

NOTES ON THE HERPETOFAUNA OF SOUTHERN MALAWI

SIMON TONGE (1) and DAVID MORGAN (2)

(1) Jersey Wildlife Preservation Trust, Les Augres Manor, Trinity, Jersey, C.I.

(2) Transvaal Snake Park, Halfway House, Transvaal, South Africa

INTRODUCTION

Over the past twenty years, the herpetofauna of southern Malawi has become well known compared with that of most areas of Africa. Stevens (1974) produced a comprehensive checklist of the reptiles and amphibians of the south-eastern area of the country, and Morgan (1979, 1981) has reported on collections made in the same general area. More detailed treatments of particular groups include Stewart (1967) and Sweeney (1961). Before our visit to the country, D.M. consulted the doyen of African herpetologists, D.G. Broadley, who was kind enough to prepare for him a checklist of species of reptiles and amphibia recorded from the entire country.

This paper concerns a trip to Malawi undertaken by the authors between 21st December 1983 and 13th January 1984. The following localities were investigated (also see map):-

1. City of Blantyre, in particular Namiwawa and Sunnyside districts —
 - 1a) Mudi River (24th and 29th December)
 - 1b) Ndirande Mountain (28th December)
 - 1c) Burn Dam, Limbe (28th December)
2. Thyolo (Tunga Dam and roads through the tea estates) (27th December)
3. Lengwe National Park on the west bank of the Shire River between Chikwawa and Nchalo (30th December).
4. Streams and rivers around the base of Mulanje Mountain (8th and 10th January, 1984).
5. Zomba Plateau (Mulunguzi Dam and Mandala Falls) (31st December)
6. Kachulu jetty and Nchenga village on the shore of Lake Chilwa (31st December)
7. Nkhudzi Bay on the south-western shore of Lake Malawi (2nd-6th January)
8. Cape Maclear at the northern tip of the Nankhumba Peninsula, southern Lake Malawi (3rd January)

The physiography of the area in question has been described by Stevens (1974) and will not be discussed again here. Both the authors are former residents of Malawi and were visiting the country for the first time in five and three years, respectively. We were both struck by the increase in cultivation, particularly in and around Blantyre, that had occurred during our absence. There seems to be little doubt that many species of herptile have decreased in both numbers and range during that time (e.g. the apparent disappearance of *Philothamnus* from the Burn Dam in Limbe). This article is intended to provide a 'reference point' for future workers trying to document ecological damage in that part of Africa.

The authors heard second-hand reports of two species that have not been seen in Malawi since Loveridge (1953) reported on his collections. The first of these is the Caecilian *Scolecophorus kirkii*, which two friends reported having seen on Ndirande Mountain some months previously. This would have been a new locality record if we had been able to verify it. The second is the 'Leaf Chameleon' *Rhampholeon b. brachyurus*, which was reported from a friend's garden just prior to our visit. Unfortunately, he was unable to locate the specimen once we had arrived in the country, so we could not confirm the identification. This subspecies is found only in the Shire Highlands, and Stevens (1974) reports that it is restricted to 'gallery forest bordering streams'. As this is possibly the most degraded habitat in Blantyre, there may be grounds for some concern over the long-term future of this form.



Map of southern Malawi showing localities visited during the course of the trip.

AMPHIBIANS

Xenopus l. laevis. Localities: 1a, 1c, 2. Not collected, common in deeper, permanent pools where it is often observed rising for air.

Bufo gutturalis. Localities: 4. Found on a golf course in bright sunshine.

Bufo maculatus. Localities: 2, 7. Active at 15.00 hr (2) and at 20.00 hr (7).

Bufo sp. Localities: 4, 5. Many newly-metamorphosed juveniles found alongside shady streams proved impossible to identify to species.

Breviceps mossambica. Localities: 1. One specimen found in a cool, shady garden at 16.00 hr; another at 20.00 hr in the gutter alongside a very busy road in the middle of Blantyre.

Rana angolensis. Localities: 5. Some recently metamorphosed frogs alongside the Mulunguzi Dam, Zomba Plateau were identified as this species from Stewart (1967).

Prychadena spp. Localities: 1a, 4, 5, 6. Specimens belonging to this genus were common at several localities. Those from Blantyre were probably *P. oxyrhynchus* but no attempt was made to identify the others. *Phrynobatrachus (ukingensis) mababiensis*. Localities: 4. This species was common in streams around the Mulanje Golf Club. One specimen was caught and photographed.

Phrynobatrachus natalensis. Localities: 7. Two tiny frogs, captured in a swampy area at Nkhudzi Bay, are tentatively identified as this species from Stewart (1967).

Arthroleptis stenodactylus. Localities: 1. One specimen was captured in the same garden as the *B. mossambica*. Many frogs calling at night in Blantyre were thought to be this species, although no attempt was made to seek out the callers.

Hemisus marmoratum ssp. Localities: 1, 3. One specimen was captured at night on the forecourt of Blantyre Sports Club, and a female on eggs was discovered under a log at the North Hide waterhole, Lengwe National Park. This appears to be the first record of this species from Lengwe and only the second for the Lower Shire (Stevens, 1974).

Chiromantis xerampelina. Localities: 3. Foam nests of this species were seen over several waterholes and temporary pools. One pool contained many thousands of newly-hatched tadpoles.

Afrixalus b. brachycnemis. Localities: 1c. One specimen was seen and photographed, basking in bright sunshine on a Water Hyacinth.

Afrixalus f. fornasinii. Localities: 6, 7. Specimens were commonly found in the leaf axils of Aloes, Sisols and other broad-leafed plants during the day.

Hyperolius marmoratus albofasciatus. Localities: 1c, 2, 5, 7. There seems to be some confusion over the specific name of this form. Stewart (1967) uses *marmoratus* whilst Stevens (1974) uses *parallelus*. We have followed Passmore and Carruthers (1979). It is a common species, found almost everywhere.

REPTILES

Pelomedusa subrufa. Localities: 8. One specimen was brought to us by a native who had captured it locally.

Pelusios sinuatus. Localities: 7. One specimen was found in the swampy area behind the beach at Nkhudzi Bay.

Cycloderma frenatum. Localities: 8. Two recently-hatched juveniles were brought to us from the flooded area near Cape Maclear, where the species is known to breed (Morgan, 1981). When we investigated the area on 3.1.84, it had almost completely dried up and no terrapins could be found. The native name is Nkasi. Dimensions were as follows:

1) Carapace length: 62.0 mm, Plastron length: 59.0 mm, Shell height: 20.0 mm, Carapace width: 45.8 mm, Weight: 29.0 g.

2) Carapace length: 50.0 mm, Plastron length: 49.8 mm, Height: 20.9 mm, Carapace width: 38.5 mm, Weight: 13.0 g.

Kinixys b. belliana. Localities: 7. One specimen, an adult male, was brought to us by a native who had captured it locally. We photographed and released it.

Hemidactylus mabouia. Localities: 1, 7. The common 'House' Gecko, found both in Blantyre and at Lake Malawi.

Hemidactylus platycephalus. Localities: 7. Specimens were taken around Nkhudzi Bay and one specimen was seen in thick scrub on top of Nkhudzi Hill.

Hemidactylus spp. Localities: 3. Geckos assignable to this genus were common on the walls and roofs of hides and rondavels in Lengwe National Park. Our identification of *H. platycephalus* was later refuted by Dr. Wulf Haacke of the Transvaal Museum, who stated that the photos looked much more like *H. tasmani*, a species not recorded from Malawi before. Regrettably, a specimen was not taken and the matter must remain in doubt until a specimen is obtained.

Pachydactylus bibroni. Localities: 7. One adult specimen was brought to us by a native who had caught it locally.

Lygodactylus capensis. Localities: 1, 7. A common diurnal commensal species.

Lygodactylus angularis. Localities: 2. One specimen was seen on a tree in a garden in the tea estates.

Agama kirkii. Localities: 1a, 1b. Common anywhere that has rocks or boulders.

Agama cynogaster. Localities: 1a. One female specimen seen on a tree beside the Mudi River was probably this species.

Agama aculeata armata. Localities: 7. One specimen was seen sunning itself on a tree stump in a maize field at about 10.00 hr. There is confusion over the proper specific name. Welch (1982) calls Malawian specimens *A. hispida mertensi*, but following McLachlan (1981) *A. hispida* is a South African endemic, so *A. h. mertensi* is here regarded as a junior synonym of *A. aculeata armata*.

Chamaeleo dilepis. Localities: 1a, and several specimens were seen on the road between Mangochi and Nkhudzi Bay. A common species.

Chamaeleo melleri. Localities: 1. Six specimens, probably all female, were collected in Blantyre. One of them was definitely gravid; she laid premature eggs in a collecting bag on the flight back to South Africa; but the other five did not appear to be so. Possibly they had just laid eggs and were making their way back to the trees from the laying site when caught. Four females were weighed and measured, as follows:—

	Total length (mm)	SVL (mm)	Weight (g)
1)	445	210	108
2)	465	225	180
3)	463	213	114
4)	488	230	

207

The authors heard convincing reports of two-horned chameleons being found around Blantyre. There is a two-horned *C. melleri* in the Transvaal Museum and it seems possible that this species is sexually dimorphic in respect of the number of horns, males having two and females one. That this has not been reported before is not surprising as males practically never descend from the tops of high trees, so are rarely caught. Sexual dimorphism is common in *Chamaeleo* species.

Mabuya maculilabris. Localities: 4. One specimen was seen and photographed on a flying-ant trap beside a stream near Mulanje Golf Club. It was identified as this species from Broadley (1974).

Mabuya quinquetaeniata margaritifera. Localities: 1a, 1b, 7, 8. This species is strongly associated with rocks. It was found in *Brachystegia* woodland on Ndirande Mountain but not in evergreen forest.

Mabuya lacertiformis. Localities: 7. The species is common rocks both on the shoreline of, and behind, Nkhudzi Bay.

Mabuya s. striata. Localities: 1, 7, 8 and Lilongwe Airport. A very common commensal species.

Mabuya varia. Localities: 1a, 2, 7. A gravid female of this common species was captured on a roadside verge in Thyolo.

Afroablepharus wahlbergi. Localities: 1. A tiny juvenile was captured in a garden in Sunnyside.

Gerrhosaurus flavigularis. Localities: 1a, 6, 7, 8. A common species, though very hard to capture.

Gerrhosaurus validus. Localities: 7. One specimen was seen on a dry, thicket-covered slope at the north end of Nkhudzi Bay.

Ichnotropis squamulosa. Localities: 7. Several specimens were seen and one was captured alongside sandy paths at the base of Nkhudzi Hill.

Varanus n. niloticus. Localities: 7, 8. A common species at Lake Malawi. One juvenile specimen was captured on 5.1.84. Specimens basking on rocks along the shoreline can be located from a boat; one person can then approach the rock by swimming underwater, leap out and grab the lizard before it is aware of the person's presence. This is a highly successful technique. Catching an alert monitor in the rocks is practically impossible.

Typhlops schlegelii mucruso. Localities: 1. Several DOR (dead on road) specimens were seen in Blantyre.

Python sebae natalensis. Localities: a specimen that had been captured at Liwonde was donated to us, and it was taken back to South Africa. Subspecific identification is from Broadley (1983).

Natriciteres variegata sylvatica. Localities: 5. One dead and one live specimen were found beside the Mulunguzi Dam. The latter was captured mid-afternoon, following a brief rain shower. It was probably hunting frogs in the short grass around the dam.

Natriciteres olivacea. Localities: 7. One specimen was found in the swampy area behind Nkhudzi Bay. It was freshly dead in a hippo foot-print, though did not appear damaged.

Lycodonormorphus leleupi mlanjensis. Localities: 1a. This species can still be found in the deeper pools of the Mudi stream.

Lamprophis f. fuliginosus. Localities: 1, and a DOR specimen was found at the top of the Kasupe escarpment on the main road to Zomba. The Blantyre specimen was a juvenile, caught on a friend's verandah.

Philothamnus angolensis. Localities: 1a, 4. This species is common on the tops of bushes, alongside streams. It could not be found at the Burn Dam in Limbe, a locality where it used to be very abundant.

Crotaphopeltis hotamboeia. Localities: 1. A single, white-lipped juvenile was found in a damp, shady garden in Sunnyside.

Telescopus s. semiannulatus. Localities: 7. A single, newly-hatched juvenile was brought to us by a native.

Rhamphophis oxyrhynchus rostratus. Localities: 7. A juvenile male was captured alongside a bamboo fence around the garden of our cottage at Nkhudzi Bay. It was very thin and, while still being handled just after capture, took and ate a *Hemidactylus mabouia*! Total length: 369 mm, SVL: 274 mm, Weight: 9.5 g.

Psammophis subtaeniatus orientalis. Localities: 7. One juvenile was captured on top of a wall behind the beach, and an adult was seen and photographed in a dense thorn bush alongside the access road to Nkhudzi Bay.

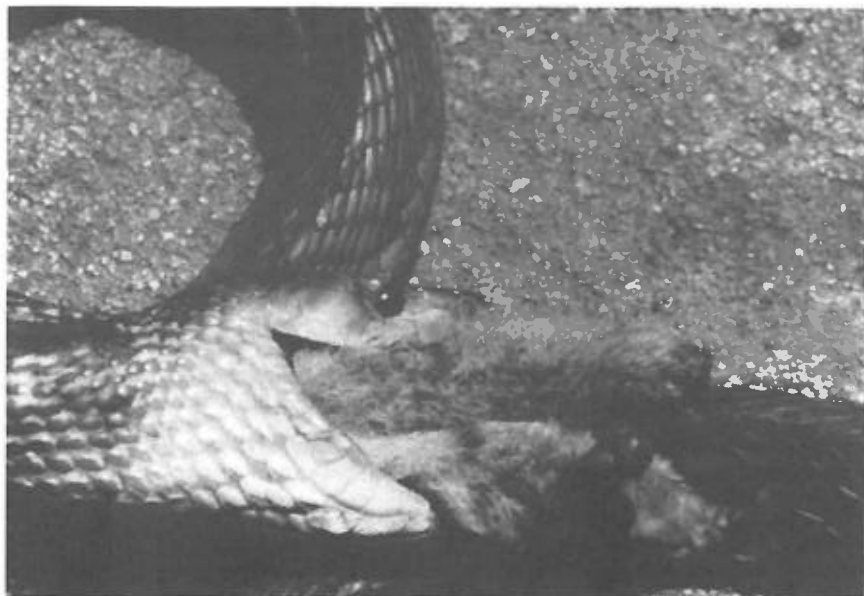


Plate 1. *Dendroaspis polylepis* killed while consuming a *Galago* sp.



Plate 2. Hatchling *Cycloderma frenatum*

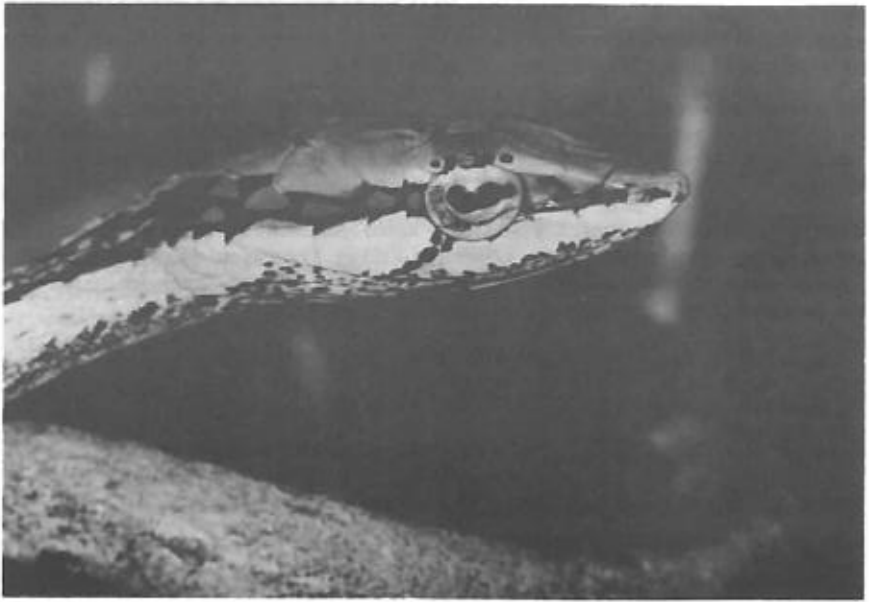


Plate 3. Juvenile *Thelotormis capensis oatesi*.

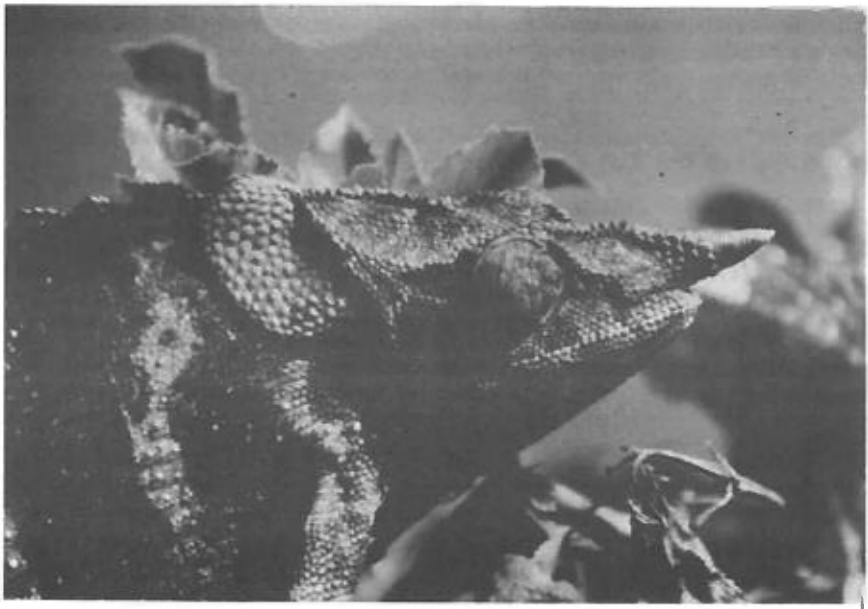


Plate 4. Adult Female *Chamaeleo melleri*

Psammophis phillipsi. Localities: 7. One adult female specimen was captured in a large bush about 100 yards west of the main Liwonde-Monkey Bay road, just opposite the Nkhudzi Bay turning. (Total length: 1083 mm, SVL: 925 mm, Weight: 170.4 g).

Thelotornis capensis oatesi. Localities: 7. Two adult males and one juvenile were captured in trees at the base of Nkhudzi Hill. One adult was digesting a *Chameleo dilepis*. Dimensions of the two adults are as follows: 1) Total length: 1400 mm, SVL: 1050 mm, Weight: 62.0 g. 2) Total length: 1062 mm, SVL: 780 mm, Weight: 43.7 g.

Dendroaspis polylepis. Localities: 7. Two freshly-killed specimens were obtained. The first was a beheaded, dark green juvenile, killed in Nkhudzi Village. The second was a 2280 mm (185 mm SVL) adult, which had been killed in the act of swallowing a *Galago senegalensis*. Mambas are usually uncommon and hard to find.

Dendroaspis angusticeps. Localities: one adult male was located and captured at Sucoma in the Lower Shire Valley on 11.1.84. It was taken back to the TSP and was ultimately exported to the U.S.A. (Total length: 1012 mm, SVL: 798 mm, Weight: 43.5 g.).

Causus defilippi. Localities: 4. One female specimen was captured on the bank of a small stream near Mulanje Golf Club. It was active at 12.30 hours and was captured without difficulty, using pilstrom tongs. (Total length: 210 mm, SVL: 182 mm, Weight: 19.8 g.).

ACKNOWLEDGEMENTS

Many people contributed to the success of this trip and there is not enough space here to thank them all individually. However, S.J.T. would like to express particular thanks to Bob and Tess Renshaw, his hosts during his stay in Malawi, and D.R.M. would like to thank both his host, Gray Bowden and his colleagues at the TSP, Richard Boycott and Rod Patterson, for their support and encouragement.

REFERENCES

- Broadley, D.G. (1974). A review of the *Mabuya maculilabris* group in South-eastern Africa. *Arnoldia (Rhodesia)* 23 (6): 1-10.
- Broadley, D.G. (1983). *Fitzsimons Snakes of Southern Africa*. Delta Books, South Africa.
- Loveridge, A. (1965). Zoological results of a fifth expedition to East Africa III. Reptiles from Nyasaland and Tete. *Bull. Mus. Comp. Zool. Harv.* 110 (3): 143-322.
- McLachlan, G.R. (1981). Taxonomy of *Agama hispida* (Sauria: Agamidae) in Southern Africa. *Cimbebasia Series A* 5 (6): 219-227.
- Morgan, D.R. (1979). Notes on a herpetofauna collecting trio to Malawi, Central Africa. *Herpfile* 4 (3): 24-28.
- Morgan, D.R. (1981). Report on a second collecting trip to Malawi, Central Africa. *Herpfile* 6 (2): 31-36.
- Passmore, N. and Carruthers, V. (1979). *South African Frogs*. Witwatersrand University Press, Johannesburg.
- Stevens, R.A. (1974). An annotated checklist of the amphibians and reptiles known to occur in south-eastern Malawi. *Arnoldia (Rhodesia)* 30 (5): 1-22.
- Stewart, M.M. (1967). *Amphibians of Malawi*. State University of New York Press, Albany, New York, U.S.A.
- Sweeney, R.C.K. (1961). *Snakes of Nyasaland*. p.p. 200 + xi. Zomba: Nyasaland Society and Nyasaland Government.
- Welch, K. (1982). *Herpetology of Africa*. Robert E. Kreiger Publishing Company, Malabar, Florida, U.S.A.