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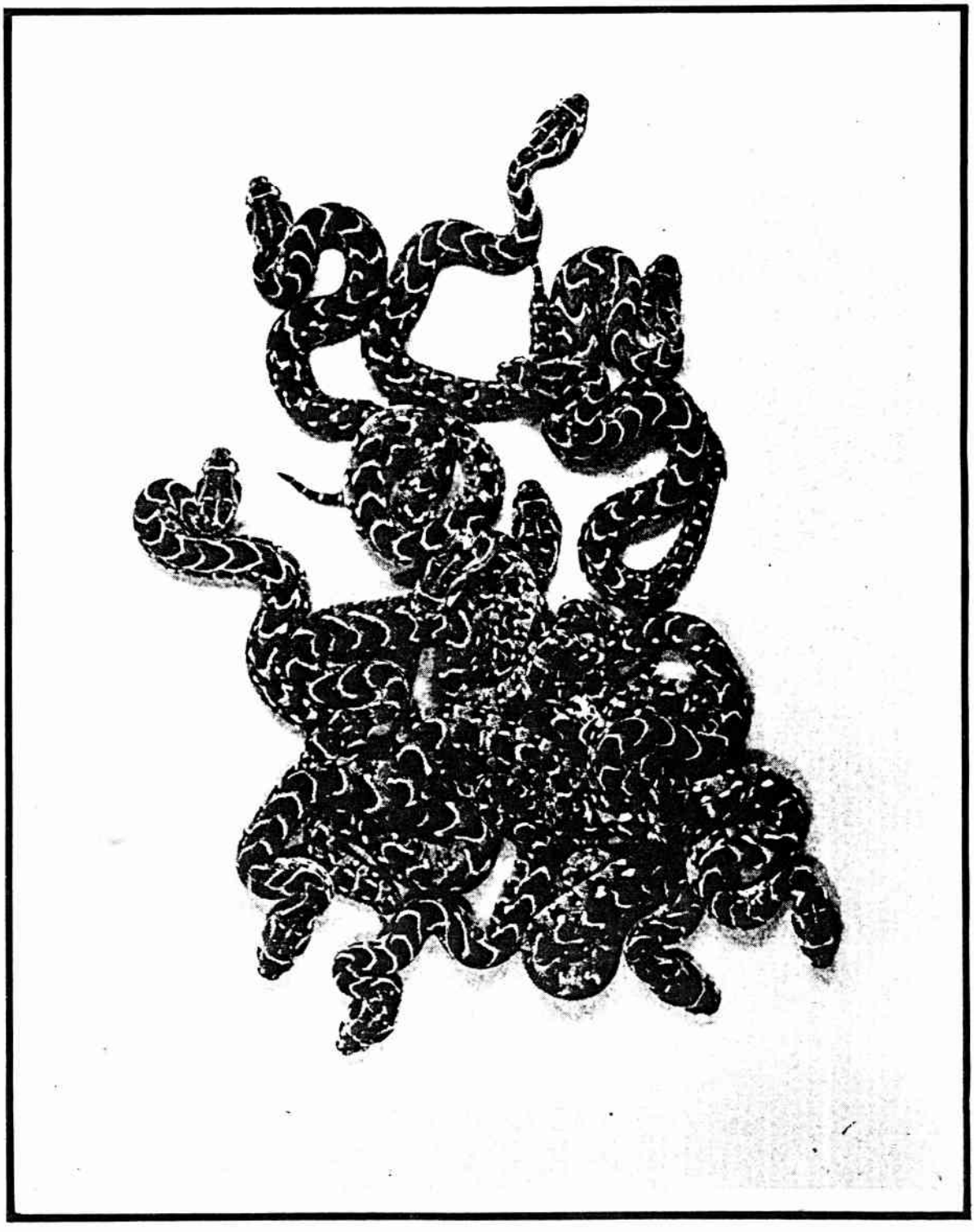

NOTES ON THE CAPE TERRAPIN, *PELOMEDUSA SUBRUFA* (PLEURODIRA: PELOMEDUSIDAE) IN THE EASTERN ROBERTSON KAROO

INTRODUCTION

The Cape terrapin (Pelomedusa subrufa) occurs widely in Africa. It is the only freshwater tortoise found in the Cape Province. Where they occur they are usually abundant, frequenting dams and ponds, and to a lesser extent river courses. Surprisingly little has been published (for example, Hewitt 1937; Miller 1979) on this species, and no documented records are available for the semi-arid areas of the Cape Province. They are seasonally common in the eastern Robertson Karoo.

A study was undertaken to assess the status of the population on the Vrolijkheid Nature Conservation Station (3319DD Robertson), and obtain some information on growth and movement during the period January 1980 to March 1982.

METHODS

Dams and natural water bodies in the eastern Robertson Karoo were visited at irregular intervals, and a record made of the presence or absence of terrapins. When present the numbers sighted were recorded.

Three dams on the Vrolijkheid Nature Conservation Station were seine netted with small mesh nets, at least once each month. The nets were dragged in such a way that the bottom of the net was kept ahead of the top of the net. This created a pocket which served to hold any terrapins that came into contact with the net. Individuals were initially marked by drilling holes in the marginal scutes, but this was later modified to include the painting of scutes. Animals were sexed, length of carapace taken (straight line) and the body weight recorded. All specimens were released at the dam of capture and subsequent recaptures were recorded.

RESULTS

A total of 42 terrapins were captured, marked and released, of which 25 were male and 17 female. During the first twelve month period, 35 terrapins (83%) were captured and marked, the remaining seven (17%) were taken during the following fifteen month period. Two of the three dams were dry for a total of eleven months. The third dam, which was only dry for a two month period, was used as a "retreat" by most of the terrapins when the two smaller dams were dry. Many of the animals originally netted in the smaller dams were collected in the large dam when the former were dry.

The distance between the furthest small dam and the large dam was 3,4km. One large, marked male travelled at least 5,1km over a period of three days. This animal was recaptured at the furthest of the small dams, and the following day was taken at the large dam, on the third day it was caught walking up a gravel road in the direction of the same small dam. During exceptionally heavy rains in April 1981, four marked terrapins were found moving away from one of the small dams. Their distances were approximately 150m, 170m, 250m and 270m from the water body.

The number of terrapins captured in the three dams is given in Fig 1. There were no captures or sightings during May, June or July, generally the three

months with the lowest temperatures. Efforts were made to find terrapins during these three months. Dam bottoms and walls were probed with sharp pointed metal rods, and surrounding dense bush searched. Despite a total of 26 hours searching the shells of only two dead terrapins were found. Both were just below the mud surface, and it is not known whether they died whilst there was water, or after the water had dried out.

The number of terrapin sightings at other dams in the area was by far the highest during October. This was also the month when the largest number of terrapins were captured in the three Vrolijkheid dams.

Of the 14 water bodies irregularly checked for the presence of terrapins, only one had clear water, the others were all turbid to various degrees. All had predominantly mud or silt bottoms. Terrapins occupied dams with and without aquatic plant populations.

Carapace length and mass of captured terrapins are presented in Table 1, and growth information for seven terrapins is given in Table 2.

DISCUSSION

One problem was not solved by this study. Where do the terrapins go when the dams dry up? It is well known that this terrapin wanders across dry land between water bodies, particularly during the rains. They also move from water bodies that dry up, to dams still holding water. Although not substantiated in the present study, farmers and their labourers in the Robertson Karoo maintain that the terrapins do not bury themselves in the mud of dried out dams, but move away into the veld. Here they are said to bury themselves in the soil below dense bush.

Greig and Boycott (1980) during the course of a tortoise survey collected a burned terrapin in open Karoo in the Eastern Cape. W.R. Branch (pers.comm.), on the 1 March 1983, found a live adult terrapin sheltering under a large boulder on emergent bedrock, 50m from a dried-up dam on Rooiplaat, Mountain Zebra National Park, Cradock. In order to establish whether in fact Cape terrapins do move away from dry water bodies into open country during dry spells would require the implementation of a radio-telemetry programme.

One aspect is clear, that this terrapin has benefited from the numerous man-made dams in the Robertson Karoo and the rest of the arid Cape interior. In the absence of these artificial water bodies penetration of otherwise unsuitable habitat would have been impossible for this species. It is probably the only Cape tortoise to have actually increased its range.

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REFERENCES

Greig, J.C. and Boycott, R.C. 1980. The eastern Cape- a tortoise paradise. The Eastern Cape Naturalist 69 : 8-10.

Hewitt, J. 1937. A guide to the vertebrate fauna of the Eastern Cape Province, South Africa. Part II - Reptiles, Amphibians, and freshwater fishes. Albany Museum, Grahamstown.

Miller, D.G.M. 1979. Daily basking patterns of the fresh-water turtle. S. Afr. J. Zool. 14 (3): 139-142.

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TABLE 1. Carapace length (mm) and mass (g) of wild caught Pelomedusa subrufa in the Eastern Robertson Karoo.

MALE	n	$\bar{x}$	range
Carapace length	25	171	72-280
Mass	25	746	85-2450
FEMALE			
Carapace length	17	185	74-270
Mass	17	922	70-2195

TABLE 2. The growth of seven wild, marked, Pelomedusa subrufa, on the Vrolijkheid Nature Conservation Station.

Growth Period (days)	Dates	Sex	No.	Carapace increase (mm)	Mass increase (gm)
631	2.1.80/26.10.81	♀	(6)	30(157-187)	332(415-747)
559	25.2.80/ 8.10.81	♀	(T446)	9(74-83)	35(70 -105)
391	12.8.80/ 8.10.81	♀	(R54)	7(201-208)	180(805-985)
253	2.1.80/12. 8.80	♂	(4)	9(213-222)	70(1080-1150)
368	8.9.80/12.10.81	♂	(R57)	0(250)	25(1440-1465)
354	6.10.80/26.10.81	♂	(T430)	41(72-113)	5(45-50)
340	6.10.80/12.10.81	♂	(T429)	37(90-127)	45(90-135)

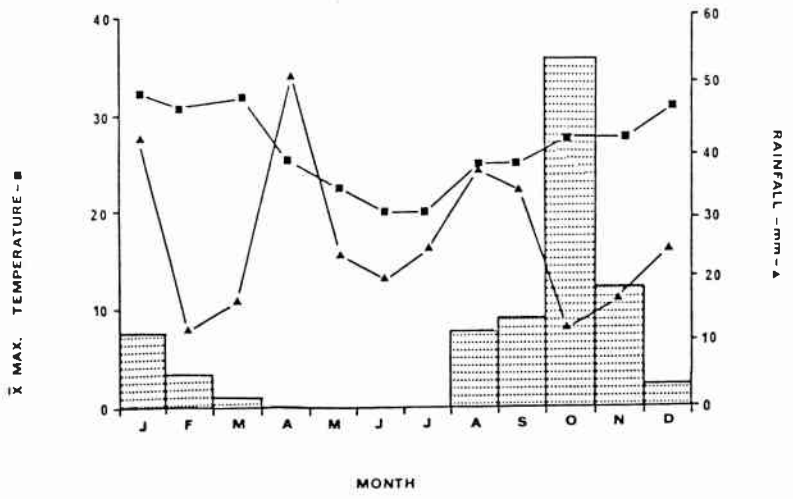

Figure 1. The frequency occurrence of netted terrapins during the total study period, with the mean maximum temperatures and mean monthly rainfall for the same period.