

III MAMMALS OF YORKRAKINE ROCK, EAST YORKRAKINE AND NORTH BUNGULLA NATURE RESERVES

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Introduction

The mammal survey of these reserves is part of an integrated survey of the vertebrate fauna of the Western Australian wheatbelt which is detailed in Kitchener (1976).

Mammals were collected on Yorkrakine Rock (YRR), East Yorkrakine (YER) and North Bungulla (NBR) Nature Reserves between 18-24 November 1974 and 11-16 May 1975. The 3 reserves were worked simultaneously with traplines 1-4 on YRR, traplines 5-7 on NBR and traplines 8-10 on YER. Sites where traplines were deployed are shown in Figs 2-4 in Muir (this report). The types of traps, manner of positioning small mammal traps in 'standard' lines and the bait used are described in Kitchener & Chapman (1976). The trapping effort is detailed in Appendix 1, and detailed descriptions of vegetation, soil and litter at each trapline are presented in Muir (this report). These data are summarised in Appendix 2. Weight was recorded in the field for all specimens, and all females were dissected in the laboratory and their reproductive organs examined *in situ*. In the annotated list below the numbers of animals captured at each trapline are indicated in parentheses. All specimens are in the Western Australian Museum with registration numbers M13139-13188 and M13698-99, M13705-13711.

Annotated List

Euro (*Macropus robustus*)

Euros were seen on several occasions during November 1974 and May 1975 in YRR in location nos 1.5, 1.6, 1.7 and on the granite tor itself. These sightings were usually of pairs although solitary animals were seen. A juvenile at heel was seen in November 1974.

Common Dunnart (*Sminthopsis murina*)

One male and 1 female were collected from traplines 10 and 9 respectively in YER in November 1974. The female weighed 16.0 g; it had 8 pouch young. In May 1975 3 males and 3 females were collected: from trapline 2 (2) in YRR and traplines 8 (1) and 9 (1); one from beneath rubbish on both YER and NBR. Stomachs of most specimens were empty; one had finely masticated insect remains, including Araneida, Lepidoptera (larva), and Hemiptera.

Gould's Wattled Bat (*Chalinolobus gouldii*)

Two females were shot on edge of Salmon Gum (*Eucalyptus salmonophloia*) and Gimlet (*E. salubris*) woodland, loc. 1.1 on YER in November 1974. Both were lactating.

Echidna (*Tachyglossus aculeatus*)

An Echidna skeleton was collected on NBR. Characteristic diggings were seen on all three reserves.

House Mouse (*Mus musculus*)

The distribution and abundance of *Mus* on these reserves are shown below. Traplines were set over a 6-day period during November 1974 and a 5-day period over May 1975.

Trapline No.	No. of <i>Mus</i> trapped	
	November 1974	May 1975
1	4	6
2	4	26
3	3	10
4	5	33
5	2	11
6	3	26
7	2	0
8	14	46
9	4	25
10	4	12

In November 1974, 7 of the 14 females collected were pregnant; (weight range of adults 13.0 g to 29.0 g) with between 4 and 8 fetuses. None of the May 1975 animals were pregnant. The high numbers trapped in May 1975 attest to a major irruption of this species at that time, which was quite widespread and is reported elsewhere (Chapman, in prep.).

Black Rat (*Rattus rattus*)

Two males were trapped at trapline 4 on YRR in May 1975.

European Rabbit (*Oryctolagus cuniculus*)

Several sightings of single animals were made on YRR and YER in November 1974 and May 1975.

Fox (*Vulpes vulpes*)

A vixen with three cubs in a stubble paddock near Yorkrakine siding, and another animal west of YRR were seen in November 1974. Two foxes were seen in May 1975, one entering YRR and another entering NBR.

Discussion

Native terrestrial mammals recorded from our surveys [Yorkrakine Rock, East Yorkrakine, North Bungulla (this report), North Yoting, Yoting, Badjaling, and Badjaling Nature Reserves (Kitchener & Chapman, 1980), all small (34-158 ha) reserves in the central wheatbelt] were restricted to *Macropus robustus*, *Sminthopsis murina* and *Tachyglossus aculeatus*.

The country surrounding these reserves contained many more species of mammals, even long after the disappearance of many mammals from the South-West — believed to have begun about 1880 (Shortridge, 1909) — had occurred. For example, **Appendix 3** lists 14 species recorded from within 20 km of these reserves; this is likely to be a conservative count because no intensive mammal collecting occurred in the region prior to onset of land clearing for wheat farming about 1905. It is apparent, then, that reserves of the size listed are completely inadequate areas for conserving representative local assemblages of mammals in the wheatbelt, and probably elsewhere in the South-West semi-arid woodland. A detailed analysis of variables affecting mammal richness on reserves in the wheatbelt is presented elsewhere (Kitchener *et al.*, 1980).

The occurrence of *Rattus rattus* on a wheatbelt reserve is only the second recorded by us. Unlike *Mus musculus*, *R. rattus* does not persist in the wheatbelt in natural vegetation; these captures are probably temporary colonization of natural vegetation from farms resulting from the favourable climatic conditions of 1973 and 1974, which also resulted in a *Mus* plague (see Chapman, in prep.).

APPENDIX 1

Number of trapnights for each trapline on Yorkrakine Rock, East Yorkrakine and North Bungulla Nature Reserves during November 1974 and May 1975. These reserves were trapped simultaneously with traplines 1-4 on YRR, 5-7 on NBR and 8-10 on YER. (BB = breakback trap, E = Elliott trap, C = cage trap).

Trapline No.	May 1975			November 1974		
	BB	E	C	BB	E	C
1	50	50	10	60	60	12
2	50	50	10	60	60	12
3	50	50	10	60	60	12
4	50	50	10	60	60	12
5	50	50	10	60	60	12
6	50	50	10	60	60	12
7	50	50	10	60	60	12
8	50	50	10	60	60	12
9	50	50	10	60	60	12
10	50	50	10	60	60	12
Totals			1,100			1,320

APPENDIX 2

Codified vegetation, soil descriptions and leaf litter density, with vegetation location numbers for each trapline on Y.R.R., YER and NBR Nature Reserves. See Muir, this report, for detailed trapline descriptions.

Trapline No.	Vegetation Location No.	Vegetation and soil code	Leaf Litter
1	1.1	e Mi. xSr/CL	Abundant, continuous
2	3.2	ac Sc. n ₁ VLi/FSL	Sparse, clumped
3	1.11	a LAr. n ₁ Jc/SCL	Sparse, twigs and large debris
4	1.15	c LAd./CLS	Abundant, continuous
5	3.13	c Sc/K-FSL	Moderately abundant, clumped
6	3.4	x Sc. xSbi/SC	Abundant, continuous
7	2.2	e Ksr. m SBr/HC	Abundant, continuous
8	3.4	c Sc/SC	Abundant, continuous
9	2.7	e KSc/SC to FSL	Abundant, continuous
10	1.1	e Mr. x Sr/SC	Moderate, clumped

APPENDIX 3

List of native mammals in the Western Australian Museum recorded within 20 km of the Quairading and Yorkkrakine Reserves. Catalogue number and year of collection.

Macropodidae

Macropus fuliginosus — M4188 (1960), M13906 (1975).

M. robustus — M1030 (1928), M13919 (1975).

Petrogale penicillata — M26 (1912), M3852-3, M3992, M4308 (1960), M8338 (1969).

Phalangeridae

Trichosurus vulpecula — see Chapman & Kitchener (1978) for observation record.

Burramyidae

Cercartetus concinnus — M108 (1914).

Tarsipedidae

Tarsipes spencerae — M1888 (1934).

Peramelidae

? *Chaeropus ecaudatus* (see Main 1967).

Thylacomyidae

Macrotis lagotis — M234 (1915), M456 (1921), M334 (1917).

Dasyuridae

Dasyurus geoffroi — M4766 (1961).

Sminthopsis murina — M13141-2 (1974), M13704-5 (1975), M13903 (1975).

S. crassicaudata — M1565 (1931), M2438 (1940).

Muridae

Notomys mitchellii — 4/5001 (1902) collected by J. Scott at Kellerberrin in 1902 (specimen discarded). See also Shortridge (1936).

Pseudomys albocinereus — M13898-901 (1975), M14848 (1976).

Molossidae

Tadarida australis — M621 (1923), M14845-6 (1976).

Vespertilionidae

Nyctophilus timoriensis — M14847 (1976).

Eptesicus regulus — M1091-4 (1929), M2559 (1943), M2890 (1952), M4444 (1961).

Chalinolobus morio — M4396 (1961).

C. gouldii — M4050 (1960), M4288 (1960), M4442 (1961), M6821 (1966), M13037-8 (1974), M13139-40 (1974), M13703 (1975).

Tachyglossidae

Tachyglossus aculeatus — M16330-1 (1911), M84-5 (1913), M13711 (1975).