

# An annotated inventory of three small collections of Nigerian Microchiroptera (Mammalia, Chiroptera)

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## Introduction

From the 21st of June till the 31st of August, 1976, the author collected bats in Nigeria for the Zoölogisch Museum in Amsterdam (ZMA) and had the opportunity to study the bat collections present in the Zoology Museum of the University of Ibadan (ZMUI), and in the Natural History Museum of the University of Ife (NHMI). Although attention was focused on Megachiroptera, some Microchiroptera were collected along, as well as data on those in the two mentioned Nigerian collections.

The aim of this paper is to give a combined survey of the Nigerian Microchiroptera in these three otherwise unknown collections, and to discuss in some detail the more noteworthy specimens.

## Methods

Most of the NHMI and ZMUI specimens had been preserved whole, in spirit, and were identified with *The Bats of West Africa* (ROSEVEAR 1965) as the only easily available reference work there. As I have not been able to study their skulls and teeth in detail, nor to consult other literature, I have not been able to work out the more complex taxonomical problems offered by some of the taxa concerned. Much for the same reasons I have refrained from subspecific identification in most cases. The NHMI collection is of particular interest because, although the bulk of it has been collected by D. R. ROSEVEAR, it was not available to him at the time when he compiled his book "The Bats of West Africa", nor did he possess any notes on it, as he kindly informed me (in lit. 20-X-1976). Of course, the ZMA specimens cited in this study have been examined in detail.

In the following account CNHM = Chicago Natural History Museum, E = ear length measured from the tip to the insertion of the outer margin, F = field number, Fa = forearm length, Gsl = greatest skull length, not including incisors, and W = weight in grams. All measurements are in mm and were taken by the author.

Unless otherwise stated, specimens are whole and in spirit. Where certain data are not mentioned, they could not be ascertained. However, all ZMUI specimens without locality are allegedly from the Campus of the University of Ibadan (J. FAGBOHUNMI, in verbis), and where no collector is mentioned for ZMA specimens, it is always the author. Discussions are given per taxon. A gazetteer (Table) and a map (Fig. 3) are given at the end of the list.

## Taxonomy

### EMBALLONURIDAE

#### 1. *Taphozous mauritanus* Geoffroy, 1818

NHMI — Ibadan: 1 ♀, 4-II-1967, CNHM-label, F 147, Fa 61.9.

## NYCTERIDAE

2. *Nycteris macrotis* Dobson, 1876  
NHMI — Shaguna: 1 ♀, 30-V-1966, "J. M.", CNHM-label, F 140, Fa 49.9 E 29.
3. *Nycteris arge* Thomas, 1903  
NHMI — Akpaka Forest Reserve: 1 ♂, skin and skull, 14-XI-1952, D. R. ROSEVEAR, F 964/52, Fa 38.9.
4. *Nycteris grandis* Peters, 1865  
NHMI — Nikrowa Forest Reserve: 1 ♀, skin and skull, 7-II-1948, D. R. ROSEVEAR, F 192/48, Fa 64.4, Gsl 27.2.
5. *Nycteris hispidus* (Schreber, 1775)  
NHMI — Ibadan: 1 ♀, 5-V-1966, CNHM-label, Fa 38.9.  
— Shaguna: 2 ♂♂, IV-1966, F 135, Fa 36.4 and Fa 38.7, E 19.2, respectively.  
— 1 skull, F 912/51 (collector probably D. R. ROSEVEAR), Gsl 16.4.  
ZMUI — 2 ♂♂, F 145 with Fa 38.3 and F 146 with Fa 38.5.

## MEGADERMATIDAE

6. *Lavia frons* (Geoffroy, 1810)  
NHMI — Shaguna: 2 ♀♀, XII-1965, CNHM-labels, F 127 with Fa 61.2 and F 128 with Fa 62.4; 1 ♂, 26-III-1967, "J.M." (CNHM-label), F 150, Fa 58.3.  
— Probably Shaguna: 1 ♂, F 129, Fa 57.8; 1 ♀, F 148, Fa 61.8.  
ZMUI — Malamfatori: 1 ♂, 1968, J. FAGBOHUNMI and party, Fa 58.8.  
— 1 ♂, F 159, Fa 60.3.  
ZMA — Lake Pandam border, 10/11-VII-1976: 1 ♀, skull extracted, ZMA 18.367, Fa 63.9, E 43.3, Gsl 24.7, W 25.4; 1 ♂, ZMA 18.368, Fa 59.6, E 40.7, W 20.4.

The Lake Pandam specimens were caught after 8 p.m., over the water of a long and narrow arm of the lake, between small trees growing in the water near and at the edge. Two or three times previously specimens had been observed here, hanging in similar trees during the daytime, by C. and N. SMEENK. Both specimens had a rather sweet, spicy smell, which was somewhat stronger in the male. The ZMUI ♂ of unknown locality with a forearm of 60.3 slightly exceeds the range of 55–60 given by ROSEVEAR (1965). So does the ZMA ♀ from Lake Pandam with a forearm of 63.9, against a range of 55–63 in ROSEVEAR.

## RHINOLOPHIDAE

7. *Rhinolophus fumigatus* Rüppell, 1842  
ZMA — Mkar: 1 ♂, 12-VII-1976, ZMA 18.376, Fa 49.9, E 23.4, W 13; 12/13-VII-1976, skull extracted, ZMA 18.377, Fa 50.6, E 23.0, Gsl 22.0, W 14.4.  
Zawan: 28-VI-1976, Mr. GYAMGZI, ZMA 18.378, Fa 51.1, E 22, W 12.4.

The Mkar specimens were taken in an old deserted shed, where a colony of about 25 specimens roosted under the roof.

8. *Rhinolophus landeri* Martin, 1838

NHMI — 1 ♂, Fa 41.0, E 14.3; 1 ♀, Fa 41.5, E 14.9.

Although unfortunately no data are available there is little doubt about the Nigerian origin of these specimens, which would be the first from this country.

HIPPOSIDERIDAE

9. *Hipposideros beatus* Andersen, 1906

NHMI — Nikrowa Forest Reserve: 1 ♂, skin and skull, 3-II-1948, F 189/48, collector probably D. R. ROSEVEAR, Fa 43.7, Gsl 16.7.

ZMA — Ife, 15-VIII-1976: 2 ♂♂, ZMA 18.380, skull extracted, with Fa 44.3, E 13.8, tail 25, Gsl 16.9 (to canines 16.3), W 7, and ZMA 18.381 with Fa 42.2, E 13.6, tail 25, W 6.5.

The two Ife specimens were taken from a culvert (height 60 cm, width 80 cm and length 9 m). They have been observed there during several days previous of their capture, and apparently no other specimens roosted there. The larger specimen, ZMA 18.380, has a dark brown fur, and the other a predominantly dark greyish fur.

HILL (1963), ROSEVEAR (1965) and HAYMAN and HILL (1971) indicate that *beatus* differs from *Hipposideros caffer* (Sundevall) mainly by its smaller size. LAWRENCE (1964), however, stresses the differences in the structure of the nose leaves. The two Ife specimens agree with her description of the nose leaves of *beatus* but for one detail: the outer accessory leaflet is shorter, anteriorly, than the inner one. The NHMI specimen has a dark reddish brown fur; its back fur hairs are whitish with a reddish brown tip of 1–2 mm; its ventral fur is almost uniformly brown with a reddish component, and slightly lighter than the dorsal fur.

10. *Hipposideros caffer* (Sundevall, 1846)

NHMI — 1 ♀, Fa 49, pregnant, Fa embryo about 11.8.

11. *Hipposideros commersoni* (Geoffroy, 1813)

NHMI — Shaguna: 1 ♂, XII-1965, CNHM-label, F 123, Fa 102.0.

ZMA — 6 km E of Darazo: 1 ♂, IX-1970, J. H. KOEMAN, ZMA 14.342, Fa 98.4, W 89.

Both specimens are interesting because of their extralimital vegetational background (see ROSEVEAR 1965). Shaguna is near Lake Kainji, in the Doka woodland, and Darazo lies even in the Sudan woodland (Fig. 3).

12. *Hipposideros cyclops* (Temminck, 1853)

NHMI — Mamu Forest Reserve: 1 ♂, skin and skull, 10-IX-1948, D. R. ROSEVEAR, F 355/48, Fa 58.0, Gsl 25.5.

VESPERTILONIDAE

13. *Eptesicus capensis* (Smith, 1829)

ZMA — Pandam: 1 ♂, skull extracted, 5-VII-1976, 7–8 p.m., ZMA 18.385, Fa 29.6, E 12.2, Gsl 12.8, W 3.5; 1 ♂, 7-VII-1976, 6.30–7.30 p.m., ZMA 18.387, Fa 28.5, E 11.0, W 3.5; 1 ♀, 11-VII-1976, 7–8.30 p.m., ZMA 18.388, Fa 30.8, E 12.3, W 5.2.

The specimens were caught in mistnets above a rather narrow zone of grass land in between a guinea savannah landscape with patches of riverine forest and Lake Pandam, separated from the latter only by an often interrupted, narrow fringe of trees along the edge of the lake.

With one exception, ZMA 18.387, which is just too small, the forearm lengths fit the range given by ROSEVEAR (1965). The skull of 18.385 does not possess the posterior "helmet" claimed to characterize typical *capensis* skulls. The back part of its sagittal crest and the median part of its occipital crest are only very slightly elevated. In this respect, however, it does not differ from the only other skull of this species in our collection, a specimen from Bloemfontein, South Africa, and identified by Dr. V. AELLEN (ZMA 1961). Moreover, the specimens agree in fur colours with this South African specimen and with another skin from the same locality (ZMA 1959). Of course, the material at my disposal does not at all allow definite conclusions. Moreover, entering into the complicated taxonomical problems of the dark-winged African serotines would be far beyond the scope of this paper.

14. *Eptesicus rendalli* (Thomas, 1889)

ZMUI: 1 ♂, Fa 32.4.

Despite its small size this light-winged *Eptesicus*, with its dirty white belly fur, agreed best with ROSEVEAR's account of *rendalli*. VIELLIARD (1974) described a series of this species from Tchad which shows smaller measurements than those cited in ROSEVEAR, and moreover a strong sexual dimorphism in size: the males are smaller than the females. The ZMUI specimen fits perfectly in the range of the males from Tchad.

15. *Eptesicus somalicus* (Thomas, 1901)

ZMA — Pandam: 1 ♀, skull extracted, 5-VII-1976, 8.30–10 p.m., ZMA 18.386, Fa 29.1, E 10.2, Gsl 10.8, W 2.1.

This specimen was mistnetted over a track through a riverine forest, just where it bordered a guinea savannah. If compared to the specimens of *Eptesicus capensis* from Pandam this specimen has a darker, somewhat longer and strikingly denser fur. Its back hairs reach a length of about 7 mm. Its belly fur is similarly dark, with only very faintly lighter hair tips which scarcely influence the dark impression, whereas in the three specimens assigned to *capensis* the ventral hairs have distinctly yellowish white tips which strongly affect the overall colour impression.

16. *Pipistrellus nanus* (Peters, 1852)

NHMI — Ibadan, University site: 1 specimen, skin and skull, 19-VI-1948, D. R. ROSEVEAR, F 274/48, Fa 27.1, Gsl 11.2.

ZMA — Agege: 1 ♀, 27/28-IX-1976, P. and A. DE BOER, F 170, ZMA 19.025, Fa 30.4.

17. *Pipistrellus rueppelli* (Fischer, 1829)

ZMUI — Malamfatori, 1968, J. FAGBOHUNMI and party: 4 ♂♂, Fa 32.3, 32.8, 33.4 and 34.0, respectively; 5 ♀♀, Fa 31.8, 32.6, 33.4, 33.9 and 34.0 respectively.

This species has only recently been added to the faunal list of Nigeria by VIELLIARD (1974), who secured a specimen at Baga-Kawa at Lake Tchad.

18. *Scotophilus gigas gigas* Dobson, 1875

NHMI — Lagos: 1 ♂, skin and skull, VI-1952, D. R. ROSEVEAR, F 951/52, Fa 84.6, Gsl 31.9; 1 ♂, skin and skull, VI-1952, D. R. ROSEVEAR, F 952/52, Fa 81.6, Gsl 31.1.

- Ebute Meta, Lagos: 1 specimen (? ♀), VIII-1953, D. R. ROSEVEAR, F 1016/53, Fa 87.6. Of this specimen only the skin was found, though there has been a skull (according to the label).

ZMA — Agege: 1 ♀, skull extracted, 27-VIII-1976, 7–9.30 p.m., ZMA 18.366, Fa 88.3, E 22.5, Gsl 30.6, W 83.5.

Apparently ROSEVEAR was not aware of the fact that he had collected three specimens of *Scotophilus gigas* in Lagos himself, or he would not have written, in 1965: “Neither of the West African specimens appears to be very well authenticated. The original type, said to have come from Lagos, was in fact purchased from a general zoological dealer . . .”. Not only were his captures the first to authenticate the occurrence of the species in West Africa, but they also lent support to the plausibility of Lagos as the actual type locality. The latter hypothesis is furthermore sustained by the specimen from Agege, which lies only 20 km north of Lagos. Another interesting fact about these four newly published specimens is, that they are all from the moist forest belt, and therewith contradict DE VREE’s suggestion that “new findings must be expected throughout the relatively dry woodlands and savannahs” (DE VREE 1973). ROSEVEAR’s labels with the Lagos specimens do not give particulars about the vegetation at the sites of capture. “The specimens would have come from the immediate environs of Lagos” (ROSEVEAR in lit. 20-X-1976). Of course, the forest may still have been relatively unaltered, but it is also possible that it was already affected by urban expansion. The Agege specimen was mistnetted over a fish pond, surrounded by secondary forest in a rather thinly populated region with some small villages only, and very close to assertedly untouched forest near the Ogun River and its tributaries. I observed one or two other specimens flying over the low trees at the edge of the forest near the pond. One specimen of *Scotophilus nigrita* (Schreber) was caught at exactly the same spot, one day later, and four others one month later.

In measurements the four specimens agree with those given by DE VREE (1973) for the typical race. The Agege female has a slightly larger forearm length than the largest hitherto known specimen, and is remarkable for several patches of unpigmented white or whitish skin: a large area of the right wing, a large part of the left side of the tail membrane, and smaller patches on the right ear, the left wing, and the left foot.

#### 19. *Scotophilus nigrita* (Schreber, 1774)

NHMI — Ibadan: 1 ♂, 8-VII-1948, D. R. ROSEVEAR, F 276/48, Fa 56.6, Gsl 20.0; 1 ♂, 9-V-1951, D. R. ROSEVEAR, F 883/51, Fa about 55, Gsl 19.4; 3 ♂♂, 4-IV-1966, CNHM label, F 132, 133 and 134, Fa 52.4, 50.9 and 50.9.

ZMUI — Ibadan: 1 ♂, 30-X-1962, Fa 55.5.  
4 ♂♂, Fa 55.4, 52.6, 50.1 and 43.8 (juvenile); 4 ♀♀, Fa 57.1, 55.6, and 54.8.

ZMA — Agege: 1 ♀, 28/29-VIII-1976, ZMA 18.371, Fa 57.8, E 19.0, W 25; 4 ♀♀, 27/28-IX-1976, P. and A. DE BOER, F 165, 167–169, ZMA 19.026–19.029, Fa 58.1, 55.5, 56.5 and 55.4.

— 6 km E of Darazo: 1 ♂, IX-1970, J. H. KOEMAN, ZMA 14.343, Fa 50.9, Gsl 18.6, W 31.3.

— Ibadan: 1 ♀, 6-VIII-1976, 7.20 p.m., ZMA 18.461, Fa 54.9, E 20.0, W 22.7; 9-VIII-1976, 7.15–7.30 p.m.: 1 ♂, ZMA 18.462, Fa 53.9,

E 18.8, W 23; 1 ♂, ZMA 18.464, Fa 56.7, E 17.7, W 29; 1 ♀, ZMA 18.463, Fa 57.3, E 18.4, W 28; 1 ♀, ZMA 18.465, Fa 54.9, E 18.7, W 25.5.

— Jos: 1 ♂, 25/26-VI-1976, ZMA 18.369, Fa 53.0, E 17.8, W 23.

— Pandam: 1 ♀, 5-VII-1976, 8.30–10 p.m., ZMA 18.30, Fa 56.3, E 15.7, W 22.7.

At Agege *Scotophilus nigrita* is sympatric with *S. gigas* Dobson. The Pandam specimen was taken over a track through a riverine forest, just where this passed into guinea savannah, together with the specimen of *Eptesicus somalicus* (Thomas) mentioned before. The ZMA specimens from Ibadan and Jos were caught in gardens in urban environments, and above deserted grass land. I sighted the species during my stay on the campus of the University of Ife, 12/23-VIII-1976, almost every evening after twilight, near the student's dining hall, replacing, at about 6.30 p.m., an unidentified species of swallow hunting there shortly before and during twilight. The 12 ♂♂ have forearm lengths of 50.1 to 56.7 (m = 53.2), the 13 ♀♀ have forearm lengths of 54.8 to 58.1 (m = 56.1). It seems useful to pay attention to this apparent sexual dimorphism in future studies on the taxonomy of this and the next species. All ZMA specimens have the ventral fur light yellow, with sometimes a weak brown hue and/or dark-yellow to orangy streaks on the abdomen (field notes).

20. *Scotophilus leucogaster* (Cretzschmar, 1826)

ZMA — Arusua: 1 ♂, skull extracted, 8-VII-1976, 6.30–7.30 p.m., ZMA 18.375, Fa 45.1, E 15.0, Gsl 17.1, testis 7.2 × 4.1, W 16.5.

— Pandam: 1 ♀, 5-VII-1976, 7–8 p.m., ZMA 18.372, Fa 45.9, E 13.7, W 15.5; 1 ♀, skull extracted, 6/7-VII-1976, after 10.30 p.m., ZMA 18.373, Fa 46.7, E 14.0, Gsl 17.5, W 14.6; 1 ♀, skull extracted, 7-VII-1976, ZMA 18.374, Fa 47.8, E 14.5, Gsl 18.3, W 18.5.

The Arusua specimen was taken above grass land between a riverine forest and a guinea savannah. Two Pandam specimens were caught on the same spot as the specimens of *Eptesicus capensis* (Smith) mentioned before. The other, ZMA 18.374, was caught under mango trees near the village.

21. *Scotoecus hirundo* (de Winton, 1899)

ZMA — Chuel: 1 ♂, skull extracted, 25-VI-1976, ZMA 18.382, Fa 33.9, E 12, Gsl 13.9, W 12.

— Jos: 1 ♂, 25-VI-1976, 8–11 p.m., ZMA 18.383, Fa 35.2, E 12.4, W 12.5.

The Chuel specimen was taken by day from the roof of a house, the Jos specimen was caught along the small stream in front of the local zoo. Both specimens are clearly adult, and obscure the differences in size which according to ROSEVEAR (1965) would exist between this species and *Scotoecus falabae* Thomas, 1915, thus supporting ROSEVEAR's view that *falabae* might be only subspecifically related, a view adopted by HAYMAN and HILL (1971).

The form of the tragus in the Chuel specimen agrees well with that figured by ROSEVEAR for the type of *hirundo*, while in the Jos specimen the tragus is intermediate between this and the tragus of *falabae* (ROSEVEAR 1965, figs 80b-c). See for the baculum of ZMA 18.382 Fig. 1.

The belly fur is essentially pale brown in both specimens, but in the Jos specimen there is a broad, longitudinal, median zone of silverish-white tipped hairs, which phenomenon is only very weakly present in the Chuel specimen. I am strongly

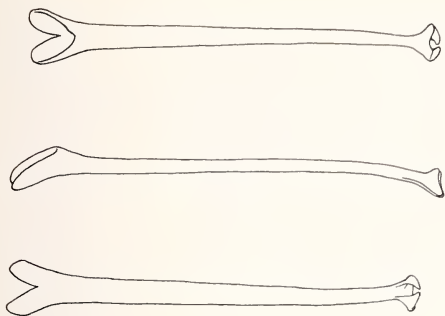


Fig. 1. Baculum of *Scotoecus hirundo* (de Winton) from Chuel (ZMA 18.382). Length 12.5 mm

inclined, on the basis of the evidence presented by these examples, to consider *falabae* as a synonym of *hirundo*, and not as an established taxon.

The owner of the house from which the Chuel specimen came, assured me that these bats were very abundant in local houses. In fact I was told that the bats were considered a pest, and therefore frequently chased and killed. Of course, whether this indeed applies to *Scotoecus*, and not, for instance, to the common roof dweller *Tadarida pumila* (Cretzschmar) or *Rhinolophus fumigatus* Rüppell, a species found in a roof in the nearby Zawan, is not certain.

22. *Myotis bocagei cupreolus* Thomas, 1904

ZMA — Pandam: 1 ♂, 1-VII-1976, 7–8.30 p.m., ZMA 18.384, Fa 38.0, E 15.8, W 7.5.

The specimen was mistnetted over the so-called Manatee Stream which connects Lake Pandam with the River Dep, surrounded by zones of riverine forest. It is, to my knowledge, the first record of this species for Nigeria.

MOLOSSIDAE

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

NHMI — Okene, Ajakuta Forest Reserve: 2 ♀♀, skins and skulls, 13-II-1949, D. R. ROSEVEAR, F 431/49, Fa 46.2 and F 432/49, Fa 47.5; 2 ♂♂, skins and skull, 14-II-1949, D. R. ROSEVEAR, F 434/49, Fa 48.4, Gsl 21.5, F 435/49, Fa 47.3; 2 ♂♂, skins and skulls, 15-II-1949, D. R. ROSEVEAR, F 436/49, Fa 47.5, F 437/49, Fa 48.5, Gsl 20.0.

— Lokoja: 1 ♀, skin and skull, 28-VIII-1950, D. R. ROSEVEAR, F 861/50, Fa 46.7; 1 ♂, skin, 31-VIII-1950, D. R. ROSEVEAR, F 862/50, Fa 47.1; 1 ♂, skin and skull, 9-IX-1950, D. R. ROSEVEAR, F 864/50, Fa 46.1, Gsl 20.8.

— Shaguna: 2 ♂♂, IV-1966, F 37, Fa 45.9 and 48.6; 9 ♀♀, IV-1966, F 37, Fa 46.5, 47.0, 47.2, 47.2, 47.5, 47.6, 47.7, 48.4 and 49.8.

The specimens from Shaguna had been named earlier as *Tadarida (Chaerephon) major* (Trouessart, 1897). The forearm lengths in the 12 females range from 46.2 to 49.8 ( $m=47.4$ ), and those in the 8 males from 45.9 to 48.6 ( $m=47.4$ ).

24. *Tadarida (Mops) congica congica* (Allen, 1917)

ZMA — Agege: 1 ♀, skull extracted, 28-VIII-1976, 8 p.m., ZMA 18.389, Fa. 53.7, E 18.5, Gsl 23.2, W 33; 1 ♀, 27-IX-1976, 7.30 p.m., P. and A. DE BOER, F 166, ZMA 19.024, Fa 54.1.

The specimens were taken at the same site as *Scotophilus gigas* Dobson, as described in the present account of this species. They closely agree with Allen's original description, both of fur colours and of skull and dentition. The only difference lies

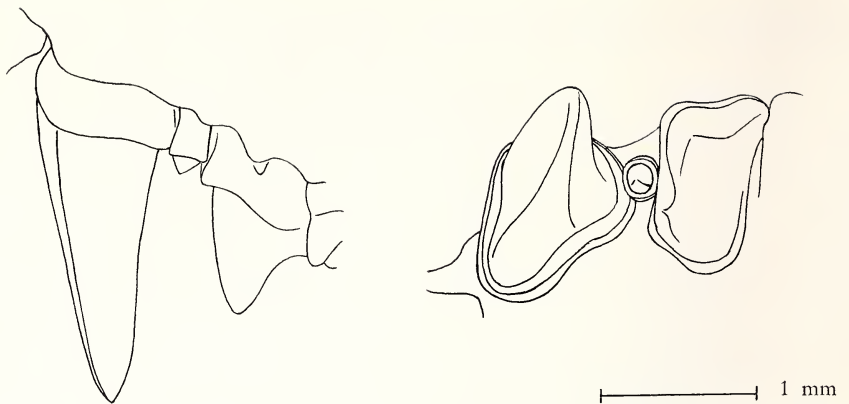


Fig. 2. Left C<sup>1</sup>, P<sup>1</sup> and P<sup>4</sup> of *Tadarida (Mops) congica congica* (Allen) from Agege (ZMA 18.389): ventral outer view (left) and a view from below (right), to show the position of P<sup>1</sup>.

in the size. The Agege specimens are fairly small, rather in the range of *Tadarida (Mops) congica trevori* (Allen, 1917) from Uganda (see Hayman and Hill 1971), than of the typical form. From the two other large molossids occurring in Nigeria it is easily distinguished. From *Tadarida (Mops) condylura* (Smith) it differs by its longer forearm, and by the fact that its P<sup>1</sup> is in the teeth row, instead of external, and that C<sup>1</sup> and P<sup>4</sup> are not in contact (Fig. 2). From *Tadarida (Mops) midas* (Sundevall, 1843) it differs in being smaller, in the length and colours of its fur, and very likely in its habitat preference. Rosevear (1965) gives a forearm length range of 60 to 66 for the latter species, but the Nigerian female recorded below has a forearm of 57.7, be it after years of dry preparation.

The Agege specimens of *congica* are the second record for West Africa, and the first for Nigeria. JEFFREY (1975) mentions the species for West Ghana.

A new flea of the genus *Lagaropsylla* Jordan and Rothschild, collected from ZMA 18.389, has been described by SMIT (1977).

25. *Tadarida (Mops) midas* (Sundevall, 1843)

NHMI — Maiduguri: 1 ♀, skin and skull, 9-VII-1948, D. R. ROSEVEAR, F 321/48, Fa 39.7 (juvenile); 1 ♀, skin and skull, 11-VII-1948, D. R. ROSEVEAR, F 324/48, Fa 57.7.

These specimens were taken above "savannah, new farmland".

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

NHMI — Nikrowa Forest Reserve: 1 ♂, skin and skull, 21-II-1948, D. R. ROSEVEAR, F 205/48, Fa 37.9, Gsl 19.7.

27. *Tadarida (Chaerephon) ? gambiana* (de Winton, 1901)

NHMI — Lokoja: 1 ♀, skin and skull, 3-IX-1950, D. R. ROSEVEAR, F 863/50, Fa 35.4, Gsl 15.9.

ZMUI — Malamfatori: 1 ♀, skull extracted, 1968, J. FAGBOHUNMI and party, Fa 35.3, Gsl 15.1.

These specimens answer the concept of *gambiana* in the key given by ROSEVEAR (1965) who, in his account of this species, stresses its close relationship to *Tadarida*



(*Chaerephon*) *pumila* (Cretzschmar, 1830/31). HAYMAN and HILL (1971) list *gambiana* as a synonym of *pumila*. I am not in a position to comment on this question.

28. *Tadarida (Chaerephon) nigeriae* (Thomas, 1913)

NHMI — Awka, Agulu Forest Reserve: 1 ♀, skin, 28-XI-1948, D. R. ROSEVEAR, F 388/48, Fa 47.9.

— Umuahia: 1 ♀, skin and skull, 23-IV-1946, A. B. COZENS, F B96, Fa 48.9, Gsl 19.3; 1 ♂ skin and skull, 6-IV-1952, A. B. COZENS, F B250, Fa 47.1; 1 ♂, skin and skull, 17-XI-1952, A. B. COZENS, F B283, Fa 46.9.

Specimen B250 was taken in a pump house. The label of B283 gives as altitude of Umuahia 500 feet.

29. *Tadarida (Chaerephon) pumila* (Cretzschmar, 1830/31)

ZMA — Pandam, 5-VII-1976, 7.30 p.m.: 1 ♀, ZMA 18.392, Fa 37.6, E 13.9, W 12.8; 1 ♂, ZMA 18.393, Fa 37.4, E 13.3, W 9.3.

— Zawan: 1 ♂, 25-VI-1976, ZMA 18.390, Fa 36.0, E 13.5, W 10; 1 ♂, 28-VI-1976, Mr. Gyamgzi, ZMA 18.391, Fa 36.2, E 14.5, W 8.

The Pandam specimens were taken when they left a roof for their evening hunt. The Zawan specimen ZMA 18.390 was caught by day from the roof of a school building.

Table

Geographical co-ordinates of the localities mentioned in the present paper

The locality numbers refer to the map (Fig. 3)

Locality	Co-ordinates		Remarks
1. Agege	6°38' N	3°19' E	
2. Akpaka Forest Reserve			In Onitscha Province; not traced
3. Awka	6°13' N	7°05' E	
4. Arusua			In Pandam Wildlife Park <sup>1</sup>
5. Baga Kawa	13°04' N	13°48' E	
6. Chuel			Some km south of Jos
7. Darazo	11°00' N	10°25' E	
8. Ibadan	7°23' N	3°56' E	
9. Ife	7°28' N	4°34' E	
10. Jos	9°55' N	8°54' E	
11. Lagos	6°27' N	3°28' E	
12. Lake Pandam			Just north of Pandam
13. Lokoja	7°48' N	6°44' E	
14. Maiduguri	10°48' N	11°20' E	
15. Malamfatori	13°28' N	13°18' E	
16. Mamu	7°05' N	3°55' E	
17. Mkar	7°20' N	9°03' E	
18. Nikrowa	6°14' N	5°21' E	
19. Okene	7°33' N	6°14' E	
20. Pandam	9°15' N	7°50' E	
21. Shaguna			Near Lake Kainji; possibly Shagunu
22. Shagunu	10°20' N	4°28' E	
23. Umuahia	5°32' N	7°29' E	
24. Zawan	9°45' N	8°52' E	

<sup>1</sup> Pandam Wildlife Park is a small game reserve, including the 2 square mile Lake Pandam, and situated just north of Pandam.

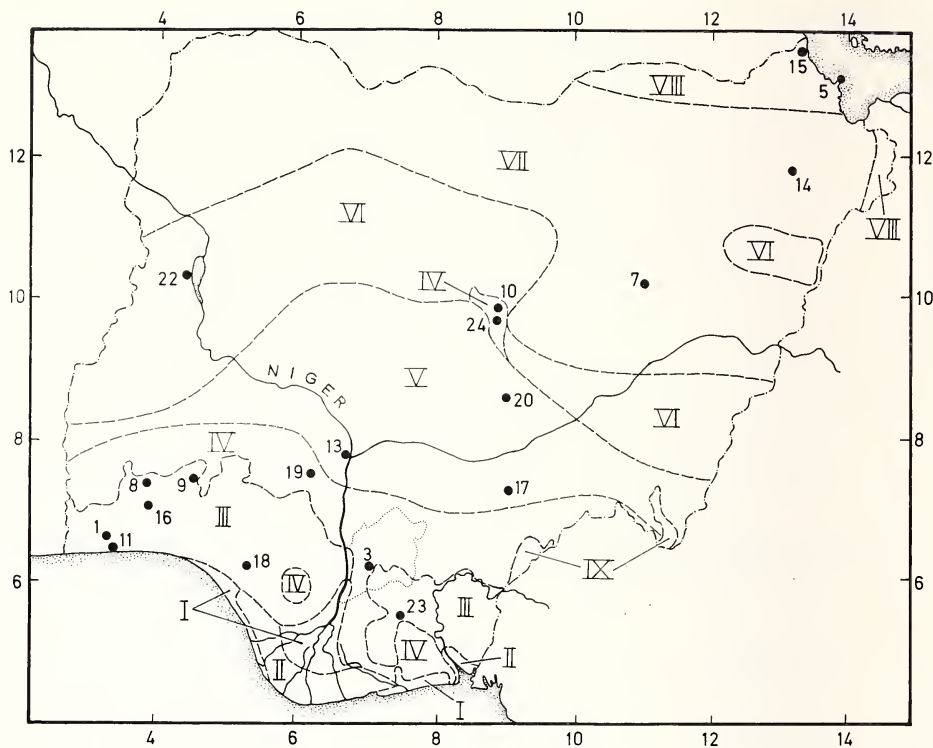


Fig. 3. Nigeria. Collecting localities, numbered according to the Table. Vegetation zones after KEAY (1959), modified after map sheets 17 and 18 (dated 1962–63), series 2201, edition 6-DMATC of the Defense Mapping Agency, Washington, and after ROSEVEAR (1965). I = Marsh; II = Mangrove; III = High forest; IV = Invasive Guinea woodland; V = Guinea woodland; VI = Doka woodland; VII = Sudan woodland; VIII = Sahel woodland; IX = Montane. Dotted Line: border of the former Province of Onitscha.

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#### Summary

The Nigerian Microchiroptera in the natural history collections of the universities of Ibadan, Ife and Amsterdam are listed. Important data and some measurements of each specimen are given. Some species are discussed in detail. *Myotis bocagei cupreolus* Thomas, 1904, and *Tadarida (Mops) congica congica* (Allen, 1917) are first records for Nigeria. The occurrence

of *Rhinolophus landeri* Martin, 1838, in Nigeria is suggested. Some *Eptesicus* specimens are assigned to the species *capensis* (Smith, 1829) and *somalicus* (Thomas, 1901). Four hitherto unknown specimens of *Scotophilus gigas gigas* Dobson, 1875, are recorded, and the type locality of this species is discussed.

### Résumé

#### Liste annotée des microchiroptères de la Nigérie dans trois petites collections (Mammalia, Chiroptera)

Une liste a été dressée des Microchiroptères de la Nigérie, qui font partie des collections d'histoire naturelle des universités d'Ibadan, d'Ife et d'Amsterdam. Des données générales sont mentionnées pour tous les spécimens dont quelques-uns sont traités plus amplement. *Myotis bocagei cupreolus* Thomas, 1904, et *Tadarida (Mops) congica congica* (Allen, 1917), représentent des espèces nouvelles pour la Nigérie. On a conjecturé la présence possible en Nigérie de *Rhinolophus landeri* Martin, 1838. Il a été fait mention de quatre spécimens de *Scotophilus gigas gigas* Dobson, 1875, qui étaient inconnus jusqu'à présent; tous les quatre sont originaires de localités situées soit tout près de Lagos, soit au Lagos même, la localité-type alléguée.

### Zusammenfassung

#### Eine Bestandsaufnahme von nigerianischen Microchiropteren (Mammalia, Chiroptera) aus drei kleinen Sammlungen nebst Bemerkungen

Die nigerianischen Microchiropteren in den Museumssammlungen der Universitäten von Ibadan, Ife und Amsterdam werden aufgelistet. Daten und einige Maße werden für verschiedene Arten angegeben. Für Nigeria sind *Myotis bocagei cupreolus* Thomas, 1904 und *Tadarida (Mops) congica congica* Allen, 1917 erstmals nachgewiesen. Ferner kann das Vorkommen von *Rhinolophus landeri* Martin, 1838, für Nigeria angenommen werden. Einige *Eptesicus*-Exemplare werden den Arten *capensis* (Smith, 1829) und *somalicus* (Thomas, 1901) zugeordnet. Weiterhin sind vier bislang unbekannte Exemplare von *Scotophilus gigas gigas* Dobson, 1875 belegt und diskutiert.

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