |               |                |               | 3     |
| <i>Glauconycteris beatrix</i>           |        |              |             |             |              |         | 1              |                 |      |               |                |               | 1     |
| <i>Scotophilus nigrita</i>              |        |              |             |             | 1            |         |                |                 |      |               |                |               | 1     |
| <i>Miniopterus schreibersi</i>          | 1      |              |             |             |              |         |                |                 |      |               |                |               | 1     |
| Fam. Molossidae                         |        |              |             |             |              |         |                |                 |      |               |                |               |       |
| <i>Tadarida (Mops) nanula</i>           |        |              |             |             |              |         |                | 2               |      |               |                |               | 2     |
| <i>Tadarida (Mops) condylura</i>        |        |              |             |             | 54           |         |                |                 |      |               |                |               | 54    |
| <i>Tadarida (Mops) thersites</i>        |        |              |             |             |              |         |                | 1               |      |               |                |               | 1     |
| <i>Tadarida (Chaerephon) gallagheri</i> |        |              |             |             |              | 1       |                |                 |      |               |                |               | 1     |
| <i>Tadarida (Chaerephon) pumila</i>     |        | 15           | 2           |             |              |         |                |                 |      |               |                |               | 17    |
|                                         | 3      | 47           | 2           | 1           | 70           | 6       | 6              | 15              | 12   | 6             | 4              | 40            | 212   |

*Micropteropus pusillus*. Three *N. macrotis* and two *H. ruber* were the first since the Upemba region. About 100 small bats fed around the lights of the riverside pumping station of CPA — Zaire every evening except when it was windy, but they avoided nets erected there.

### Acknowledgements

The authors are much indebted to the Staff of the British Museum (Natural History) for their assistance with our collection, especially Dr. P. H. Greenwood, Dr. K. E. Banister und J. E. Hill. We are also much indebted to H. Schoeder for drawing the map.

The first author is especially grateful also to the Scientific Exploration Society and the Government of Zaire for the opportunity to attend; to M. and Mme. L. Bosschaert for kind assistance which made the camp at Weko possible; to Sjt. Tchekadwa and Cpl. Kuba for help in the field; to members of CPA — Zaire for hospitality; to members of ZRE for their assistance; and to the many villagers of Zaire for their cheerful help.

### Systematic Section

#### Fam. Pteropodidae

#### ***Epomophorus labiatus* Temminck, 1837**

1837. Temminck. Mon. Mamm. 2: 83. Sennaar, Sudan. (K. Andersen); originally given as 'Abyssinia'.

**Material:** 1 specimen.

HZM 32.7869 ♂ 30. X. 74 Mulongo, Lualaba River, Zaire.  
7°50'S 26°58'E

This species is known from the eastern and southern Congo (Haymann and Hill, 1971). This specimen, an adult male, has measurements larger than usually found in the race *E. l. minor* in this region. The forearm measured 66.6 mm, the greatest length of the skull 40.1 mm, upper toothrow c — m<sup>i</sup> 13.5 mm. It should be noted that some specialists now regard *E. minor* as a distinct species from *E. labiatus*, since the two forms are apparently sympatric in Ethiopia (Largen et al. 1974); these workers regard *anurus* as a larger southern form of *labiatus*. Since *anurus* has also occurred in the Congo, where it is sympatric with *E. l. minor* (Hayman et al. 1966) it appears that this rather complex problem requires more investigation.

#### ***Epomops franqueti* (Tomes, 1860)**

1860. *Epomophorus franqueti* Tomes, P.Z.S. 1860: 54. Gabon, West Africa.

**Material:** 32 specimens. Dec. 1974 — Jan. 1975.

HZM 7.7805 ♀; 14.7827 ♂; 24.7837 ♀; 38.7855 ♀; 34.7861 ♀; 38.7865 ♀ Yangambi, Zaire. 0°46'N 24°27'E

HZM 8.7807 ♀; 26.7853—27.7854 2 ♀; 33.7860 ♀. Kinshasa, Zaire 4°21'S 15°12'E  
 HZM 9.7808—11.7810 3 ♀; 15.7828 ♀; 17.7830—19.7832 3 ♀; 21.7834 ♀; 30.7857 ♀;  
 35.7862—37.7864 3 ♀. Weko Forest, N.N.E. of Yangambi, Zaire. 1°00'N 24°33'E  
 HZM 12.7811—13.7812 2 ♀; Kisingani, Zaire. 0°32.5'N 25°11'E  
 HZM 16.7829 ♀; 22.7835 ♀; 25.7838 ♀. Ituri River, Bridge, Zaire. 1°20'N 27°35'E  
 HZM 20.7833 ♀; 23.7836 ♀; 29.7856 ♀; 32.7859 ♀. Near Babeke, Isai River, Ituri,  
 Zaire. 1°24'N 28°04'E  
 HZM 31.7858 ♀. Near Avakubi, Ituri, Zaire. 1°20'N 27°35'E.

This abundant fruit bat of the tropical African forest zone is represented by 32 specimens of the larger typical race *E. f. franqueti* in our collection. The high proportion of females in this series obtained by mist nets is remarkable and included a number of breeding individuals.

### ***Micropteropus pusillus* Peters, 1868**

1868. *Micropteropus pusillus* Peters, Mber. Preuss. Akad. Wiss. 1867: 870. Gambia, West Africa.

Material: 31 specimens.

HZM 7.7792—37.7885 18 ♀ 13 ♂. 15—22. I. 1975 Kinshasa, Zaire. 4°21'S 15°12'E.

This small fruit bat was found abundantly at Kinshasa and it is interesting to note that the forearm length in this series, ranging from 44.8—53.4 mm and the greatest skull length 26.4—29.9 mm does not in any individual approach the measurements given by Hayman and Hill (1971) for the little-known *M. intermedius* (forearm 58—63.5 mm; greatest skull length 32—33.4 mm). Two of the three known specimens of *M. intermedius* came from Luluabourg (now Kananga), S. Congo and Songolo, Lower Congo.

### ***Myonycteris torquata* (Dobson, 1878)**

1878. *Cynonycteris torquata* Dobson, Cat. Chir. B. M., 71, 76. Angola.

Material: 5 specimens.

HZM 3.7866 ♀; 5.7868 ♀; 4.7867 — (skull only); Scierie Forest, Zaire.  
 24.—25. XI. 1974. 3°10' S 25°49'E

HZM 1.7798—2.7799 2 ♀. Near Babeke, Isai River, Ituri, Zaire. 1°24'N 28°04'E

This small fruit bat has been recorded from several regions of the Congo, where it is represented, at least in the eastern part, by the race *M. t. wroughtoni* Andersen, 1908. Our specimens from N. E. and Central Congo are probably referable to this form, but show a considerable range in skull size, the greatest length of 4 adult female skulls were 31.3, 31.5, 33.7 and 35 mm, while the forearms of four females were 57.2, 61.2, 62.2 and 64.2 mm. Taken in conjunction with the figures for their specimens from Medje given by Allen, Lang and Chapin (1917), this range of variability suggests that the race *wroughtoni* is not very clearly defined.

Fam. Nycteridae

**Nycteris hispida** (Schreber, 1774)

1774. *Vespertilio hispidus* Schreber, Säugeth. I: 169, pl. 56. Senegal.

Material: 3 specimens.

HZM 43.7850 ♀ 22. XI. 1974 Scierie Forest, 30 km S.W. of Kindu, Zaire 3°10'S 25°49'E

HZM 44.7851 ♂ 10. XII. 1974, near Avakubi, Ituri, Zaire. 1°20'N 27°35'E

HZM 45.7852 ♀ 3 XI. 1974 Ankoro, Zaire. 6°45'S 26°57'E

These three specimens from Zaire are referable to the northern race *N. h. hispida* as understood by Hayman and Hill (1971). It is known from many localities in the country (Hayman et. al., loc. cit.).

**Nycteris macrotis** Dobson, 1876

1876. *Nycteris mocrotis* Dobson, Monog. Asiatic Chiroptera, 80, (N. V.) Sierra Leone, West Africa.

Material: 4 specimens.

HZM 37.7849 ♀ 21. X. 1974 Katupila, Lufira River, Zaire. 8°50'S 26°44'E

HZM 34.7846—36.7848 2 ♂, ♀ 15.—16. I. 1975 Kinshasa, Zaire. 4°21'S 15°12'E

These four specimens are referable to the typical form *N. m. macrotis*. The species is widespread in the region.

**Nycteris arge** Thomas, 1903

1903. *Nycteris arge* Thomas, Ann. Mag. Nat. Hist. (7) 12: 633. Efulen, Cameroons.

Material: 1 specimen.

HZM 2.7845 ♂ 18. XII. 1974 Near Babeke, Isai River, Ituri, Zaire. 1°24'N 28°04'E

This species is confined to the tropical forest zone of Africa. It has previously been found in the country (Hayman and Hill, 1971), where it is known from numerous localities (Hayman et al., loc. cit.).

Fam. Megadermatidae

**Lavia frons** (E. Geoffroy, 1810)

1810. *Megaderma frons* E. Geoffroy, Ann. Mus. H. N. Paris, 15: 192. Senegal.

Material: 1 specimen.

HZM 26.7791 — 28. X. 1974 Mulongo, Lualaba River, Zaire. 7°50'S 26°58'E

A mummified specimen of this widespread African Megadermatid. The described races of the species are considered doubtfully valid (Hayman and Hill, 1971) and material from this region listed by Hayman et al. (1966) was referred to the typical form *L. f. frons*.

Fam. *Rhinolophidae*

***Rhinolophus alcyone*** Temminck, 1852

1852. *Rhinolophus alcyone* Temminck, Esquisses Zool. sur la Côte de Guinée: 80. Boutry River, Gold Coast.

Material: 1 specimen.

HZM 1.8022 ♂ 22. XI. 1974 Scierie Forest, 30 km S.W. of Kindu, Zaire. 3°10'S 25°49'E

The species has previously been recorded from the north-western and north-eastern Congo (Hayman and Hill, 1971) and from the Province of Equator, Zaire (Koopman, 1975). The present specimen was obtained in central Zaire. It is essentially a West African forest species, which has recently been found to extend its range north-eastwards beyond Zaire as far as the extreme south of Sudan (Koopman loc. cit.).

Fam. *Hipposideridae*

***Hipposideros ruber*** (Noack, 1893)

1893. *Phyllorhina rubra* Noack, Zool. Jahb. Syst. 7: 586. „Lugerrunjere Fluss“, Tanganyika Territory.

Material: 3 specimens.

HZM 55.8027 ♀ Grottes Kiwakishi, Zaire. 9°00'S 27°12'E very approximately.

HZM 53.8025—54.8026 2 ♀; 16.—20. I. 1975 Kinshasa, Zaire. 4°21'S 15°12'E

The species is probably represented throughout most of Zaire by the race *H. r. centralis* but the races of *H. ruber* and the closely related sibling species *H. caffer* require revision and definition.

Fam. *Vespertilionidae*

***Myotis bocagei*** (Peters, 1870)

1870. *Vespertilio bocagei* Peters, J. Sci. Math. Phys. Nat. Lisboa (I) 3: 125. Duque de Bragança, northern Angola.

Material: 1 specimen.

HZM 7.7870 ♀ 19. XII. 1974 Babeke, Isai River, Ituri, Zaire. 1°24'N 28°04'E

Our single specimen in alcohol cannot be referred with any certainty to one of the three races previously recorded from the area (Hayman et al. 1966).

***Pipistrellus nanus* (Peters, 1852)**

1852. *Vespertilio nanus* Peters, Reise nach Mossambique, Säugeth. 63. Inhambane, coastal southern Portuguese East Africa.

**Material:** 47 specimens.

HZM 206.7973 ♂, 19. XII. 1974 Near Babeke, Isai River, Ituri, Zaire. 1°24'N 28°04'E

HZM 207.7974—208.7975 ♀, ♂, 13. I. 1975 Kisingani, Zaire. 0°32'N 25°11'E

HZM 209.7976—222.7089 6 ♂, 2 ♀, 5 ?sex. 7. XI. 1974 Kongolo, Zaire. 5°25'S 27°00'E

HZM 223.7990—252.8019 13 ♂, 11 ♀, 5 ?sex. 28.—29. X. 1974 Mulongo, Lualaba River, Zaire. 7°50'S 26°58'E

HZM 253.8020—254.8021 1 ♀, 1 ?sex. 7. XI. 1974 Kongolo, Zaire. 5°25'S 27°00'E

This is the common and widespread *Pipistrelle* of Zaire, known from many localities in the region.

***Eptesicus rendalli* (Thomas, 1889)**

1889. *Vesperugo (Vesperus) rendalli* Thomas, Ann. Mag. Nat. Hist. 3: 362. Bathurst, Gambia.

**Material:** 1 specimen.

HZM 1.8024 ♂ Mulongo, Lualaba River, Zaire. 7°50'S 26°58'E

This species is widely distributed across central Africa from Gambia to Eritrea and has been previously found in the Congo (Hayman and Hill, 1971). It is the larger of the two African *Eptesicus* species characterised by white wing membranes.

***Mimetillus moloneyi* (Thomas, 1891)**

1891. *Vesperugo (Vesperus) moloneyi* Thomas, Ann. Mag. Nat. Hist. (6) 7: 528. Lagos, southern Nigeria.

**Material:** 3 specimens.

HZM 2.7802—4.7804 2 ♂, ♀. 19.—21. XII. 1974 Near Babeke, Isai River, Ituri, Zaire. 1°24'N 28°04'E

These three examples are referable to *M. m. moloneyi*, previously recorded from Ituri Forest (Hayman and Hill, 1971). This is one of the most remarkable African Vespertilionid bats. The striking shortening of the wings, which are translucent distally, was discussed by Lang and Chapin (in Allen, Lang and Chapin, loc. cit.), who had observed its swift, direct flight, with rapidly beating wings. These authors suggested that it probably lives by day in cavities in trees; the remarkable flattening of the skull, reminiscent of *Platymops* and *Tylonycteris*, strongly suggests a crevice dwelling preference, perhaps beneath the bark of trees. Rosevear (1965) gives the only actual observations on its roosting habits, those of T. S. Jones, who collected it from roofs in Sierra Leone. Rosevear found no firm evidence to support the statement of G. M. Allen (1939) that the species employs cracks in bamboo stems like the Malayan *Tylonycteris*.

The penis is remarkably long, measuring 12.8 mm in one of our spirit specimens.

***Glauconycteris beatrix* Thomas, 1901**

1901. *Glauconycteris beatrix* Thomas, Ann. Mag. Nat. Hist. (7) 8: 256. Benito River, 15 miles from mouth, French Equatorial Africa.

Material: 1 specimen.

HZM 1.8023 ♂, 9. XII. 1974 Near Ituri River Bridge, near Avakubi, Ituri, Zaire. 1°20'N 27°35'E

Our single specimen in alcohol, unfortunately rather poorly preserved, apparently lacks any white shoulder spots. The occurrence of this variation in markings has led recent workers to reconsider the relationship of *G. humeralis* J. A. Allen, 1917 with *G. beatrix*. Rosevear (loc. cit.) has noted that a white shoulder spot is in fact present in the type specimen of *G. beatrix*. Hayman and Hill (1971) noted unspotted specimens from Entebbe, Uganda and the Congo (Hayman, 1954). Koopman (1971) has reviewed available material of both forms and concludes that they are conspecific, and regards *humeralis* as a subspecies of the earlier named *beatrix*. Our specimen is accordingly referred to the race *humeralis* pending further study of the validity of this race.

***Scotophilus nigrita* (Schreber, 1774)**

1774. *Vespertilio nigrita* Schreber, Säugeth. 1: 171. pl. 58. Senegal.

Material: 1 specimen.

HZM 64.7806 ♂ 9. XI. 1974 Kongolo, Zaire. 5°25'S 27°00'E

This specimen is probably referable to the form *S. n. nux* Thomas, 1904. It is a widespread species in Zaire.

***Miniopterus schreibersi* (Kuhl, 1819)**

1819. *Vespertilio schreibersi* Kuhl, Ann. Wetterau Ges. Naturk. 4,2: 185. Kulmbazer Cave, mountains of southern Bannat, Hungary.

Material: 1 specimen.

HZM 214.7800 ♂ Grottes Kiwakishi, Zaire. 9°00'S 27°12'E very approximately.

This specimen is probably referable to *M. s. natalensis* recorded from S. Congo by Hayman and Hill (1971).

Fam. Molossidae

***Tadarida nanula* (J. A. Allen, 1917)**

1917. *Mops (Allomops) nanulus* J. A. Allen, Bull. Amer. Mus. Nat. Hist. 37: 477. Niangara, Congo Belge.

Material: 2 specimens.

HZM 7.7818—8.7819 2 ♀, 18—19. XII. 1974 Near Babeke, Isai River, Ituri, Zaire. 1°24'N 28°04'E

This small Molossid seems to be rather scarce, recorded from only four localities in the region in the collections examined by Hayman et al. (1966). It is a species of the tropical forest zone, ranging from Senegal and Nigeria eastwards to Uganda and Kenya.

***Tadarida (Mops) condylura* (A. Smith, 1833)**

1833. *Nyctinomus condylurus* A. Smith, S. Afr. J. 2: 54. 'Port Natal' = Durban, Natal.

Material: 54 specimens.

HZM 156.7822—209.7972 23 ♂, 30 ♀, 1 ?sex 8—9. XI. 1974 Kongolo, Zaire. 5°25'S 27°00'E

This is a very abundant colonial Molossid in the area; it is widespread in Africa and although a number of subspecific names exist in this highly variable species, the validity of these is doubted by Hayman and Hill (1971).

***Tadarida (Mops) thersites* (Thomas, 1903)**

1903. *Nyctinomus thersites* Thomas, Ann. Mag. Nat. Hist. (7) 12: 634. Efulen, Cameroons.

Material: 1 specimen.

HZM 3.7820 ♀, 19. XII. 1974 near Babeke, Isai River, Ituri, Zaire. 1°24'N 28°04'E

This seems to be a rather uncommon species in Zaire, listed by Hayman et al. (1966) from only seven localities. In their description of *occipitalis*, currently regarded as a synonym of *thersites*, Allen, Lang and Chapin (1917) drew attention to 'a scanty fringe of long bristly hairs (blackish or mixed with a few whitish ones) from the hips, directed backward, the longest reaching to or beyond the middle of the uropatagium (scanty or nearly wanting in some specimens)'. These long bristly hairs are a very striking feature of our specimen, the longest almost reaching the distal margin of the uropatagium.

***Tadarida (Chaerephon) gallagheri* Harrison, 1975**

1975. *Tadarida (Chaerephon) gallagheri* Harrison, Mamm. (Paris) 39 (2): 313. Scierie Forest, 30 km S.W. of Kindu, Zaire. 3°10'S 25°49'E

Material: 1 specimen (holotype).

HZM 1.7797 ♂ (holotype), 14. XI. 1974 Scierie Forest, 30 km S.W. of Kindu, Zaire. 3°10'S 25°49'E

(deposited in British Museum, Natural History).

The unique specimen of this new species was the most dramatic find in the collection. It has been described and figured in detail elsewhere (Har-

rison, 1975). The remarkable nasal inflations, highly reminiscent of *Rhinopoma*, distinguish it immediately from all other known Molossid bats, while it is also distinguishable from all other known African Molossids by the presence of a deep interaural pocket on the crown of the head, containing the frontal crest of hairs. This pocket projects into the inter-aural membrane as a bulbous protrusion, which in profile overhangs and projects in front of the muzzle. The striking features of this bat gave rise to consideration of generic status for it, but it is clearly in most respects a highly specialised *Chaerephon*, perhaps a swiftly flying species with the nasal region specially modified for echolocation.

Our single specimen was taken in a mist net in a clearing in thick forest. The discovery of further specimens, especially females, will be awaited with interest, as the aural structure may well differ from the male.

### ***Tadarida (Chaerephon) pumila* (Cretzschmar, 1826)**

1826. *Dysopes pumilus* Cretzschmar, in Rüppell's Atlas, Reise im Nördlichen Africa, Säugeth. 69, pl. 27. Massawa, Eritrea.

Material: 17 specimens.

HZM 127.7821 ♀, 143.7954 ♀, 1. XI. 1974 Manono, Zaire. 7°18'S 27°28'E

HZM 128.7930—142.7953 12 ♀, 3 ♂, 28. X. 1974 Mulongo, Lualaba River, Zaire. 7°50'S 26°58'E

This common and variable small Molossid is known from many localities in the region. (Hayman et al. 1966).

## Summary

A substantial collection of bats was made by one of the authors (M.D.G.) on the Zaire River Expedition. It comprised 212 specimens, representing seven families and 22 species. The material has been identified and studied by D.L.H. It included one species new to science, which has been described elsewhere (Harrison 1975). The type specimen of this new Molossid is now in the British Museum (Natural History) collection, while the remainder of the material is located in the Harrison Zoological Museum, Sevenoaks, Kent, England.

## References

1939. Allen, G. M.: Bats. Cambridge, Mass. i—x, 1—368.
1917. Allen, J. A., H. Lang and J. P. Chapin.: The American Museum Congo Expedition Collection of Bats. Bull. Amer. Mus. Nat. Hist. 37 (18): 405—563.
1975. Harrison, D. L.: A new species of African Free-tailed Bat (Chiroptera: Molossidae) obtained by the Zaire River Expedition. Mamm. (Paris) 39 (2): 313—318.

1954. H a y m a n, R. W.: Notes on some African Bats, mainly from the Belgian Congo. *Rev. Zool. Bot. afr.* 50: 227—297.
1971. H a y m a n, R. W., and J. E. H i l l, in J. Meester and H. W. Setzer: The Mammals of Africa. An Identification Manual. Pt. 2 Order Chiroptera. 1—73.
1966. H a y m a n, R. W., X. M i s o n n e and W. V e r h e y e n: The Bats of the Congo and of Rwanda and Burundi. *Annls. Mus. r. Afr. cent. Ser.* 8vo 154: 1—105.
1971. K o o p m a n, K. F.: Taxonomic Notes on *Chalinolobus* and *Glauconycteris* (Chiroptera: Vespertilionidae). *Amer. Mus. Novit.* No. 2451: 1—10.
1975. —: Bats of the Sudan. *Bull. Amer. Mus. Nat. Hist.* 154 (4): 355—449.
1974. L a r g e n, M. J., D. K o c k, and D. W. Y a l d e n: Catalogue of the Mammals of Ethiopia. I. Chiroptera. *Monit. Zool. Ital. (N.S.S.V.)* 16: 221—298.
1965. R o s e v e a r, D. R.: The Bats of West Africa. *British Mus. (Nat. Hist.)* i—xvii, 1—418.

Addresses of authors: Major Michael D. Gallagher, c/o Lloyds Bank Ltd., 6 Pall Mall, London, SW 1 Y 5 NH, England. Dr. David L. Harrison, Harrison Zoological Museum, Bowerwood House, St. Botolph's Rd., Sevenoaks, Kent, England. —

# ZOBODAT - [www.zobodat.at](http://www.zobodat.at)

Zoologisch-Botanische Datenbank/Zoological-Botanical Database

Digitale Literatur/Digital Literature

Zeitschrift/Journal: [Bonn zoological Bulletin - früher Bonner Zoologische Beiträge.](#)

Jahr/Year: 1977

Band/Volume: [28](#)

Autor(en)/Author(s): Gallagher Michael D., Harrison David L.

Artikel/Article: [Report on the Bats \(Chiroptera\) obtained by the Zaire River Expedition 19-32](#)