

CHAPTER 14

CRYPTOMYS DARLINGI (THOMAS) 1895

This bathyergid species was first described by Thomas (1895, 239) from specimens collected at Mazoe and Salisbury in Mashonaland, Southern Rhodesia. Mr. J. Ffolliot Darling obtained the mole-rats at the former locality, while Mr. G.A.K. Marshall collected the Salisbury material. This species was named by Thomas after Mr. Darling, taking one of Mr. Marshall's Salisbury specimens as the actual type.

As here understood, C. darlingi is a monotypic species, occurring predominantly on the Mashonaland plateau.

Cryptomys darlingi (Thomas)

Georychus darlingi Thomas, Ann. Mag.nat.Hist., Ser. 6, 16: 239, 1895. Type locality: Salisbury, Southern Rhodesia.

Type Specimen:

British Museum (Natural History),  
 No. 95.7.16.4. Collected May 14th 1895 by G.A.K. Marshall.

Type locality:

Salisbury, Southern Rhodesia.

Distribution: (Fig. 14.1).

Mashonaland, southwards to Mount Selinda and the lower lying area of Matibi in eastern Southern Rhodesia. From the type locality, it also ranges south-westwards to Selukwe and the vicinity of Bulawayo.

Diagnostic/...

Diagnostic characters:

A medium to large sized species, H.B. M = 145 mm., C.B. M = 33.3 mm. (♂♂). More or less intermediate in size between the larger C. damarensis and smaller C. hottentotus. Dorsally and ventrally, the pelage is a drab-grey, while an occipital white patch (variable in extent and occurrence) is usually present. Mammae: 2 pectoral pairs, 1 inguinal pair = 6.

Colour:

Thomas (1895, 239) has described the colour of C. darlingi as being a uniform drab (nearest to the drab-grey of Ridgeway). This basic colouration is modified by the slaty-grey bases of the hairs showing through. The ventral pelage is more or less identical to that of the dorsal aspect but slightly more slaty. Apart from the slaty-grey base of the individual hairs, their tips are fawn coloured. The pelage has been described as short, close and velvety (Thomas, 1895, 239), while the hairs barely reach a length of five millimeters on the back.

The feet and tail have a pinkish colour in the fresh or living condition while the bristles on the limbs and tail have the same colour as the body pelage. Thomas (loc.cit.) is of the opinion that the tail may be narrower than in 'C. caecutiens' (i.e. C. hottentotus). The dorsal and ventral colouration thus intergrades without a pronounced line of demarcation.

As is the case in the majority of Crypto-  
mys species, the juvenile pelage is decidedly darker compared to the colour portrayed by the adult.

Colouration/...

Colouration in adult specimens shows a certain degree of geographical variation. This is evident, when comparing not only different populations or colonies, but even within specimens from the same tunnel system. Examples from the eastern Melsetter district are decidedly darker compared to those collected at Salisbury, which tend to be yellower in colour, while specimens from Bulawayo show a definite light-grey hue.

The occurrence of the white occipital patch is also variable. In specimens seen by me, it varied from its complete absence to large and well developed patches, although never attaining the size found in C.damarensis. Thomas (1895, 239) described his specimens as having large and prominent triangular patches averaging 14 mm. long x 8 mm. wide. He furthermore remarked on the similarity in size and shape of the occipital patch in his specimens. I can also confirm Thomas' observation that whenever these occipital patches are present, irrespective of size, they do not extend beyond the nape of the neck.

The corners of the mouth may often be stained brown in specimens which is undoubtedly the result of staining by plant juices from plants eaten by the animals.

Size:      Adult ♂♂:

H.B.      125-165 mm., M = 145 mm.

T.      8-13 mm., M = 10 mm., (6.8% of H.B.)

H.F.      21-30 mm., M = 23 mm., (15.8% of H.B.)

C.B.      30.6-37.9 mm., M = 33.3 mm.

B.C.      13.0-15.9 mm., M = 14.7 mm., (44.1% of C.B.)

I.W.      6.3-7.7 mm., M = 7.2 mm., (21.6% of C.B.)

Z.W./...

Z.W.	20.8-28.2 mm., M = 24.4 mm., (73.2% of C.B.)
M.W.	6.0-8.2 mm., M = 7.2 mm., (21.6% of C.B.)
U.T.R.	4.7-5.6 mm., M = 5.3 mm., (15.9% of C.B.)
L.J.	19.0-25.4 mm., M = 21.7 mm., (65.1% of C.B.)
L.T.R.	4.9-5.9 mm., M = 5.5 mm., (16.5% of C.B.)

Adult ♀♀:

H.B.	135-150 mm., M = 141 mm.
T.	10-10 mm., M = 10 mm., (7.0% of H.B.)
H.F.	20-24 mm., M = 22 mm., (15.6% of H.B.)
C.B.	31.0-36.5 mm., M = 32.6 mm.
B.C.	13.9-15.1 mm., M = 14.4 mm., (44.1% of C.B.)
I.W.	6.8-7.4 mm., M = 7.0 mm., (21.4% of C.B.)
Z.W.	21.3-27.2 mm., M = 23.3 mm., (71.4% of C.B.)
M.W.	6.5-7.6 mm., M = 6.9 mm., (21.1% of C.B.)
U.T.R.	4.7-5.5 mm., M = 5.1 mm., (15.6% of C.B.)
L.J.	20.0-25.0 mm., M = 21.2 mm., (65.3% of C.B.)
L.T.R.	5.1-5.8 mm., M = 5.3 mm., (16.2% of C.B.)

As can be seen from the tables above, the ♂♂ are usually slightly larger than the ♀♀, but this difference is not statistically significant and does not point to any degree of sexual dimorphism. When 13 ♂♂ ( $M = 33.3 \pm 2.557$  mm.) and five ♀♀ ( $32.6 \pm 1.951$  mm.) from Shaverombi, Melsetter district, Southern Rhodesia, are compared in respect of C.B. length it appears that the difference is not significant at the 90-80% level ( $t = 0.23$ , 16 degrees of freedom,  $P = 0.90-0.80$ ).

Very little geographical variation in size is evident.

Skull and dentition:

Aspects pertaining to the skull have been described by Thomas. The skulls are rather broad and heavy/...

heavy, the braincase large and rounded, while the nasals have been described as short, more or less evenly expanded on each side, not constricting anteriorly. The ascending processes of the premaxillaries surpass the nasals posteriorly by about two millimeters, closing in towards the midline behind the nasals. In the material seen by me, the structure and configuration of the nasals seem to be a variable characteristic. As is the case in C. damarensis, (and C. nimrodi for that matter), the infraorbital foramina are higher than broad, the bases forming their outer boundaries being nearly as thick as that forming their floors. As in other species, the size of this foramen is variable, even within one individual. The teeth are well developed and strong, the last molar element being the smallest. As in other species, this conforms to the usual molar pattern encountered in other Cryptomys species (See Fig. 14.2).

Discussion:

Ellerman et.al. (1953, 232) have placed C. darlingi as a race (subspecies) of C. hottentotus. This does not seem to be justified, for C. hottentotus is a far smaller type of animal while a definite difference in the colour of the pelage also exists. Furthermore, these two species are well separated geographically.

Roberts (1951, 390), on the other hand, has maintained the specific rank of C. darlingi as proposed by Thomas, but gives no additional information about the species apart from what Thomas has already given in 1895. It would thus seem that Roberts' interpretation of the status of the species is more

correct/...

correct.

Apart from these taxonomical observations it would appear that C. darlingi creates no intricate complications as far as synonymy etc. is concerned and that it is a reasonably clearcut and recognisable species.

A certain degree of phenotypic geographical variation (especially as far as colouration is concerned) is however encountered. As was indicated above, specimens from the eastern parts of Southern Rhodesia (e.g. from Melsetter district) are decidedly darker in colour compared to specimens from the western localities of its range (e.g. Bulawayo). This may be correlated with environmental factors such as moisture. On the other hand, there seems to be very little difference in overall size between specimens derived from different localities.

It is of interest to note that the H.B. size given for the type by Thomas is 128 mm., which is far below the mean value attained from specimens considered in the present study (i.e.  $M = 145$  mm.) although it still falls within the observed minimum-maximum range of 125-165 mm. Similarly, a collection of specimens made by Darling in the Mazoe district showed a collector's measurement (taken in the flesh) of H.B. = 125 mm., which is also on the small side (de Winton, 1896, 808). This would imply that the species as such (based on values obtained in the present work) is in actual fact larger than originally suspected by Thomas, who referred to this species as a ".... little species.....".

Biological/...

Biological:

Unfortunately very little biological information is available pertaining to this species. Since C. darlingi was first collected in Mashonaland towards the end of the last century, very little additional biological information has been gathered. It is reported to have been very common in those years and Thomas already expressed the hope that collectors would send many more specimens so that something could be learnt about the seasonal, age and sexual variations of this species. These requirements have as yet not been fulfilled (although a fair-sized sample is available in the form of study skins), and the ecological and biological observations of these animals have been grossly neglected.

This mole-rat occurs in woodland areas where several species of Brachystegia and Julbernardia are dominant over extensive areas. Other dominant plant genera include Terminalia, Combretum and Acacia between which open valley grasslands occur (Keay, 1959). These conditions are especially prevalent in areas near Salisbury and Selukwe. Specimens from the Melsetter area and Mount Selinda live in more montaine communities including evergreen forest, grassland and woodland communities. According to Thomas (1895, 240) the collector of the type series stated it to be very common on the open veld.

This species is mainly confined to the higher lying Mashonaland plateau, on the average about 4,000' above sea level. On the other hand, specimens have been collected in the Melsetter district (at Showerombi) and also in the Matibi district

which/...

which lie at 5,900' and 2,000' above sea level respectively.

The species has two pairs of pectoral and one pair of inguinal mammae. Information concerning breeding is very meagre: a ♀ was collected at Selukwe on July 25th 1955 which contained three foetuses nearly on full term.

Phylogenetic:

Thomas (1895, 239, 240) regards C. darlingi as more closely allied to C. damarensis than to 'G. caecutiens' (i.e. C. hottentotus). It is separated from the latter by the occurrence (usually) of the white crown patch, its shorter fur and the thick outer wall of the infraorbital foramen. It can be distinguished from C. damarensis by its conspicuously smaller size and less extended crown patch as well as shorter nasal elements.

The present author is inclined to agree with these observations, for the overall phenotypic impression gained from C. darlingi is that it represents a smaller and somewhat "watered-off" form of C. damarensis.

List of localities:

Bulawayo, 10 (RM, NM), Chisawassah, 4 (SA), Chipinga, 1 (RM), Enterprise district, near Salisbury, 2 (RM, TM), Inyanga, 4 (RM, TM), Khami dam, near Bulawayo, 4 (RM), Mt. Selinda, 9 (TM), Macheke, 2 (RM), Munenga river, 2 (RM), Mazoe near Salisbury, (Thomas, 1895, 238), Salisbury, 6 (RM), Showerombi, Melsetter district, 39 (RM), Selukwe, 4 (RM), Stimela's Drift, Matibi district, 1 (TM), Umtali, 1 (RM), Vumba, 7 (NM, RM, TM).