SOME MAMMALS FROM THE NAMIB DESERT

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THE following is an account of the mammal specimens collected on the Bernard Carp expedition to the Namib desert during May 1959. It is a pleasure to acknowledge the generous sponsorship of Mr Bernard Carp, of Cape Town, which made this expedition possible. Sincere thanks are also due to the following: Dr C. K. Brain, of Salisbury, for collecting some of the specimens, and kindly placing at my disposal his habitat notes on these specimens; the late Dr W. Hoesch, of Okahandja, for material collected by him in the course of the expedition, as well as some specimens from his private collection; Mr O. P. M. Prozesky, of Pretoria, for also assisting in collecting, and for supplying useful information regarding collecting localities; and the Transvaal Museum skinner, Samson Maseko, for his part in collecting, preparing and caring for the collections.

(All measurements are expressed in millimetres.)

Eremitalpa sp.

2 skulls and skeletal remains from owl pellets, Natab, Kuiseb River, 19 miles upstream from Gobabeb.

This interesting find considerably extends the known range of the genus *Eremitalpa*, previously known only from Little Namaqualand and the Western Cape Province.

The two skulls from Natab differ from a series of 18 specimens of *Eremitalpa granti granti*, the nearest subspecies, from Port Nolloth, in the more inflated fronto-nasal region of the skull roof, so that the skull appears broader in dorsal view, with a shorter rostrum, and more markedly domed in lateral view, than in *granti*.

Dr Kurt Bauer of Bonn informs me (in litt.) that he has recovered a new *Eremitalpa* from owl pellets from South-West Africa. He states no exact locality, but it is possible that these two skulls belong to the form in question.[1]

The owl pellets from which these skulls were taken were collected in a deep rock crevice (C. K. Brain, in litt.).

MEASUREMENTS. Greatest length: 18·4, 18·7; zygomatic width: 17·5, 17·9.

Elephantulus rupestris kobosensis (Roberts)

2 ♂♂, 26 miles west of Usakos; 1 unsexed, 21 miles from farm Djab, on Walvis Bay road.

The status of *E. r. kobosensis* is not entirely clear. Roberts (1951, p. 30) regards *kobosensis* as a good species, but 'having a considerable resemblance to *E. intufi*'. Ellerman, Morrison-Scott & Hayman (1953, p. 13) regard it, somewhat dubiously, as a subspecies of their *E. rupestris*.

Lundholm (1955*a*, p. 282) separates the South-West African forms of *Elephantulus* into two species, *rupestris* and *intufi*, on the basis of the number of

[1] This form has since been described as *E. granti namibensis* Bauer & Niethammer (Bonn. zool. Beitr. 10, 241, 1959) from Sossus-vlei, Namib.

cusps present on the lingual surface of P_2 and P_3. On the basis of this he regards *kobosensis* as a subspecies of *rupestris*.

Of the present collection, one of the two males from Usakos district has unworn dentition, and it is possible in this animal to detect four clearly defined lingual cusps on P_2 and P_3. This appears to confirm Lundholm's grouping of *kobosensis* under *rupestris*.

All three specimens resemble the type, and differ from other South-West African *rupestris*, in the brown tinge present in dorsal colour. The type of *E. r. okombahensis* is a greyer animal, with a yellow tinge to the fur. The Djab specimen is as dark as the type, but the other two are somewhat paler, with fewer dark-tipped hairs.

Hind-foot length is shorter than in the type of *kobosensis*, varying from 31·5 to 32·0 mm. in the three specimens. In this respect they resemble *okambahensis*, which has a short hind foot (32·0–33·5 mm., cf. Roberts, 1951, p. 30).

The Djab female was collected on a schist outcrop. Body temperature was 37·4° C. (C. K. Brain, in litt.).

MEASUREMENTS:

	H.B.	T.	H.F.	E.	Greatest length of skull
Djab, ♀	110	126	32	25	33·4
Usakos, ♂	119	110	31·5	24·5	32·6
Usakos, ♂	126	124	32	26·5	35·2

Rhinolophus darlingi damarensis Roberts

1 ♂, Natab.

Ellerman *et al.* (1953, p. 58) regard *damarensis* as a synonym of *darlingi*, but in view of the pale colour of this and other specimens from South-West Africa in the Transvaal Museum collections, I prefer to retain the name.

The Natab specimen was found hanging alone in a small mica schist cave with two entrances (C. K. Brain, in litt.).

MEASUREMENTS. H.B. 59, T. 32, H.F. 10, E. 18, forearm 48·5, greatest length of skull 20·3.

Nycteris thebaica damarensis (Peters)

1 ♂ in formalin, farm Djab.

Found in a small cave in mica schist (C. K. Brain, in litt.).

MEASUREMENTS. H.B. 54, T. 53·5, H.F. 11·5, E. 34·5, forearm 47.

Eptesicus zuluensis Roberts

1 ♀ in formalin, Gobabeb.

I have pointed out elsewhere (Meester, in press) that the subspecies *vansoni* is not valid, hence all western *zuluensis* are regarded as belonging to the typical subspecies.

This specimen was shot in the bed of the Kuiseb River at 6.30 p.m. (C. K. Brain, in litt.).

MEASUREMENTS. H.B. 40, T. 31·5, H.F. 6·5, E. 10, forearm (broken) ±29.

Miniopterus schreibersi natalensis (A. Smith)

3 ♂♂, 5 ♀♀, Sandwich Harbour, in formalin; 2 ♂♂, 2 ♀♀, Rooibank, in formalin.

At Sandwich Harbour a fairly big colony was found roosting daily under the corrugated asbestos roof of a small, disused building, which forms its day roost. At 4.00 a.m. one morning the colony was found hanging from the rafters of

another small building a short distance away, clinging to one another in a cluster the size of a football. At 9.00 a.m., however, they had returned to their day roost, where the present series was collected (C. K. Brain, in litt.).

The Rooibank specimens were shot in flight over a vegetable garden at 6.15 p.m. (C. K. Brain, in litt.)

MEASUREMENTS:

Sandwich Harbour—8 specimens

	M	S.D.	Min.–max.
H.B.	55·0	1·604	52–57
T.	53·3	2·390	50–56·5
H.F.	10·56	0·320	10–11
E.	10·81	0·530	10–11·5
Forearm	45·94	0·678	45–46·5

Rooibank—4 specimens

	H.B.	T.	H.F.	E.	Forearm
♂	56	51	10	11	45
♂	56	56	10	11·5	46
♀	55	55	10	10·5	45
♀	57	52	10·5	10·5	46·5

Proteles cristatus cristatus (Sparrman)

1 unsexed skull, near Amichab.

The skin of this specimen was destroyed by dogs. The skull is that of a young animal, with open sutures, and a number of deciduous teeth as yet unreplaced.

MEASUREMENTS: greatest length 123·5; zygomatic width 69·4.

Cynictis penicillata (G. Cuvier)

1 ♂, near Amichab.

Lundholm (1955*b*, p. 319) points out that this species forms a cline complex, without differentiation into subspecies.

The present specimen is very pale, approaching the paler extreme of colour variation in the species.

MEASUREMENTS: H.B. 325, T. 235, H.F. 70, E. 33. Greatest length of skull 63·2.

Suricata suricatta marjoriae (Bradfield)

1 young adult ♂, 1 subadult ♀, Rössing Mountains.

These two specimens are both distinctly paler than *S.s. hahni*. Markings are distinct, unlike those of a juvenile from Oropembe reported on by Lundholm (in press), and resemble those of *hahni*.

Size averages smaller than in *hahni*, although absolute separation is not possible: greatest skull length in the two Rössing Mountain specimens is 58·4 and 53·4 mm. respectively. In nine specimens of *hahni* mean greatest length is 64·07 mm., and variation is from 59·0 to 68·1 mm. S.D. = 2·757, and M ± 3 S.D. = 55·80–72·34 mm. The value for the adult specimen of *marjoriae* falls well within these limits.

MEASUREMENTS:

	H.B.	T.	H.F.	E.	Greatest length of skull
♂	240	170	57	17	58·4
♀ subad.	—	—	—	—	53·4

Xerus (Geosciurus) inauris (Zimmermann)

2 ♂♂, 2 ♀♀, Amichab, near Tumasberge.

These specimens are the palest in the Transvaal Museum collection of this species. Colour resembles that of four specimens from Usakos (2 adult, 2 young), but is even paler in three of the four Amichab specimens. The fourth, a male, is moulting, as are both females, and the new fur on its back appears identical with that of the Usakos specimens.

Size is slightly smaller, on the average, than in the two adults from Usakos: for example, in the Usakos specimens greatest skull length = 53·5 and 54·9 mm. In the Amichab specimens variation is from 51·1 to 54·1 mm., with M = 52·25 mm. Zygomatic width is respectively 33·6 and 33·9 mm. in the Usakos specimens, against 32·5–32·9 mm., M = 32·55 mm. in the Amichab material.

In the three moulting specimens moult is proceeding irregularly in patches, from front to back. The new fur is slightly darker than the old. All four specimens were shot on 13 May 1959.

MEASUREMENTS:

	H.B.	T.	H.F.	E.	Greatest skull length
♂	205	200	56	10	52·2
♂	205	210	59	9	54·1
♀	205	175	50	9	51·1
♀	220	125+	55	10	51·6

Petromus typicus marjoriae Bradfield

1 ♀, 26 miles west of Usakos.

The type of *marjoriae* was taken on the Khan River, and according to Roberts (1951, p. 356) presumably west of Usakos. The present specimen, taken 26 miles west of Usakos, is therefore probably roughly topotypical. The skull is broken, and no field measurements are available for the type, but what skull measurements can be taken are comparable, although the present specimen is slightly larger than the type, as shown below (measurements of the type in parentheses): inter-orbital constriction 10·8 mm. (10·6 mm.); width of nasals 5·8 mm. (5·6 mm.); upper cheekteeth 10·0 mm. (9·5 mm.); lower cheekteeth 10·4 mm. (9·8 mm.).

Colour resembles that of the type, but differs in being slightly darker, with hair-tips slightly more buffy. The belly is paler, yellowish white as in *P. t. pallidior*, as against buffy-yellow in the type. On the other hand, it differs from *pallidior* in being darker and more buffy on the whole than this form.

MEASUREMENTS. H.B. 185, T. 140, H.F. 32, E. 12·5.

Petromus typicus windhoekensis Roberts

1 juv. ♂, farm Djab.

This animal is very young, with M^3 and M_3 not yet erupted. Colour, however, compares very well with that of a topotypical series of this form.

It was collected among large slabs of mica schist on a steep mountain slope (C. K. Brain, in litt.).

MEASUREMENTS. H.B. 115, T. ± 130, H.F. 29, E. 8.

Desmodillus auricularis (A. Smith)

1 ♀, Gobabeb.

Four subspecies of this species have recently been described, i.e. *D. a. shortridgei* Lundholm, from Port Elizabeth, *D. a. robertsi* Lundholm from

Sesfontein, Kaokoveld, *D. a. hoeschi* Von Lehmann, from Okatjongeama, and *D. a. wolfi* Von Lehmann, from Vogelweide.

Lundholm (in press) doubts the validity of *hoeschi* and *wolfi*, with which view I concur. Lundholm (1955*a*, p. 298) states that in the species *auricularis* a cline (in colour) occurs, and that *shortridgei* and *robertsi* represent the ends of this cline.

There seems to be no particular advantage to naming the ends of a cline, in view of the fact that there is gradual intergradation between the two extremes, defining subspecies limits becomes complicated. A further objection is that in a cline complex, different character clines may run in different directions. If the ends of all these clines are described as subspecies, a very confusing taxonomic picture will result, with the possibility that one individual may belong to different subspecies. For these reasons I see no need to recognize the names *shortridgei* and *robertsi*.

Lundholm has stated (in litt.) that *robertsi* may be valid on the basis of its distinctive cinnamon-buffy tinge, seen also in one of three specimens from Swakopmund. Further material will be required to indicate whether this character is constant enough to allow of subspecies distinction.

The Gobabeb specimen, unlike material of most other species in the present collection, is not particularly pale. Colour is drab buffy, with no cinnamon tinge, and is similar to that of specimens from many other parts of South-West Africa and the Kalahari, while being noticeably darker than the palest extreme of the species.

It was caught at night in the Kuiseb River bed (C. K. Brain, in litt.).

MEASUREMENTS. H.B. 112, T. 90, H.F. 24, E. 10.

Gerbillus gerbillus oralis Thomas & Hinton

4 ♂♂, 4 ♀♀, 1 juv. ♀, Rooibank; 1 ♂, 1 ♀, Gobabeb.

The Rooibank specimens are topotypical for this subspecies. The two from Gobabeb do not appear to differ from them in either colour or size; all the specimens seen are less brightly coloured than either *G. g. swakopensis* or *G. g. infernus*, their closest neighbours.

MEASUREMENTS:

Rooibank adults

	M	S.D.	Min.–Max.	N
H.B.	91·6	1·768	90–95	8
T.	111·6	3·021	108–116	8
H.F.	27·88	1·094	27–29·5	8
E.	12·13	0·231	12–12·5	8
Greatest skull length	27·66	0·763	26·8–28·8	7

Rooibank juvenile ♀

H.B. 80, T. 95, H.F. 25, E. 11·5, greatest skull length 25·9.

Gobabeb

	H.B.	T.	H.F.	E.	Greatest skull length
♂	84	115	24	12	27·7
♀	85	116	27	14	28·1

Gerbillus (Gerbillurus) vallinus vallinus Thomas

1 ♂, east of Gobabeb.

This specimen is very pale. It differs from six specimens of *vallinus* from Swakopmund in being slightly paler than even extreme specimens, and with

colour less buffy, more yellowish, than in these. The tail is paler, pale yellowish above and white below, and has a white tip, unlike the Swakopmund specimens, in which the tip of the tail is brown.

Shot on open gravel plain, the gravel consisting of very pale felspar and quartz particles (C. K. Brain, in litt.).

MEASUREMENTS. H.B. 105, T. 138, H.F. 31, E. 15.

Petromyscus collinus ? rufus Lundholm

1 ♀, 26 miles from Usakos, on road to Swakopmund.

This light and brightly coloured specimen resembles *rufus* in having broad rings on the tail—11·5 per cm., 1 cm. from the base, as in *rufus* (Lundholm, 1955*a*, p. 299)—and the basal part of the tail white (the rest is missing), although the short hairs on the tail are black. Colour is even brighter than in *rufus*, with the subterminal bands bright yellowish buffy, and not cinnamon-coloured as in the type. The hair-tips are dark, nearly black, while in *rufus* they are paler, and brown in colour. In general appearance the animal is bright yellowish buffy, with a strong blackish tinge, while the type of *rufus* is more pinkish cinnamon, with a lighter brown tinge.

The type of *namibensis* is more drab, with paler yellowish subterminal bands and brown hair-tips, paler than in the present specimen. The tail is brown, and the rings on the tail are narrower (16 per cm., 1 cm. from the base—Lundholm, 1955*a*, p. 299).

The Usakos specimen was captured alive on 24 May 1959, and kept alive until 2 July 1959.

MEASUREMENTS. H.B. 80, T. —, H.F. 15·5, E. 15·5, greatest skull length 24·2.

Aethomys namaquensis siccatus Thomas

1 ♀, 12 miles west of Usakos (pres. Dr W. Hoesch); 1 ♂, Usakos; 1 ♂, 26 miles from Usakos, on Swakopmund road.

The type locality of *A. n. namibensis* is Karub, between Usakos and Swakopmund. All three specimens were therefore taken near the type locality of this form, which is distinguished by its pale buffy dorsal colour, with few black-tipped hairs, and its light-coloured ears and tail (Roberts, 1951, p. 485). *A. n. siccatus*, on the other hand, although pale, is darker than *namibensis* and has a long tail (Roberts, 1951, p. 484).

Lundholm (in press) gives measurements for *siccatus* from various localities in the Kaokoveld. In all cases variation in tail length includes that of the type of *namibensis* and the three specimens here discussed:

A. n. namibensis: 129 (type), 148, 166, 168.

A. n. siccatus:

	M	S.D.	N
Oropembe	158·4	9·84	24
Sesfontein	158·5	13·0	11
Ohopoho	147·2	16·8	14

Tail length, therefore, does not separate these two forms. Similarly, variation in tail colour and ear colour in *siccatus* includes that of the type of *namibensis*. Of the other three specimens, the ♂ collected on the Swakopmund road has a very dark tail, dorsal colour of which is dark blackish brown.

Dorsal body colour is darker in *siccatus* than in the type of *namibensis*. However, in the present collection colour is darker than in the type, and can be matched in pale Kaokoveld specimens. It therefore appears unnecessary to retain the name *namibensis*, which I regard as a synonym of *siccatus*.

The ♂ taken on the Swakopmund road was captured alive on 24 May 1959, and kept in captivity until 10 Nov. 1959.

MEASUREMENTS:

	H.B.	T	H.F.	E.	Greatest skull length
♀, Usakos dist.	108	168	23	15	28·8
♂, Usakos	103	145	22	14·5	27·5
♂, Usakos–Swakopmund	100	166	23·5	16·5	29·9

Rhabdomys pumilio bechuanae (Thomas)

6 ♂♂, 1 ♀, 1 subad. ♂, 4 subad. ♀♀, Rooibank; 2 subad. ♂♂ in formalin, 4 miles south of Walvis Bay.

The young animals are markedly smaller than the adults, as shown by comparison of the measurements. Furthermore, in the young animals relative tail length is markedly longer than in the adults. In the latter, average H.B. length exceeds tail length (T. = 96·1% of H.B.), while in the former the opposite is the case (T. = 113% of H.B.).

Dr W. Hoesch informs me (in litt.) that while the adults were encountered by him only in Naras-bushes (*Acanthosicyos horrida*), the young frequented other bushes as well.

MEASUREMENTS:

Rooibank, adults, 7 specimens

	M	S.D.	Min.–Max.
H.B.	135·9	5·669	128–142
T.	130·6	9·624	118–147
H.F.	27·3	1·704	25–30
E.	14·4	0·988	13–16
Greatest length of skull	31·4	0·813	30·2–32·2

Rooibank, subadults

	H.B.	T.	H.F.	E.	Greatest skull length
♂	130	115	25	14	28·2
♀	105	125	26	14	28·2
♀	100	122	26	15	27·4
♀	100	126	26	15	28·7
♀	105	122	25	12	28·7

Rhabdomys pumilio namaquensis Roberts

1 subad. ♂, 1 subad. ♀, Gobabeb.

This record represents a considerable extension of the range of this form previously known from the Fish River near Berseba; 50 miles north of Keetmanshoop; Konkiep; and Barby farm, near Helmeringshausen (Roberts, 1951, p. 500). However, the two Gobabeb specimens agree well with the type and other specimens referred to this form. The geographically closest forms, *R. p namibensis* and *R. p. bechuanae* both differ in their paler tail colour and, particularly in the case of *bechuanae*, in size.

MEASUREMENTS:

	H.B.	T.	H.F.	E.	Greatest skull length
♂	90	125	23	14	26·5
♀	95	110	24	11	—

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