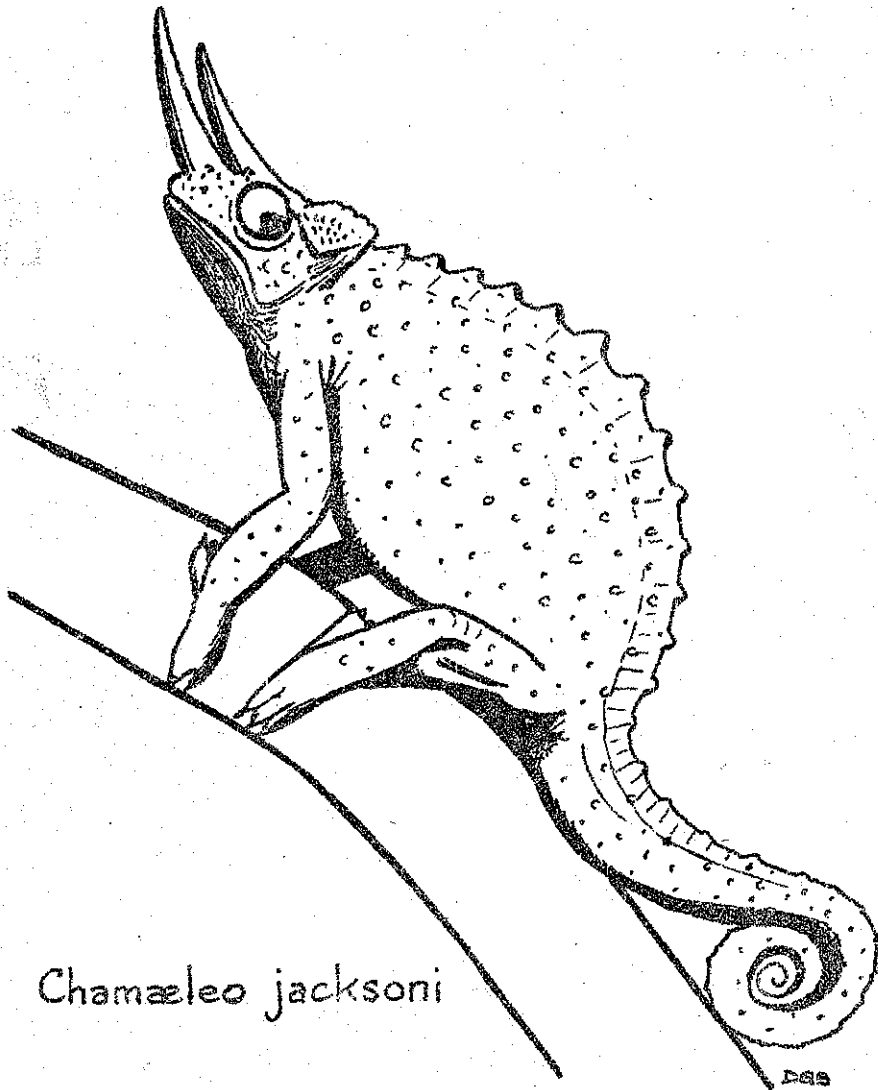


17/18

H.A.R. JOURNAL



Chamæleo jacksoni

THE JOURNAL OF THE HERPETOLOGICAL ASSOCIATION OF RHODESIA.

No. 17/18

February, 1962.

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NEW MEMBERS

A.C.Newman, P.O.Box 299, UMTALI, S.Rhodesia.

L.A.Ibbitt, B.S.A.P., DETT, S.Rhodesia.

CHANGES OF ADDRESS

P.Taylor, c/o Dept. of Tsetse Control, P.Bag 5Z, ZAKA, S.Rhodesia.

F.J.R.Junor, Dept. of Wild Life Conservation, P.O.Box 393, FORT VICTORIA, S.Rhodesia.

J.D.Visser, P.O.Box 1132, PORT ELIZABETH, South Africa.

C.J.P.Ionides, P.O.Box 33, NEWALA, Southern Province, Tanganyika.

HONORARY LIFE MEMBERS

In recognition of their outstanding pioneer contributions to African herpetology, the following are hereby appointed Honorary Life Members of the Herpetological Association of Rhodesia:-

Dr. V.F.FitzSimons; Mr. A.Loveridge; Captain C.R.S.Pitman; Dr. Walter Rose and Father K.Tasman.

PROPOSED AMENDMENTS TO THE CONSTITUTION.

Amendment 1: Clause 2(g). Delete - "Ten per cent of the net profit made by any exhibition run under Association auspices shall revert to the Association Funds."

Amendment 2: Clause 5(a). Add - "Life Members shall subscribe £15 (£7..10s. if over the age of 60); Associate Life Members subscribe £7..10s. (\$22.50c.)."

Amendment 3: Clause 11. Amend to read - "The official organ of the Association shall be the "Journal of the Herpetological Association of Rhodesia", published twice yearly and circulated to all members."

ALL MEMBERS ARE REQUESTED TO CAST THEIR VOTES ON THESE THREE AMENDMENTS ON THE VOTING FORM SUPPLIED AND RETURN THEM TO THE HON. SECRETARY AS SOON AS POSSIBLE.

 JOTTINGS FROM COBRA CORNER.

Dear Member,

The appearance of another "double" Journal, following the non-appearance of the November issue, is due to two factors: first, the poor response to my appeals for articles; secondly, my own preoccupation with the preparation of scientific papers towards the end of 1961. After sending these to press, I was able to write up some material for the Journal, but it is becoming increasingly difficult to bring out a good quarterly Journal and I have therefore proposed that it should appear only twice a year.

I would draw the attention of Salisbury members to the "herpetozoan traps" of Mtoko District (see H.A.R. Journal, 14, p. 2), which should again prove productive this season.

I leave Umtali for Pietermaritzburg in mid-February, spending two weeks on the way down collecting in the Eastern Transvaal. I am spending 2½ months at Natal University, returning to Umtali in May. Members are requested not to send me any more reptile collections until my return, but amphibians can be sent to me c/o Dr. J.C. Poynton, Dept. of Zoology, University of Natal, Pietermaritzburg, South Africa.

Good hunting,

Donald G. Broadley,
 Hon. Secretary/Treasurer, H.A.R.,
 Umtali Museum,
 UMTALI, S. Rhodesia.

A PROVISIONAL CHECK LIST OF THE CROCODILES, CHELONIANS AND LIZARDS OF RHODESIA AND NYASALAND. ADDENDA AND CORRIGENDA.

By Donald G. Broadley. (See H.A.R. Journal, 16, pp. 3-8.)

Page 3. After Lygodactylus capensis add a species:-

Lygodactylus stvensoni Hewitt * for S. Rhodesia (Col. 1).

A good species, but known only from Khami Ruins (type locality) and Matopos.

Page 4. Under Agama kirkii Boulenger add:-

Local races: A.k.kirkii Boulenger *** for S.R., N.R. and Nyd.
A.k.fitzsimonsi Loveridge * for S.R. only.

Page 7. Under Tetradactylus fitzsimonsi Hewitt, local race:-

For T.f.simplex Laurent, substitute T.f.boulengeri Witte, the former being a synonym of the latter.

ENGLISH COMMON NAMES FOR SNAKES. SECOND SUPPLEMENT. By D.G.B.

A few more letters on this subject have been received, but I am disappointed at the lack of response from South Africa. The following views have been expressed:

Dipsadoboa weneri = Black Beauty Snake; Black (or Indigo) Tree (or Forest) Snake; Gentle Tree-Snake (P.S.M. Berry). Rejected as none are diagnostic and the first two names are equally well if not better applied to Thrasops jacksoni and the black phase of Boiga blandingi.

Crotaphopeltis hotamboeia - Irascible Snake; Flattening Snake (A. Loveridge); Devil Snake; Demon Snake (P.S.M. Berry). "Irascible Snake" is very apt, but does not flow nicely off the tongue! Berry's names accurately describe the temperament of this species, but perhaps they also suggest that it is dangerous? I consider "Demon Snake" to be the best alternative to "Herald Snake" so far put forward.

Dromohis lineatus - Captain C.R.S. Pitman objects to "Track Snake" as he considers it meaningless. I can see his point of view and can see no alternative left but "Lined Snake", one of the earliest names proposed.

Dendroaspis polylepis - Captain Pitman prefers Sweeney's "Black-mouthed Mamba". A. Loveridge is also not happy with Black Mamba and suggests a compromise by rendering it as "Black" Mamba, which I am prepared to accept.

A TANGLED GROUP OF WRITHING-SKINKS (RIOPA). By Donald G. Broadley.

The skinks discussed here are a difficult group, due to the shortage of good distinguishing characters.

The group was reviewed by H.W.Parker (Proc. Zool. Soc. Lond., 1932), who regarded Riopa modesta (type locality = Mpwapwa, Tanganyika) as a species distinct from Riopa sundevallii (type locality = Natal) as the two forms occur together throughout East Africa with little sign of intergradation. Parker's view was subsequently accepted by Loveridge and others.

The two forms were distinguished on the arrangement of the shields surrounding the nostril: R. sundevallii having a supranasal and two nasals, while in R. modesta the anterior nasal is fused with the supranasal. Also R. modesta was a small form not exceeding 100 mm. from snout to vent, while R. sundevallii considerably exceeded 100 mm. when adult.

Early in 1961, I collected a series of 30 Riopa in the Kalahari sands of north-west Southern Rhodesia (Wankie, Lupane and Nyamandhlovu Districts). On 25 sides the nasal arrangement agrees with R. sundevallii, but on 35 sides the supranasal is fused or partially fused with the anterior nasal as in R. modesta, seven skins having different arrangements on opposite sides of the head. This is clearly an area of R. sundevallii X modesta intergradation, with the occurrence of the modesta nasal character reaching 58%. I examined the rest of my Southern Rhodesian material and found the percentage incidence of the modesta nasal character as follows: Kariba Lake (4 specimens) = 12%; Salisbury District (6) = 33%; Bulawayo District (6) = 25%; Eastern S. Rhodesia (18) = 0%.

It appears that modesta is a northern race of R. sundevallii, with an extensive area of intergradation in Rhodesia. This raises the question of the status of the East African "Riopa sundevallii." Examination of the literature reveals marked differences in size between East African specimens and material from Southern Africa, suggesting that the former represent a distinct species, which would account for it not intergrading with Riopa sundevallii modesta.

The largest Riopa sundevallii from South Africa examined by FitzSimons (1943) measured 82 mm. from snout to vent, while the largest of my 64 Southern Rhodesian specimens is 84 mm.

Adult specimens from East Africa (Kenya; Tanganyika; Mozambique as far south as Amatongas) recorded by Loveridge and Cott attain lengths of 115-140 mm. from snout to vent. A ♀ from Amatongas (75 miles east of Umtali) collected by Cott measured 130 mm. from snout to vent. These skins should probably be called Riopa afer (Peters), described from Mozambique in 1854.

More material is needed from East, Central and South Africa to settle the following points:

(a) What differences are there between R. sundevallii and R. ? afer, apart from size?

(b) What are the exact ranges of R. s. sundevallii, R. s. modesta and R. ? afer. Here specimens are particularly needed from Northern Rhodesia, Nyasaland and Mozambique.

The views expressed here are only tentative, being based on inadequate material; but having drawn attention to the problem, I hope that H.A.R. members will help to contribute the specimens required before I can publish any concrete conclusions.

THE LINED NIGHT-ADDER (Causus lineatus). By Donald G. Broadley.

Causus lineatus was described by Dr. R.F. Laurent in 1956 from Kundelungu Plateau, Haut Katanga, Congo. It differs from Causus rhombeatus in having a pair of narrow light dorso-lateral lines superimposed over the dark dorsal rhombs. It is smaller in size, more slender, and the scale counts are lower than in rhombeatus.

Examination of the long series of Northern Rhodesian specimens of Causus revealed seven specimens of Causus lineatus, all from the North-western Province and collected by W.F.H. Ansell (5), P.H. Read and J.B. Shenton.

Causus rhombeatus and C. lineatus often occur together, but the differences in scale counts in the Katanga - Northern Rhodesia area are summarised in the following table.

	Series	M.S.R.	Ventrals	Subcaudals
<u>C. rhombeatus</u>				
Ruanda-Urundi	16	18-20	138-157	20-28
Katanga	14	17-19	141-146	22-33
Northern Rhodesia	70	17-19	138-157	23-36
<u>C. lineatus</u>				
Kundelungu-Ruanda	23	17	122-138	18-28
Katanga (low levels)	13	16-18	131-140	23-29
N.W. Province, N. Rhodesia.	7	17	131-139	21-26

The largest recorded specimen of Causus lineatus is a ♀ (NMSR/M. 2842) from Nsangi-Kabompo Confluence, N. Rhodesia, which measures 548 (500+48) mm. This is exceptionally large, for none of the other Rhodesian specimens exceed 349 mm. and Laurent's largest specimens are ♂ 433 mm. and ♀ 394 mm. Causus rhombeatus frequently exceeds 600 mm. in length and is a much more robust snake.

I hope that Northern Rhodesian members will look out for this snake. It does not seem to occur on the Copperbelt, but may turn up in the Lake Mweru - Lake Bangweulu area. It will probably be found in the northern end of the Kafue National Park, as Paul Read collected one specimen 70 miles south of Kasempa.

CORDYLUS WARRENI, A NEW ADDITION TO THE SOUTHERN RHODESIAN LIST, WITH SOME REMARKS ON OTHER RUPICOLOUS LIZARDS. By D.G. Broadley.

Our Rhodesian lizards are still poorly known and in a paper now in press I have described four new forms and listed 11 others new to Southern Rhodesia. Rupicolous forms are most susceptible to speciation and subspeciation through geographical isolation and differences in habitat. It is significant that all my new forms are either Platysaurus or Cordylus.

Perhaps the most interesting addition to our local herpetofauna is Cordylus warreni. This large rupicolous species occurs in small isolated colonies on mountain tops from Ubombo, Zululand (C.w.warreni) north to Gorongosa Mountain, Mozambique (C.w.mossambicus), with a number of races in the northern and eastern Transvaal.

The first Rhodesian specimens were found by chance, when I went out to examine an archaeological site at Dora, just south of Umtali. A female Platysaurus ran into a crevice and when I peered into it I was surprised to see that it was shared by a lizard which I had never set eyes on before! With the aid of Roland Pletts and Errol Hughes, two young herpetologists who were with me, the lizard was winkled out and captured. This first specimen was a subadult about six inches long, so I still had no idea what was in store.

After locating and inspecting the site which I had come to see, we devoted the rest of the day to searching for the new lizards. I started at the point where the first one was taken, on the side of a dry watercourse between granite kopjes. Hearing a suspicious rustle in a crevice, I peered in and saw a spiky tail coiled round a lizard with brilliant orange flanks! As the upper rock was too heavy to move and the reptile showed an inclination to wedge itself deeper into the fissure when prodded, I decided to play safe and fired a round of .22 dust shot into the crack. After a struggle we were able to extricate the corpse of a fine 12 inch male Cordylus warreni. An adult female found nearby retired into a deep inaccessible crevice and three Cordylus exposed by dislodging a large slab of rock managed to escape, but before rain put an end to collecting another male was shot and extricated from a fissure, this one had the flanks and ventrum yellow.

The following Sunday (5.xi.61) we went out to Dora again, the party being reinforced on this occasion by John Weimann. An adult male and two female Cordylus were shot in crevices, but we also captured six adults alive, three of each sex. One of these was in the open and "played possum" according to John Weimann, the others were winkled out of fissures.

To ascertain whether C.warreni extended eastwards to cross the upper Mpudzi valley, I worked over Modima, a granite outcrop near Nyachowa Falls, which forms the western bastion of the Vumba (19.xi.61). I saw a couple of Cordylus in deep inaccessible fissures before I eventually located and caught a female in a shallow retreat. There is no apparent reason why this species should not occur in suitable situations anywhere on the lower slopes of the Vumba and perhaps in the Burma Valley. It cannot have an extensive distribution in Rhodesia or it would have been discovered earlier, but as it occurs on "ordinary" granite outcrops at 3,700 - 4,500 ft. I cannot see any obvious factors limiting its range.

The usual local rupicolous lizards were found in association with Cordylus warreni, i.e. Agama kirkii fitzsimonsi; Mabuya quinque-taeniata obsti; Platysaurus guttatus rhodesianus; Hemidactylus mabouia and Afroedura transvaalica. In contrast to Agama, Mabuya and Platysaurus the Cordylus are very shy and reluctant to venture from the security of their fissures, only one was found in the open.

Two captive colonies of Cordylus warreni have been established for observations on diet and behaviour. I have retained two pairs and passed on a pair and a juvenile to Dr. C.K. Brain at the Queen Victoria Museum.

Examinations of stomach contents have so far revealed numerous small millipedes, plentiful after the first rains; caterpillars and small beetles. My captive specimens are feeding on grasshoppers and millipedes.

One of my females gave birth to three young on or about Christmas Day, they measured 103 (49+54) mm. in length. A large female shot on 5.xi.61 contained 4 embryos measuring 55 mm. in total length.

The fact that such a large and "showy" lizard as Cordylus warreni can escape detection for so long within 10 miles of Umtali is an indication that we still have a lot to learn about our local herpetofauna. Two new species of Platysaurus from the Mtoko District and the Chimanimani Mountains and a new race of P. guttatus from the north-eastern districts bring the total number of Platysaurus forms known from Southern Rhodesia to six, and I think that our Rhodesian kopjes still have a few more surprises in store! The distribution of Platysaurus in the Zambezi Valley remains a puzzle. Bill Armitage reported P. torquatus at Mount Darwin, but this requires confirmation, for I got P. guttatus n. subsp. at Palm Block at the northern end of the Umvukwes. Surprisingly, no Platysaurus were encountered on the paragneiss at Kariba, but I have a juvenile P.g. rhodesianus from the Zambezi-Sebungwe Confluence. I collected a series of P.g. rhodesianus on a particularly suitable paragneiss outcrop at Kapami, but found no other colonies in Wankie District. There is no obvious reason why Platysaurus should not occur in the south-east of Northern Rhodesia at low altitudes, for P. g. nyasae occurs in central Nyasaland. The South-east of Southern Rhodesia has received some attention from the Schools Exploration Society, but much remains to be done on the rupicolous forms of the area. Mozambique remains largely "terra incognita" apart from the Zambezi valley.

In the Eastern Districts the distribution of the two local races of Mabuya quinquetaeniata remains to be worked out, I can make little sense out of it at present! Mabuya longiloba rhodesiana is widely distributed in the north-west, north and east of S.R., but seems to be absent from the extensive granite country of south Matabeleland, which is surprising.

The distribution of the two races of Agama kirkii seems more reasonable. A.k. kirkii occurs in the north-eastern districts of S.R., extending west to Lake Mac¹lwaine and south to Inyanga and Watsomba, with an extension south-westwards to Gwelo. A.k. fitzsimonsi extends from Umtali southwards to Birchenough Bridge and then westwards to Matabeleland and northwards to Wankie District. The situation in the Zambezi valley is obscured by the lack of adult males, for the races can only be distinguished by the presence of a black gular spot at the base of the throat in adult male kirkii and its absence in fitzsimonsi.

Turning to the rupicolous geckos, Pachydactylus tetensis is known in S. Rhodesia only from Kariba and Mtoko District. Although I have examined 102 specimens of Afroedura transvaalica, all but eight of these are from Beitbridge, Umtali and Mtoko Districts, so the distribution of this species is far from clear. I have found Afroedura and Hemidactylus mabouia together, but this does not seem to be a common occurrence although they occupy similar habitats.

To sum up, specimens of rupicolous forms are still required from much of Rhodesia, in particular the Zambezi valley and escarpments, the Umvukwes - Mrewa area north of Salisbury and the huge south-eastern block lying east of the Bulawayo-Beitbridge road and south of the Bulawayo-Birchenough Bridge road.

 THE HERPETOFAUNA OF THE INYANGA NATIONAL PARK. By D.G. Broadley.

The reptiles and amphibians of the Inyanga National Park are now comparatively well known. The initial collection from this area was made by Dr. V.F. FitzSimons in January 1951. I made short collecting trips in January and November 1961. Numerous additions to the list of local forms, particularly the snakes, have been made by Mr. P. St J. Turnbull-Kemp, Senior Warden of the National Park and Rud Kroon, who is manager of the Rhodes Inyanga Orchards.

The most interesting herpetozoans are those which occur at altitudes between 6,500 and 8,500 feet on Inyangani Mountain, extending north across the Nyamaziwa Ridge to Troutbeck. One gecko, Lygodactylus bernardi, is endemic to this area. It lives in rock crevices or under loose rocks and is very common, large communal egg depositaries are plentiful. Two other rupicolous lizards live in this habitat, these are the dwarfed, dark, montane phase of Mabuya striata and Cordylus c. rhodesianus. The only snake so far recorded on Inyangani is Amplorhinus multimaculatus, a specimen was collected by Turnbull-Kemp at the summit (8,514 ft.). The only amphibian collected is Bufo gariiepensis, which is common under loose rocks on flat granite outcrops. There is also an elusive frog in the vleis which I could not locate, but which sounds like Phrynobatrachus ukingensis mababiensis.

I collected on granite outcrops at lower altitudes, but most of those inside the National Park are obviously marginal and lacking in many of the typical rupicolous reptiles. The combinations of species found on the various outcrops were variable, as will be seen. Localities are listed from north to south.

1. Western slopes of Chera, just outside the northern boundary of the Park, 3 miles west of Troutbeck. Some granite outcrops between 5500 and 6500 feet supported a fair population of Platysaurus guttatus subsp. and a number of Agama k. kirkii. I saw several Hemidactylus mabouia and collected a pair.

2. Nyamakanga, an outcrop rising from 6000 to 6697 feet, 1½ miles west of Inyanga village. A fair number of Platysaurus guttatus subsp. and Agama k. kirkii were seen, but much of the hill is covered with scrub Brachystegia, supporting little reptile life.

A fleeting glimpse of a vanishing gecko suggests that Hemidactylus mabouia does just manage to get into the National Park. I also got a glimpse of a skink in a crevice which I suspect was a Mabuya quinquetaeniata. Otherwise I did not encounter this species anywhere in the National Park, but I have taken it 8 mls north-west of Nyamakanga at Zewa. I collected a Cordylus c. rhodesianus near the summit.

3. Wicklow area, a hillside above the Inyangombie River at 6000 feet. The only "typical" rupicolous lizard in this area is Agama k. kirkii, but Lygodactylus capensis takes over here as the rupicolous gecko.

4. Erin Forest Reserve, a hillside at 5,500 feet. Here were found a small colony of Platysaurus guttatus subsp. on a bare fissured outcrop. Under loose rocks in the vicinity were found Cordylus c. rhodesianus, which were also living in rock crevices on an outcrop a mile away. Nowhere but Inyanga have I found Platysaurus and Cordylus c. rhodesianus in the same area and it seems that the Cordylus can only occupy fissures which are unsuitable for the more robust Platysaurus.

The lizards found on the open grasslands at 6000-6500 feet (including the lower slopes of Inyangani) are as follows. Lygodactylus capensis occurs on trees, fence posts and houses. Agama hispida armata occurs, but is not common. The ubiquitous Mabuya striata is as much at home on houses as on rocks, while Mabuya v. varia and Mabuya capensis occur on the ground, though the latter is rare. Under stones Cordylus c. rhodesianus is again common and where it is damp two fossorial skinks also occur, these are Scelotes arnoldi and the limbless Typhlosaurus bicolor. Chamaeleo dilepis occurs sparingly and Varanus n. niloticus may be found in the streams at lower altitudes.

Perhaps the commonest snakes locally are the water-snake Lycodon-omorphus r. rufulus and the slug-eater Duberria l. rhodesiana. Amplorhinus multimaculatus, Psammophis crucifer and Bitis a. atropos are all species typical of the montane grasslands of the Eastern Districts, while Hemachatus haemachatus seems to be a relict population at Inyanga. Other species recorded from the National Park are Boaedon f. fuliginosus; Lycophidion c. capense; Pseudaspis cana; Philothamnus i. irregularis; Crotaphopeltis h. hotamboeia; Dispholidus t. typus; Aparallactus c. capensis and Causus rhombeatus.

The Forest Cobra (Naja melanoleuca subfulva) surprisingly occurs at the Mare Dam (6000 ft.), where it may be preying upon small trout. This species is probably more plentiful on the Inyangani Tea Estates, at 2000-3000 feet. The Egyptian Cobra (Naja h. haje) and Python sebae occur up to about 6000 feet, but are not common. The Gaboon Viper occurs in the Pungwe Gorge.

The commonest amphibians at Mare Dam and along the streams and furrows are Rana angolensis, Rana mascareniensis, Hyperolius nasutus and Hyperolius marmoratus. Rana f. fasciata, Rana grayi and Phrynobatrachus u. mababiensis occur in the extensive vleis.

Bufo gutturalis is common; other species recorded are Xenopus l. laevis, Bufo fenoulheti, Kassina senegalensis, Phrynobatrachus natalensis and Breviceps adpersus.

 THE HERPETOFAUNA OF THE CHIMANIMANI MOUNTAINS. By D.G. Broadley.

The Chimanimani Mountains are still poorly known, but there is enough material available to give an outline of the distribution of some of the commoner forms.

Alex Siemers collected the first reptiles from the Chimanimanis, then in January-February 1958 a Cape Town University Expedition spent a fortnight in the area and presented a collection of 21 reptiles to the National Museum. The area was subsequently neglected until October last, when I spent five days working over the western slopes to obtain a good type series of the local Platysaurus sp.

The National Park access road terminates eight miles east of Melsetter at Dead Cow Camp, in a Wattle plantation near a small stream. A firebreak marks the National Park boundary and provides a suitable basking place for the local Gerrhosaurus, which proved elusive (probably G.f. flavigularis) and Mabuya v. varia. I also missed a small skink which was probably an Ablepharus.

The footpath to the Mountain Club Hut ascends the first ridge of the Chimanimanis via a gulch cut by a small stream. Just south of Dead Cow Gulch is a low ridge where the quartzite has weathered very much like granite. Here Platysaurus sp. is common, with a few Agama kirkii fitzsimonsi. I saw and collected only one Mabuya g. obsti at the base of the ridge. The first ridge on the north side of the gulch has the same three species on the lower slopes, but it is higher and the summit is covered with wierd quartzite formations which suggest a lunar landscape. There are areas of stunted Brachystegia, festooned with spanish moss. The weathered quartite produces a very fine white sand which supports little grass cover. I was surprised at the lack of a lacertid to fill this ecological nitche. Here I found Platysaurus, Agama k. fitzsimonsi and eggs of Hemidactylus mabouia.

On the path up to the Mountain Club Hut I observed, but failed to collect, Lygodactylus capensis. The top of the first range of the Chimanimanis, at 5500 feet, is largely open swampy grassland, with wooded streams and extensive quartzite outcrops. On these barran outcrops the only lizards are the versatile Mabuya striata and Hemidactylus mabouia. Alex Siemers has collected Chamaesaura macrolepis in the vleis and John Grindley got Lygodactylus capensis, Mabuya v. varia and Cordylus c. rhodesianus in the Brachystegia woodland below the Mountain Club Hut. Along the wooded streams I got Rana f. fasciata and Arthroleptis xenodactyloides. In many places the streams vanish underground and crawling down a five foot deep sink hole to one of these little streams I found a large Arthroleptis which I have not encountered before.

I did not descend into the Bundi valley, where the only reptile so far recorded is Bitis a. atropos, although I would also expect to find Philothamnus and Amplorhinus here.

On the 8000 foot range east of the Bundi valley the Cape Town University Expedition collected Mabuya striata and Cordylus c. rhodesianus and inside Mozambique, on the path to Martin's Falls, they got two more Bitis a. atropos.

OBSERVATIONS ON THE BIRTH OF YOUNG CHAMAELEO JACKSONI.

By Dr. C.K. Brain, Queen Victoria Museum, Salisbury.

While working at the Transvaal Museum, I was fortunate in obtaining a number of specimens of the East African horned chameleon, C. jacksoni, from Mr. Alastair Graham of Athi River. All the specimens came from the Ngong Forest of Kenya. Three of the females gave birth to litters of young, described here.

LITTER 1: Born 26.ii.59, but not conceived in captivity. Eleven young were born during the night and with them were produced nine unfertilised eggs, straw yellow in colour and measuring 9 mm. in their longest dimension. These were produced a short while subsequent to the birth of the last chameleon. Total weight of the 11 young was 5.65 grams, giving an average weight per chameleon of 0.52 gms. The weight of the female, immediately after giving birth, was 21.5 gms.

LITTER 2: Born 5.iii.59, but not conceived in captivity. Twenty-one young were born, the first at 9.30 a.m. and the last at 4.15 p.m. No unfertilised eggs were produced. The total weight of the 21 young was 11.8 gms., giving an average per individual of 0.57 gms. The weight of the female after giving birth was 18.9 gms.

LITTER 3: Born 10.iii.60. Almost certainly conceived in captivity, as the female had been caged with an adult male for over a year. No mating was observed, but this does not imply that none occurred. Two young were born, together with numerous infertile eggs. The exact number of eggs was not established as most had been carried off by ants by the time they were discovered.

The observations suggest that the normal time for birth of young C. jacksoni is February to March and that, following an adequate mating, about 20 offspring should be produced. In the case of Litter 2, the combined weight of the young amounted to 60.2% of that of the mother. When giving birth, the mother does not appear to descend to the ground; each young one makes its appearance completely enclosed in a thin and transparent membrane. This is sticky and adheres to the leaves or stem of the plant through which the mother moves. It may take as much as 15 minutes for the newly born chameleon to free itself of its membrane; it then walks away, dragging its yolk-sac behind it. After a brief period the sac becomes attached to the vegetation and the small chameleon parts company with it and leaves it behind.

Within an hour or two of being born, the young started to feed, particularly favouring green aphids. One was seen to capture a normal-sized house fly at a distance of $1\frac{1}{4}$ inches, almost equal to the total length of the chameleon itself. Drops of water on the vegetation were licked with the tongue, extruded to a distance of about one eighth of an inch; no interest was taken, however, of pools of water on the ground. Although most of the small chameleons lived well for about a month, they then all declined in condition and slowly died. Despite considerable effort, not one was successfully reared.

On emerging from their membranes, the young chameleons showed a strong photaxis and had soon all congregated at the better lit end of the cage into which the sun was shining. In colour they were all charcoal grey or black with a longitudinal series of rather irregular markings, either white, buff or light brown. The tails were characteristically barred with segments of the same colour, while interstitial skin on the throat, when this was expanded as a warning, was brick red. The throat colour was in fact much more brilliant than that of adult females, which is typically sulphur-yellow.

At the time of birth it was possible to see vestiges of the three horns on each chameleon's head. In some cases these were as much as 1 mm. long. Among adults it was very noticeable that the horns of males were much better developed than those of females. One female showed development of the median horn only, the two lateral ones being hardly discernable. On no occasion was I able to see the horns used in fighting; violent threatening was frequent but no actual combat (cf. Bustard, R. 1958. The use of horns by C. jacksoni. Brit. Journ. Herpetology, 2, no. 6, 105-7). One female had developed a novel method of dealing with the male who shared the same cage. She would approach him head-on, take hold of his median horn with her one front foot and throw him forceably to one side. He accepted this indignity with considerable restraint.

Rose (1955. African Wild Life, 9, no. 2, 151-2) has mentioned watching a Jackson's chameleon jumping from a branch to the ground. Jumping was never shown by any of the young chameleons described here, but was regularly practised by a large adult male in Pretoria. He would rear up at the end of the branch, fold his front feet as if in prayer, and launch himself horizontally outward with a powerful kick of his hind legs. His landing was far from graceful, but did not result in any bodily harm.

In conclusion, it is perhaps significant that the number of young produced by C. jacksoni is very considerably less than the number of eggs normally laid by C. dilepis. This may be due to the fact that the young horned chameleons do not have to face the arduous task of digging their way to the ground surface - a task which often results in a considerable decimation of numbers.

NOTE. Chamaeleo jacksoni is illustrated on the cover of this Journal.

SOUTHERN LIMIT OF NAJA MELANOLEUCA. By Dr. Walter Rose.

In the September issue of the H.A.R. Journal Mr. Armitage gives the southern limit of Naja melanoleuca as Mtubatuba. Some time ago two of these cobras were secured on the farm "Twinstreams", near Mtunzini, about 70 miles south of Mtubatuba. Recently I was present at the slaying of a Naja nigricollis and a Naja haje on the same farm and retained the heads for confirmatory identification.

Thelotornis k. capensis were common on this farm and I secured three without trouble. One of these, carelessly handled later, got a full bite on my wrist, leaving 14 distinct tooth marks. In the interests of science, I did nothing about it, and there were no after-effects whatever. Had I applied a snake-stone or eaten the snake's liver, another "cure" could have been claimed!

TWO FIELD TRIPS TO LAKE MACILWAINE, SALISBURY. By D. Corton.

Although early in the season, on Sunday 20th August 1961, I decided to see what had emerged from hibernation at Lake Macilwaine. I had with me a fellow herpetologist, Arthur Reed.

During the course of the morning we covered an area of rocks by the Marimba River, which flows into Lake Macilwaine. We looked under all promising rocks, dead trees, etc., but by lunch time we had only collected two Pachydactylus capensis affinis, a dozen scorpions and a young elephant shrew.

After lunch we covered a kopje by the railway line on the Toll-gate road into the National Park. The area had been recently burned, leaving no cover except the numerous rocks of the top of the Kopje. Turning these produced 5 Riopa sundevallii; 2 Ablepharus wahlbergii; 4 Mabuya varia; 1 Amphisbaena q. capensis and a Lycophidion c. capense. While collecting these, I saw a tail vanish behind a rock. Suspecting a Gerrhosaurus, I followed it and found a hole. I dug with a sheath knife and eventually uncovered a coil of Psammophis s. sibilans, which shot out of another hole and was caught after a chase. The snake was $4\frac{1}{2}$ feet in length.

We attributed the amphisbaenid and the Riopa to rain the previous night, but were proved wrong the following Saturday when I worked over the same kopje with Luchi Balarin, there having been no rain during the intervening period.

We got an Amphisbaena q. capensis on a small kopje nearby and the main kopje produced 8 Riopa sundevallii; 3 Ablepharus wahlbergii; 1 Mabuya v. varia; 1 Leptotyphlops scutifrons and a fine 41 cm. Lycophidion c. capense. One of the Riopa had two tails, one above the other.

EDITOR'S NOTE: This is the area where Alex Siemers collected several Monopeltis some years ago, but the only amphisbaenid taken there lately is Amphisbaena q. capensis. No Monopeltis are known from within a hundred miles of Lake Macilwaine.

NOTES ON TWO BLACK MAMBAS (DENDROASPIS P. POLYLEPIS). By J. Weimann.

Recently I was given an interesting account of a mamba by Mr. D. Weimann, an official at the Sutton Mine near Mtorashanga, S.R.

In October last an African mineworker reported a snake in the mine. It was found 400 feet underground. A European went down armed with a shotgun, but the snake had disappeared. It was seen again the following day, lying on a beam in exactly the same place, but it again disappeared. It was killed on the third day in the same place that it was seen on the two previous occasions. The length of the snake was 8 feet 6 inches.

When Mr. Weimann visited the Umtali Snake Park, he pointed out a mamba in one of the cages and said that it was the same as the one killed in the mine.

A juvenile mamba, three feet in length, was caught along a water furrow near the Umtali Snake Park at Old Umtali. This mamba settled down almost immediately in a cage at the Park and fed very well. It took the first white mouse offered to it, two days after being caught. Three more mice were taken, one each on the 7th, 14th and 21st days after capture. In each case the mouse died approximately two minutes after being bitten and took on an average five minutes to swallow.

This snake never struck or opened its mouth when anyone came near the cage, but did on occasions spread a hood. It was found dead six weeks after capture, having stopped feeding following a mite infestation.

Data of specimen (UM/H.1669) Length 983 (800+183) mm. MSR 23; ventrals 270; anal divided; subcaudals 117 (? tail tip missing). Colouration - dark olive green above, with some darker speckling towards the tail; pale olive green below.

IN LIGHTER VEIN - A LETTER TO THE "RHODESIA HERALD" By L. Balarin.

"Three stages in master-plan of new dedicated group."

To the Editor, The Rhodesia Herald.

SIR, - We would like to register our strong disapproval of the odious "repellant" product which was publicised in the Rhodesia Herald. No self-respecting snake will be able to rear its hood in public places for fear of being induced to "take a powder", if this noxious substance is placed in the irresponsible hands of humans.

At the annual congress of the H.A.R. (Host of Amiable Reptiles) - held at a secret place in the bush - the resolution that strong retaliatory measures against all humans be taken immediately, was passed unanimously. A master-plan was formulated and stage one of this plan (proposed by our Northern Rhodesian delegate, *Naja melanoleuca*) is to be implemented immediately. This will take the form of a non-violence campaign.

Part two of the master-plan (proposed by our Indian delegate, *Naja hannah*), will be a fast until death campaign and will coincide with the commencement of the Southern Rhodesia harvest season.

The following branches of our Association will be involved:-

- i. Adders and Cobras. Total abstinence from rats and mice.
- ii. Mambas and Boomslangs. Total abstinence from all destructive seed-eating birds.
- iii. Pythons. Total abstinence from wild pigs, jackals and hyenas.

Should these measures fail to stamp out this "repellant" threat, we propose to put into operation part three of our master-plan (as proposed by our S. Rhodesian delegate, *Dispholidus nkomoensis*). Details of this part of the plan are still secret, but we can divulge that as the result of the nation-wide reptile strike we intend to call, the consequences of its implementation will have serious repercussions in the serum-manufacturing industry.

We should like it to be known that we, the members of the H.A.R., are dedicated to the eradication of this threat to the existence of the reptiles of Southern Rhodesia.

BITIS (BALARIN) GABONICA
for H.A.R.

Sinoia.

(This letter was published in the "Rhodesia Herald" on November 13th, 1961, following a report on a new "Snake Repellant" powder.)

CASE HISTORY OF A PUFFADDER (BITIS ARIETANS) BITE. By M.G. Goddard.

On Sunday, 26th June, 1960, at 9.34 a.m. I was bitten by a two foot female puffadder. The bite was with both fangs and was inflicted on the inside of the left thumb.

9.34 a.m. Within a few minutes of the bite, a tourniquet was applied at the wrist. Two incisions were made at the site of the bite. Potassium Permanganate crystals in solution with saliva were rubbed into the wound. 5 c.c. of serum was injected at the shoulder. Swelling was visible and a sharp pain was present.

9.45 a.m. Taken to Hospital (journey of 13 miles).

9.55 a.m. Arrived at Hospital. Blood oozed continuously from the wound and was of a thin, watery quality. By now the whole hand had begun to swell visibly and the thumb had turned blue. A further 10 c.c. of serum was injected at the shoulder.

10.05 a.m. A Sphinctomonometer (used for taking blood pressure) was applied at the shoulder and released every 15 minutes for one minute. The tourniquet at the wrist was removed.

10.15 a.m. Now in bed, I was conscious of an intensity of pain. The swelling had now progressed up to the fore-arm.

10.45 a.m. I remember getting up for a pencil. This brought about a violent spell of illness, resulting in a complete black-out.

11.30 a.m. I had suddenly become thirsty, and, sitting up in bed became very dizzy. All the time, from the moment of the bite, the wound continued to ooze watery blood. Occasionally, a scab would form, but would soon be dislodged with a violent throb of blood.

12.00 noon. Dizziness returned, took two Codeine, but without effect.

1.00 p.m. By this time, the swelling had increased and was beginning to progress beyond the elbow.

2.00 p.m. The pain in the thumb became more acute and began to spread up the arm to the shoulder.

3.00 p.m. Another two Codeine were taken with water.

3.30 p.m. I slept from this time to 11.30 p.m., when I woke, I experienced a violent retching bout. This helped to dispel my dizzy feeling. I was given two sleeping tablets, but was unable to sleep due to the pain. Swelling had increased to the shoulder.

27th June. A dressing was applied to the wound, which was still oozing watery blood. Still feeling very weak. Thumb was soaked in hot water every four hours until it had healed.

28th June. Dressing was changed. Thumb had not stopped oozing blood until late that night.

29th June. Swelling had begun to subside, but arm was very stiff (unable to move it). Was allowed out of bed that afternoon.

For the next four days, dizzy spells persisted and the colour of the thumb changed from black to a dark greenish-yellow. On 4th July I began to notice a serum reaction in the form of an itch all over the body. The spots developed into little bumps, but subsided the following day. My body became swollen. Glands in the neck, groin and armpit remained swollen for a few days. At times the stiffness was so acute that I was unable to stand.

During the next few weeks the damaged thumb sloughed a few times and it was not until more than a month after the bite that I was able to induce some movement in my thumb.

Mid-August. Thumb had now healed, but was still very stiff

Eight months after the bite, life had still not completely returned to my thumb.

April 1961. My thumb is still very tender and I am not able to use it.

EDITOR'S NOTE: This case history is an unfortunate example of how not to deal with a puffadder bite. The application of potassium permanganate to the wound and the application of a ligature would encourage local tissue destruction, although as the ligature was not applied to a single bone it was probably ineffective in any case. Serum should have been injected at and around the site of the bite, not in the shoulder.

Appendix "B" contains a Synopsis of Lepidosis and salient characters in species of Nyasaland snakes. The range of variation given covers the species throughout its range.

Appendix "C" gives some figures for snakes trapped in pits or killed during grass cutting and also a list of ophiophagus birds in the Shire Valley.

There is a bibliography and indices to English, African and Scientific names.

The five photographs (one in colour) are disappointing, but the 43 line drawings (mainly side views of heads) are generally good. Unfortunately Fig. 42 shows the head markings of Bitis gabonica rhinoceros instead of the typical form.

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This book is a worth-while addition to the H.A.R. member's library, although the illustrations compare unfavourably with those in Desmond Vesey-FitzGerald's "The Snakes of Northern Rhodesia and the Tanganyika Borderlands." (Proc. Trans.Rhodesia Scientific Assn., 46, pp. 17-102). - D.G.B.

 NOTES ON CHAMAELEO MARSHALLI. By Donald G. Broadley.

Chamaeleo marshalli was originally described from Chirinda Forest by Boulenger in 1906. He placed this species in the genus Rhampholeon, otherwise known only from north of the Zambezi and from Madagascar. In 1951 Loveridge rejected marshalli as a Rhampholeon, despite its bicuspid claws, and transferred it to Chamaeleo on account of its prehensile tail. In 1956 Loveridge created a sub-genus, Bicuspis, to accommodate marshalli and draw attention to its intermediate status.

This little chameleon was poorly known until 1937, when Dr. V.F. FitzSimons collected 57 specimens in the Chirinda Forest and forest patches on Vumba Mountain. Dave Blake and myself searched in vain for C. marshalli until 2nd January this year, when we collected 16 specimens in Bunga Forest on the Vumba. Three of these were large females exceeding 100 mm. in total length, the rest were males and subadults 50-80 mm. in length. At night the sleeping chameleons show up pale yellow-green in a strong light. In daylight the colouration is variable, but males show a tendency towards shades of grey and brown with the throat brilliant green. In females shades of green predominate.

This species has a remarkably long tongue and a $2\frac{1}{4}$ inch female kept by John Weimann was observed to catch a fly at a range of $3\frac{1}{2}$ inches. John claims that its maximum range is $4\frac{1}{2}$ inches, but this requires verification.

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BOOK REVIEW - "THE SNAKES OF NYASALAND." By R.C.H.Sweeney.

This is the first "popular" book on the snakes of the Nyasaland Protectorate, the only work previously available being a scientific paper by Arthur Loveridge, "Reptiles from Nyasaland and Tete." (Bull. Mus. Comp. Zool., 110, pp. 143-322).

Part I gives information on snakes in general, covering identification characters, general biology and classification, with some notes on African folk-lore.

In Part II the 52 Nyasaland species are discussed in detail, giving the description, distribution, life-history and habits, based on studies of snakes in captivity as well as the feral state. The descriptions are generally sound, although I noted that the maximum length of Mehelya nyassae is given as 5 feet, whereas this species does not in fact exceed 2 feet.

From Charles Sweeney's observations on Nyasaland snakes it would appear that there is considerable regional variation in temperament. Rhodesian specimens of Natriciteres olivacea and Lycophidion capense are very placid and never attempt to bite: in Nyasaland both species are often aggressive - hissing, flattening the head and striking. On the other hand, in Rhodesia both Boaedon fuliginosus and Philothamnus irregularis are prone to bite on capture, whereas Sweeney finds them inoffensive in Nyasaland.

H.A.R. members may be surprised to find Atractaspis described as a gentle snake which shows little inclination to bite, although the author admits that he is more familiar with the Sudanese species (A. irregularis and A. microlepidota) than our local A. bibronii. Certainly the latter cannot be safely handled, even by the tail, and this snake is responsible for more snake-bites in Rhodesia than any other species except Bitis arietans and possibly Causus rhombeatus.

There are some interesting and original observations on feeding habits. For example - "When very young (The African Python) eats frogs and toads and their larvae (tadpoles) and large insects." I have no records of newly hatched Rhodesian pythons taking anything but rats and birds.

Dasypeltis is alleged to include the eggs of snakes and lizards in its diet. No report of such behaviour has ever been published and it is to be hoped that any available evidence will be placed on record. Hatchling Dasypeltis feed readily on weaver bird's eggs. An instance of an Aparallactus taking a scorpion is recorded. I believe that this is the first time that a member of this genus has been found to feed on anything but centipedes.

Causus rhombeatus has been found to eat "very small terrapins". A detailed description of this feat would have been appreciated. The Cottonmouth (Agkistrodon piscivorus) has this habit, but it has not to my knowledge been previously recorded in an African snake.

Appendix "A" contains a Key to Families, a Field Guide to Common Snakes and a Key to the combined families Colubridae, Elapidae and Viperidae.

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