SOME NEW DATA ON ANGOLAN MURIDAE

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INTRODUCTION

In this paper new collecting localities and short notes on distribution and systematics are given. The name of each locality is followed by its geographical reference according to the quarter-degree code system devised by Davis (1949). The distribution pattern of each species is outlined and discussed in relation to topographical and other factors and an attempt made to allocate Angolan forms to their appropriate subspecies.

The collections on which these notes are based were made by the Instituto de Investigação Científica (from the majority of the localities recorded) and by the Instituto de Investigação Médica (from Lussinja, Baía Farta, Benguela, Passe and Caimbambo).

In discussing distribution patterns, these new records are considered together with what has already been published on their distribution in Angola [localities in Hill and Carter (1941) and the maps in Davis (1962)]. Hall (1960), in her biogeographical study of the birds of Angola, emphasizes the importance of the Escarpment Zone, running from north to south in western Angola, which divides the coastal desert and semi-desert from the *Brachystegia* woodland of the interior plateau (Map 1). This zone also emerges as an important factor in the distribution of the Muridae (See Conclusions).

NOTES ON THE SPECIES COLLECTED

Cricetomys gambianus Waterhouse Map 2

New localities: Quimbango (10–17 Cc), Cacanda farm (14–13 Cc) and Sá da Bandeira (14–13 Cd).

More typical of the northern districts, but extending southwards down the Escarpment Zone to Huila. It is very common at Sá da Bandeira and is frequently seen in the town after a heavy rain. The record from Baía dos Tigres (16° 40′ S to 11° 50′ E) appears to be erroneous and is not accepted. The Angolan subspecies is *ansorgei* Thomas. North of the lower Congo river, in Cabinda, it is probably replaced by *dissimilis* Rochebrune.

Saccostomomus campestris Peters Map 3

New locality: Caimbambo (12–13 Dd).

Recorded by da Silva (1939) from the Lower Cunene (17–14 A), *S. c. anderssoni* de Winton is distributed in southern Huila, extending northwards along the Escarpment Zone. The species is also present in the eastern Lunda district and the Upper Zambezi but is apparently absent from the main part of the interior plateau. It is also absent from the Moçâmedes and the north-western districts.

Thamnomys dolichurus (Smuts) No Map

New locality: Capari marsh (11–17 Bc).

Distributed in north-eastern Angola, in gallery forests. The Angolan subspecies is regarded as distinct (*angolensis* Hill and Carter).

Aethomys namaquensis (A. Smith) Map 4

New localities: Cacanda farm (14–13 Cc), Pedra Grande (15–12 Ba), between Pupa and Dois Irmãos (15–12 Bb), Capolopopo (15–12 Dd), Morro do Camelo plains (16–12 Ad).

The species extends from the Cunene river northwards along the Acacia and the Mopani belts (in the Moçâmedes and Benguela districts) and occurs also in the Escarpment Zone (it is absent from Passe and Lussinja, on the Escarpment, but present in Pungo Andongo, the type locality of ssp. *avunculus* Thomas). The animals from Cacanda are darker than those from other localities in Moçâmedes, and it is possible that they grade to *phippsi* Hill and Carter from Humpata, which may however be merely an ecotype.

The distribution of the *Aethomys* forms *vernayi*, *bocagei*, *chrysophilus* and *thomasi* are shown on map 5.

Aethomys vernayi might be conspecific with *walambae* Wroughton from Zambia; *walambae* could, however, be a subspecies of *A. nyikae* Thomas (Ellerman *et al*, 1953). The possibility thus exists that *vernayi* should be regarded as a ssp. of *Aethomys nyikae*.

Aethomys bocagei is a separate species, quite distinct from *vernayi*.

Aethomys thomasi (De Winton) is perhaps related to *A. chrysophilus* (both forms have M1 with 4 roots and is distinctly different from both *vernayi* and *bocagei*).

Aethomys (*nyikae ?*) *vernayi* Hill and Carter. Map 5

New localities: Quimbango (10–17 Cc) and Mulundo (11–17 Bc).

Sparsely distributed in the north-eastern and central regions and replaced in the Escarpment Zone by *A. bocagei*.

Aethomys bocagei (Thomas) Map 5

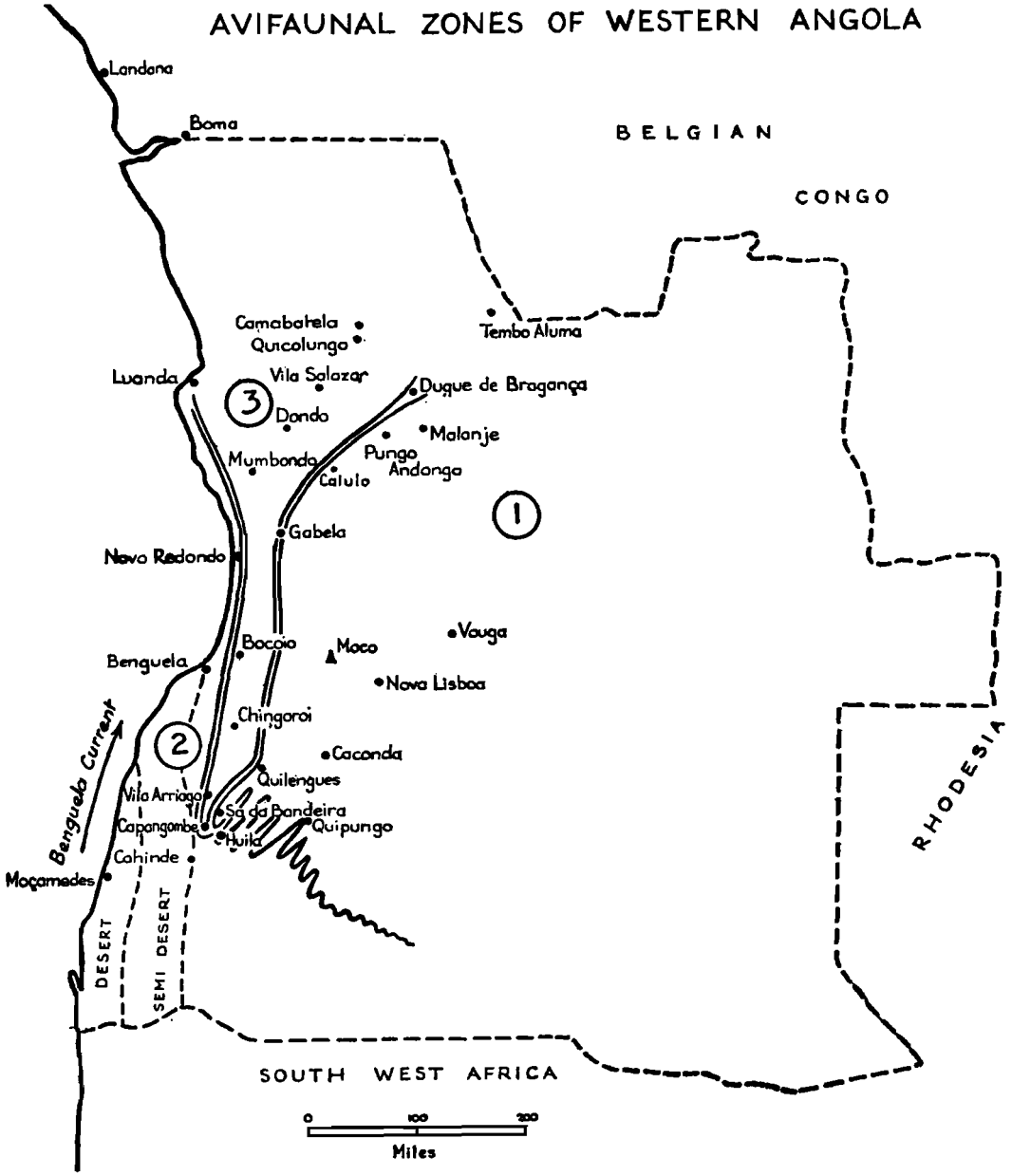
New localities: Lussinja (12–13 Bd) and Passe (12–13 Db).

This species, also known from the Lower Congo, seems to be confined to a band extending southwards along the Escarpment Zone. It is recorded by Monard (1935) from Dala (10° 58′ S to 20° 15′ E) but this is probably an error (in the Dala specimens the number of caudal rings is 14 or 15, instead of 9 or 10 as in the descriptions and in our material).

Praomys natalensis (A. Smith) Map 6

New localities: Bengo valley (08–13 Cd), Catete road, Luanda (08–13 Ce), Quimbango (10–17 Cc), Mulundo (11–17 Bc), Lussinja (12–13 Bd), Passe (12–13 Db), Caimbambo (13–13 Bb), Chingoroi (13–13 Db), Cacanda farm (14–13 Cc), Sá da Bandeira (14–13 Cd), Techivinguiro (15–13 Ab), 30 km from Chibia (15–13 Bc) and Caiundo (15–17 Cb).

Distributed throughout Angola, except in desert and semi-desert. It is possible that in Angola more than one species is included under this name. Bocage (1890) distinguished two "varieties" which he named var. *fusca* and var. *rufa*. This distinction is suspect because the



1. Brachystegia Zone. 2. Acacia Zone. 3. Escarpment Zone.

Map 1. Reproduced from Hall (1960 page 422)

colour of these animals varies with age. Nevertheless, in the specimens collected from the Sá da Bandeira area we have at least two groups: in the dominant group the very young animals are grey, becoming fuscous or fawny with age, while four specimens, representing the second group, are distinctly fawn-coloured and smaller than animals of the same age of the first group, as is shown by an examination of tooth-wear. (A similar feature was noted by Roberts, 1951 page 474 in material from Mariepskop). In populations from Quimbango, Mulundo and Techivinguiro the young animals are also grey, while in populations from the Cacanda (Escarpment Zone) and Bengo Valley the young are fawny. In addition to these differences there is a great deal of individual and regional variation.

Praomys angolensis (Bocage) Map 7

New localities: Quimbango (10–17 Cc), Mulundo (11–17 Bc), Lussinja (12–13 Bd), Passe (12–13 Db) and Sá da Bandeira (14–13 Cd).

An endemic species of the Escarpment Zone and the western central part of the interior plateau. Though more restricted, its distribution pattern is somewhat similar to that of *Cricetomys gambianus ansorgei* and *Dasymys incomtus nudipes*. We may suppose that there was once a continuous distribution linking *P. angolensis* with the related, but distinct, species *P. daltoni* from West Africa and *P. fumatus* from Kenya.

Mus minutoides A. Smith No Map

New localities: Quimbango (10–17 Cc), Mulundo (11–17 Bc), Lussinja (12–13 Bd), Sá da Bandeira (14–13 Cd) and Techivinguiro (15–13 Ab).

Perhaps distributed throughout Angola except in the coastal belt. Three subspecies seem to occur in Angola: the brightly-coloured *sybilla* Thomas in the Escarpment Zone and Huila highlands (interior of Benguela, Sá da Bandeira); the paler *induta* Thomas in the Acacia Zone (Capelongo, Okavango) and a darker form, perhaps *kasaica* Cabrera, in the central Brachystegia Zone (Mulundo, Quimbango).

Mus triton Thomas No Map

New locality: Mulundo (11–17 Bc).

Only known from central Angola.

Lophuromys sikapusi (Temminck) No Map

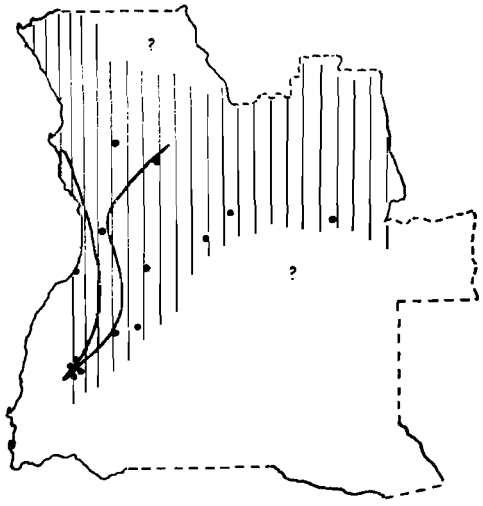
New locality: Lussinja (12–13 Bd).

A northern species which extends down the Escarpment Zone as far, at least, as the latitude of Benguela.

Dasymys incomtus (Sundevall) Map 8

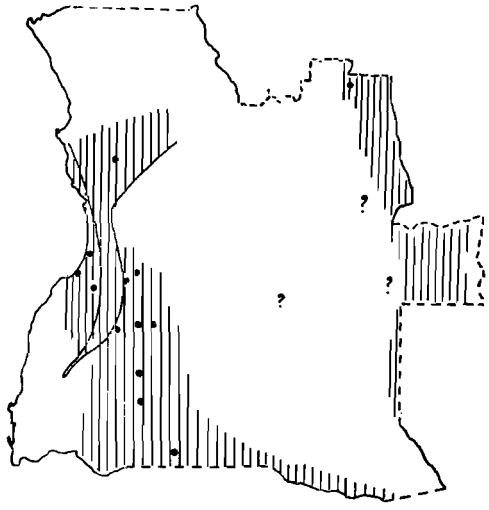
New localities: Quimbango (10–17 Cc) and Passe (12–13 Db).

Present in the Okavango region, the species occurs mainly in the north-east, extending southwards down the Escarpment Zone to Sá da Bandeira. The animals from western and central Angola (subspecies *nudipes* Peters) are distinct from those from the Okavango (collected



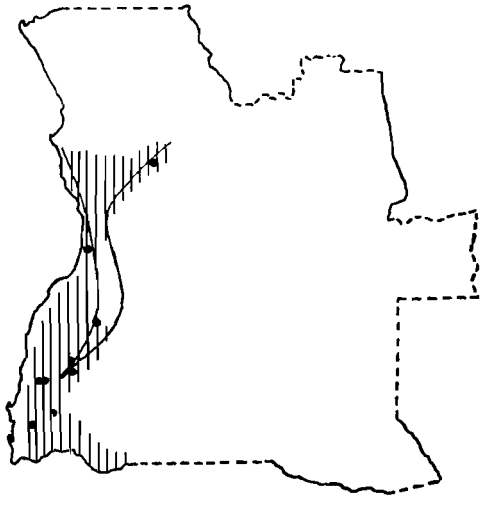
MAP 2

• Cricetomys gambianus
||| possible distribution



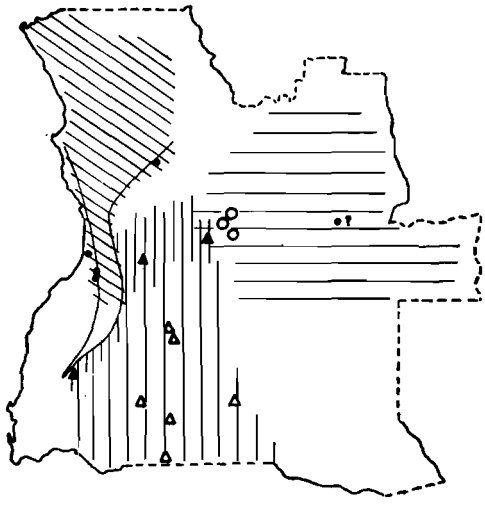
MAP 3

• Saccostomus campestris
||| possible distribution



MAP 4

• Aethomys namaquensis
||| possible distribution



MAP 5

Aethomys bocagei (possible distribution)
Aethomys(nyikae) vernayi ( )
Aethomys chrysophilus ( )
Aethomys(chrysophilus) thomasi ( )

recently by the Instituto of Investigação Médica). These might be regarded as belonging to the nominate race.

Pelomys fallax (Peters) Map 9

New locality: Quimbango (10–17 Cc).

P. f. frater Thomas occurs in the Brachystegia Zone, being replaced in the Escarpment Zone by the next species, *P. campanae*, to which belong the animals referred to by Bocage (1889) as *P. fallax*. The record from Baía dos Tigres seems to be erroneous and the animal is most probably, not a *Pelomys*.

Pelomys campanae (Huet) Map 9

New localities: Lussinja (12–13 Bd) and Cacanda farm (14–13 Cc).

This species extends from Cabinda southwards along the Escarpment Zone and is dependent on forest fringes; it is absent from the arid coastal belt unless a seemingly erroneous record from Baía dos Tigres proves to be correct.

Lemniscomys griselda (Thomas) No Map

New localities: Quimbango (10–17 Cc) and Mulundo (11–17 Bc).

Occurs on the central interior plateau and the Escarpment Zone, perhaps south of the distribution area of *L. striatus*.

Rhabdomys pumilio (Sparrmann) Map 10

New locality: Sá da Bandeira (14–13 Cd).

The form *R. p. angolae* (Wroughton) is distributed throughout central Angola, from the northern parts of Huila district to as far north as Chitau (11–17 Ad). It is very common around Sá da Bandeira. Subspecies *fouriei* Roberts, described from Ovamboland, is probably restricted to the Cunene region, while *bechuanae* Thomas is a distinct form to be found in the semi-desertic belt around Moçâmedes.

Steatomys bocagei Thomas Map 11

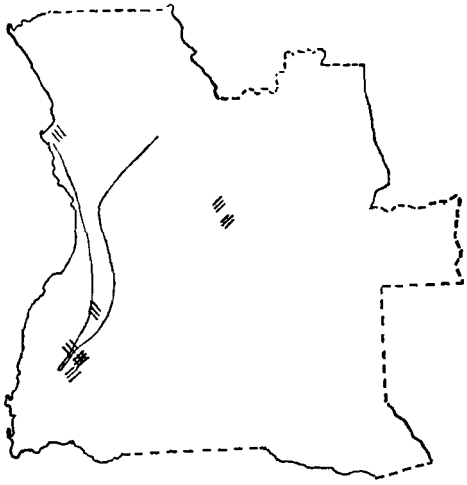
New localities: Quimbango (10–17 Cc) and Mulundo (11–17 Bc).

An endemic species from central western Angola, perhaps restricted to the Brachystegia Zone.

Dendromus melanotis A. Smith No Map

New locality: Techivinguiro (15–13 Ab).

The two specimens collected as Techivinguiro are being regarded as belonging to the species *melanotis*, and not to the more eastern species *nyikae* Wroughton. These two specimens, though they are young, agree with ssp. *concinnus* Thomas in size (greatest skull length 18·5 and 19·1mm), but, in appearance they seem to be representative of *angolensis* Roberts. *Angolensis*, however, is a valid subspecies, as is proved by its larger size and distribution in central Angola.

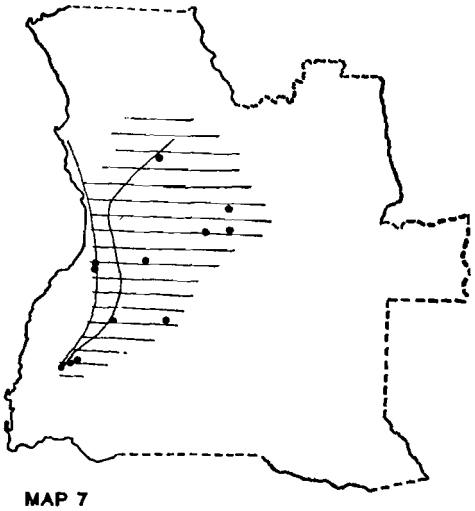


MAP 6

Praomys natalensis

Populations with grey-coloured young

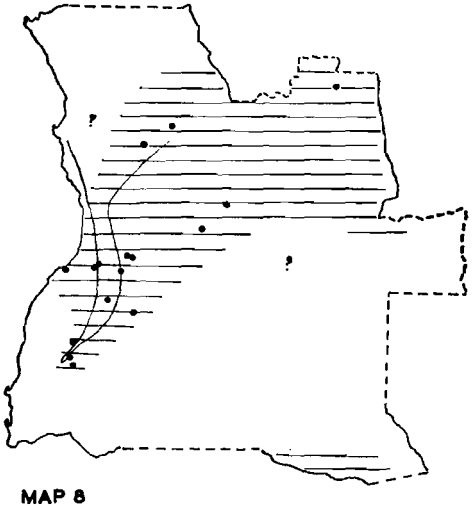
Populations with fawn-coloured young



MAP 7

• *Praomys angolensis*

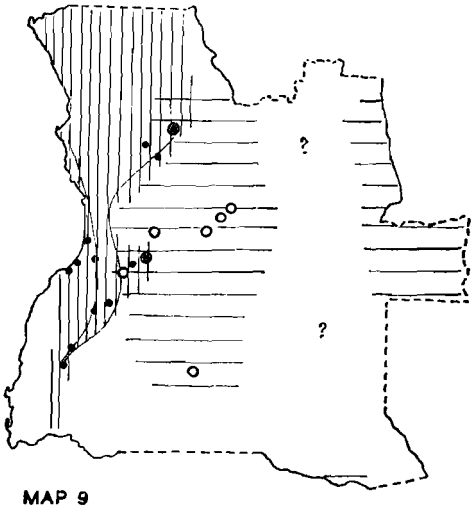
possible distribution



MAP 8

• *Dasymys incomtus*

possible distribution



MAP 9

• *Pelomys campanae* (possible distribution)

O *Pelomys fallax frater* ( )

Dendromus mystacalis Heuglin No Map

New localities: Quimbango (10–17 Cc) and Techivinguiro (15–13 Ab).

Though there is a slight difference in colouration (the specimen from Techivinguiro is paler) both specimens agree, by description, with *ansorgei* Thomas and Wroughton (not with *leucostomus* Monard which is possibly a distinct species). The form *ansorgei* represents the species *D. mystacalis* in Angola and seems to be sparsely distributed in the north-east and to extend southwards to Huila, presumably down the Escarpment Zone.

Petromyscus collinus (Thomas and Hinton) No Map

New locality: Pedra Grande (15–12 Bd).

In Angola the species extends from the Cunene northwards to the Benguela district along the Inselberge belt between the Namib and the mopani (*Colophospermum mopane*) area. Two of the three specimens collected resemble *kaokoensis* Roberts and the third is nearest *rufus* Lundholm. In all three the length of the palatal foramina is as in the nominate form *collinus*. It is thus preferable to refer these animals to *collinus*, and to regard *kaokoensis* and *rufus* as synonyms. The subspecies *shortridgei* Thomas, in Angola, is perhaps restricted to its type locality (Cunene Falls).

Otomys anchietae (Bocage) Map 12

New locality: Quimbango (10–17 Cc).

Distributed throughout the Brachystegia Zone, being replaced in the west by *O. angoniensis*.

Otomys angoniensis Wroughton Map 12

New localities: Sá da Bandeira (14–13 Cd) and Techivinguiro (15–13 Ab).

Mr. C. G. Coetzee, of the Transvaal Museum, kindly examined two specimens from Sá da Bandeira and identified them as *O. a. maximus* Roberts. This subspecies seems to extend from the Okavango and Cunene rivers northwards as far as the watershed. In the Cuanza basin *maximus* is replaced by *cuanzensis* Hill and Carter which is most probably subspecific to *angonienses*.

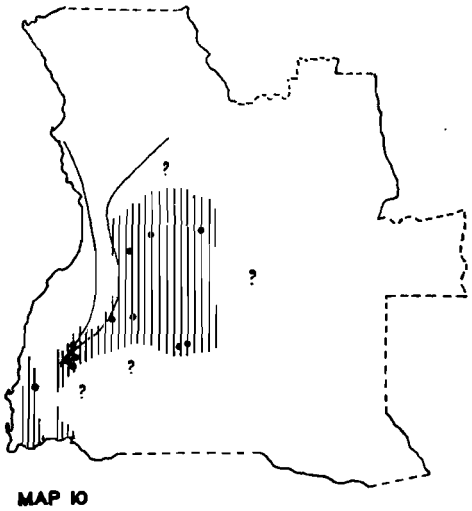
Desmodillus auricularis (A. Smith) No Map

New localities: Beio river (14–12 Dc) and Pedra Grande (15–12 Ba).

This species is recorded by da Silva (1939) from the Lower Cunene (17–14 A) and, according to him, it was extending its range northwards in southern Angola. The localities now reported show that *Desmodillus* has long been present in Moçâmedes district, which is part of the South West Arid zone to which it is primarily attached. In South Africa it extends marginally into the Savanna zone (Davis 1962) and it is possible that this extension is recent and related to desert encroachment into the Savanna zone.

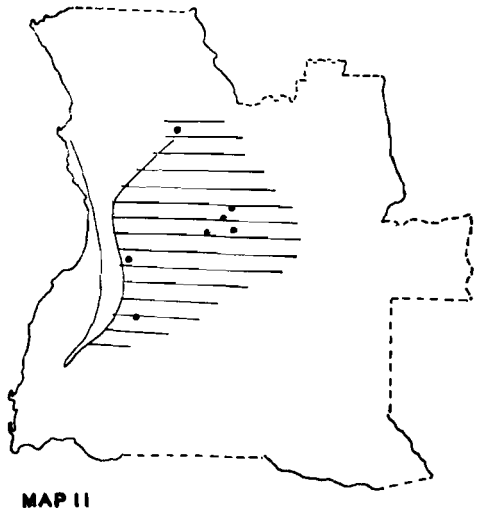
Gerbillus vallinus Thomas No Map

New locality: Porto Alexandre road, 63 km from Moçâmedes (15–12 Ca).



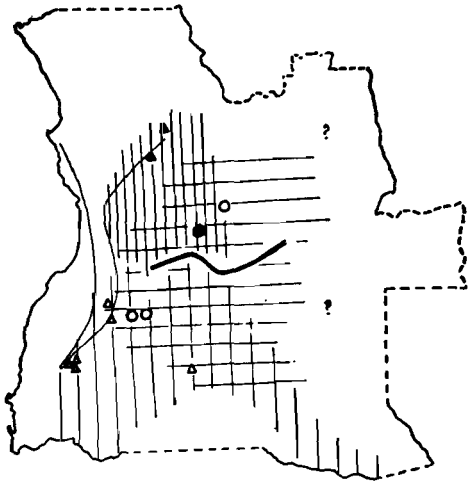
MAP 10

Rhabdomys pumilio
possible distribution



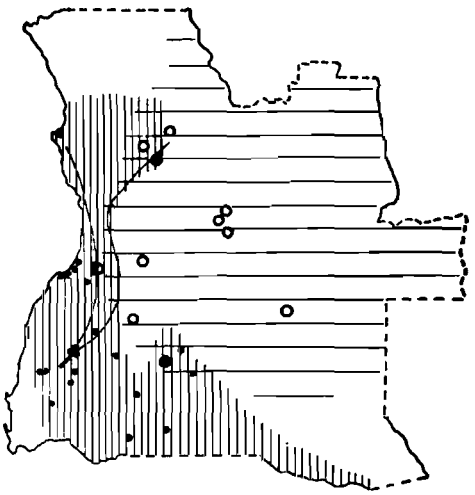
MAP 11

Steatomys bocagei
possible distribution



MAP 12

Cuanza : Cunene-Okavango watershed
Otomys anchietae (possible distribution)
Otomys angoniensis maximus ( )
Otomys (angoniensis?) cuanzensis ( )



MAP 13

Tatera valida (possible distribution)
Tatera leucogaster angolae ( )

This is a first record of the species from Angola. It extends the range of the species considerably northwards to beyond the Curoca river where the dunes give way to consolidated desert sand.

Tatera valida (Bocage) Map 13

New localities: Quimbango (10–17 Cc) and Mulundo (11–17 Bc).

Distributed throughout the Brachystegia zone, being replaced in the other zones by *T. leucogaster*.

Tatera leucogaster (Peters) Map 13

New localities: Luanda (08–13 C), Lussinja (12–13 Bd), Baía Farta (12–13 Ca), Benguela (12–13 Cb), Passe (12–13 Db), Caimbambo (12–13 Dd), Cacanda farm (14—13 Cc), Sá da Bandeira (14–13 Cd), Pedra Grande (15–12 Ba), between Pupa and Dois Irmãos (15–12 Bb), Capolopopo (15–12 Dd) and Chacuto (15–13 Ad).

The species occurs throughout southern Angola (except in the desert), extending northwards along the coastal belt and the adjacent Escarpment belt. The most widely distributed subspecies is *angolae* Wroughton in which it is possible to discern two ecotypes, a lighter coloured form in the more arid regions and a darker form in the higher rainfall regions; in the south (Cunene and Okavango rivers) *angolae* is replaced by *schinzi* Noack.

CONCLUSIONS

An analysis of the distribution pattern of Angolan Muridae leads to the following conclusions:

1. The Escarpment Zone is a barrier for some species which are restricted to the Brachystegia Zone: *Pelomys fallax*, which is replaced in the Escarpment Zone by *P. campanae; Otomys anchietae*, which is replaced by *O. angoniensis; Aethomys* (*nyikae* ?) *vernayi*, which is replaced by *A. bocagei*, and *Tatera valida*, which is replaced by *T. leucogaster*.

2. The Escarpment Zone allows the southward extension of some equatorial species (*Pelomys campanae, Lophuromys sikapusi*) and of some species typical of savanna and forest fringes (*Cricetomys gambianus, Dasymys incomtus, Dendromus melanotis, D. mystacalis*). During wet periods the latter group of species might have extended their range from the Escarpment Zone into the Brachystegia Zone, to disappear again during arid periods. This could have been the factor responsible for the present difference in species composition between the fauna of the western part of the Brachystegia Zone (zoogeographically known as the Angolan Subdistrict) and that of the eastern typical Brachystegia Zone. Due to isolation during arid periods, some species are represented in western Angola (Escarpment Zone plus Angolan Subdistrict) by well defined subspecies (*Cricetomys g. ansorgei, Dasymys i. nudipes, Drendomus melanotis angolensis, Dendromus mystacalis ansorgei*). Sometimes the range of the original species was not restored allowing the appearance in the western part of Angola of endemic species (*Praomys angolensis, Steatomys bocagei*).

3. The Escarpment Zone allows the extension northwards of some meridional species which find within its boundaries conditions of semi-aridity during arid periods: *Tatera leuco-*

gaster, *Rhabdomys pumilio*, *Aethomys namaquensis*, *Saccostomus compestris*. Due to partial or total isolation, during arid periods, some of these species are represented by well defined subspecies: *Tatera l. angolae*, *Rhabdomys p. angolae*, *Aethomys n. avunculus*.

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