

III MAMMALS OF MARCHAGEE NATURE RESERVE

A. CHAPMAN & D.J. KITCHENER

INTRODUCTION AND METHODS OF SURVEY

The mammal survey of Marchagee Nature Reserve is part of an integrated survey of the Western Australian wheatbelt involving some 25 reserves. Because of this no attempt is made to record in these interim reports detailed measurements and summary observations on individual species.

Prior to our survey no information was available on the mammals of this Reserve. Our surveys were conducted between the following dates: 16-21 July 1975, 20-26 May 1976, and 26 September - 1 October 1976. The annotated list below includes mammals sighted, and those collected and lodged in the Western Australian Museum. Registration numbers of those collected are as follows: M13822-46 (July), M14540-6 (May) and M15427-32, M15434 (September).

The types of traps, the manner of positioning small mammal traps as standard traplines and the bait used are described in Kitchener and Chapman (1976). Sites where traplines were deployed are shown in **Map 1** in Muir (this report). The trapping effort is detailed in **Appendix 1**. Weight was recorded for all specimens, and body measurements recorded for those specimens made into study skins. All females were dissected and their reproductive organs examined *in situ*. The numbers of animals captured at each trapline are indicated in brackets.

Detailed description of the vegetation, soil and litter at each trapline are presented in Muir (this report). These data are summarised in **Appendix 2**.

ANNOTATED LIST

Grey Kangaroo (*Macropus fuliginosus*)

Common, 5-10 individuals seen each day in July, May and September, usually in groups of 2-3. The largest group was 7 individuals in a mosaic of *Actinostrobos* heath at loc. 7.8. Also recorded in loc. 3.9, 3.12, 4.7, 7.1 and 7.6. In July 1975 and September 1976, 2 females with pouch young were seen. A partial upper jaw was collected on the Reserve.

Euro (*Macropus robustus*)

Two skulls, both without dentaries, were collected on the Reserve in September.

Fat-tailed Dunnart (*Sminthopsis crassicaudata*)

Two adult males were collected in May from trapline 5. This trapline was placed in salt affected heath, with patches of *Arthrocnemum*, on light sandy clay loam. The stomach of M14544 contained Coleoptera and Orthoptera and Araneida.

Ashy-Grey Mouse (*Pseudomys albocinereus*)

Two females and 8 males were captured in July at traplines 3(3), 4(2), 6(2, 1 released), 7(2, both released) and 9(1); 3 females and 4 males were collected in May from traplines 3(2), 4(1), 6(1), and 7(3); and 5 females, 3 males were captured in September from traplines 3(2), 4(2, 1 released), 7(1 - released), 8(1 - released) and 9(2).

All but one capture were in shrubland taller than 2 m on well drained fine sandy loam or sandy loam. The dominant species in this shrubland were *Actinostrobus arenarius*, *Xylomelum angustifolium* and *Jacksonia* sp. - some of these areas were affected by salt.

In May 3 male and 1 female specimens were subadult and ranged in weight from 17.5-21.0 gm. In July all were adult: males were large (31.5-45.5 gm) with scrotal testes; females were smaller (26.0-26.5 gm), neither was pregnant or showed signs of reproductive activity. One female had faint uterine implantation scars. In September both females were of light weight (19 gm) and appeared to have recently given birth to young; they had uteri that appeared to be involuting, and had moderately enlarged teats and mammary glands.

Honey Possum (*Tarsipes spencerae*)

An adult male collected on 22 May at trapline 9. This was in *Actinostrobus arenarius* scrub over *Mesomelaena uncinata* and *Ecdeiocolea monostachya* sedges on reddish yellow sandy loam.

Echidna (*Tachyglossus aculeatus*)

Their characteristic faeces and diggings were seen only in *Jacksonia* shrubland in loc. 3.11 and in loc. 2.2.

House Mouse (*Mus musculus*)

Fifteen females and 26 males were trapped in July from trapline 1(8), 2(2), 3(2), 4(1), 5(7), 6(3), 7(8), 8(3), 9(3) and 10(4); 6 females, 9 males and 4 released unsexed were collected in May from traplines 1(7), 2(3), 3(2), 6(2), 7(2), 9(1) and 10(2); and 3 females and 5 males were captured in September from traplines 1(2), 6(1), 7(2), and 10(3).

The changes in the number of House Mice captured on this Reserve during these three surveys parallel those at Wilroy Nature Reserve (Chapman & Kitchener 1979). This is interesting considering the very different nature of the habitat on these two Reserves and suggests that vegetation structure at least is not of major importance in influencing population trends of House Mice in the wheatbelt.

None of the females collected on this Reserve showed signs of reproductive activity.

European Rabbit (*Oryctolagus cuniculus*)

Single animals seen in *Xylomelum angustifolium* shrubland (loc. 3.16), *Actinostrobus arenarius* heath and on main road bisecting Reserve in May.

Fox (*Vulpes vulpes*)

One seen in *Banksia prionotes* shrubland in loc. 3.3 in May.

DISCUSSION

Marchagee Nature Reserve has 6 native and 3 introduced species of mammals.

This Reserve has considerable areas affected by salt and a number of small salt lakes with areas of salt-tolerating shrubs. Although the wheatbelt contains extensive areas of this type of country, this, and Badjaling Nature Reserve, are the principal examples of this habitat on the reserves surveyed by us. It is then of interest to record *Sminthopsis crassicaudata* on this Reserve, because prior to this we have not collected it elsewhere in the wheatbelt (although it was present in owl pellets from North Tarin Rock Reserve). Marchagee Reserve is only the third in the wheatbelt from which *Pseudomys albocinereus* has been collected, the others being Durokoppin Nature Reserve (Chapman & Kitchener 1978b) and Lake Grace South, McKenzie & Youngson (1975).

APPENDIX 1

Number of trapnights for each trapline at Marchagee Nature Reserve, during (a) July 1975, (b) May 1976 and (c) September 1976 (BB = breakback, E = Elliott, C = cage, and P = pit traps). A trapnight is one trap set for 24 hours.

NUMBER OF TRAPNIGHTS

Trapline No.	BB			E			C			P		
	(a)	(b)	(c)									
1	50	50	50	50	50	50	10	10	10	0	0	0
2	50	50	50	50	50	50	10	10	10	15	15	15
3	50	50	50	50	50	50	10	10	10	15	30	25
4	50	50	50	50	50	50	10	10	10	15	25	20
5	50	50	50	50	50	50	10	10	10	5	0	20
6	50	50	50	50	50	50	10	10	10	5	10	15
7	50	50	50	50	50	50	10	10	10	15	15	15
8	50	50	50	50	50	50	10	10	10	15	15	15
9	50	50	50	50	50	50	10	10	10	15	15	45
10	50	50	50	50	50	50	10	10	10	20	15	15
Totals	500	500	500	500	500	500	100	100	100	120	140	185

APPENDIX 2

Codified vegetation and soil descriptions and leaf litter density, and vegetation location numbers for each trapline at Marchagee (see Muir, this report, for details).

Trapline No.	Vegetation Location No.	Vegetation and Soil Code	Leaf Litter
1	7.1	n ₁ SDi-c/salt flat	very sparse
2	7.2	mSc.mSAr.xJr/salt flat	mod. abundant
3	3.18	nSi.xSCc/FSL	abundant, clumped
4	3.17	nSi.xSCc/FSL	abundant, clumped
5	7.6	xSDc/LSCL	sparse
6	3.12	n ₁ Sr.xSCi/SL	mod. abundant, clumped
7	3.12	n ₁ Sr.xSCi/SL	mod. abundant, clumped
8	4.2	mSBi.n ₁ SDr.xJc/FSL	very sparse
9	3.5	gSi.xVTi/SL	mod. abundant
10	3.14	nSi.xSCc/FSL	abundant, clumped