

III MAMMALS OF YORNANING NATURE RESERVE

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The mammal survey of Yornaning Nature Reserve is part of an integrated survey of the vertebrate fauna of the Western Australian Wheatbelt, which is focused on reserves in that area (Kitchener, 1976). This contribution follows those of Tarin Rock and North Tarin Rock, Bending and West Bending, and Dongolocking Reserves (Kitchener and Chapman 1976, 1977 & 1978). Other published surveys of mammals in the wheatbelt include McKenzie (1973) and McKenzie *et al.* (1973). For location of Reserve see Dell (this publication).

Mammals of Yornaning Nature Reserve were recorded between 19-28 April 1975 and 6-13 September 1975. The annotated list of species includes mammals sighted and those collected and lodged in the Western Australian Museum. Registration numbers of those collected in April are M13601-M13628 and in September are M13877-M13880. The type of trap used in these surveys, manner of their placement, and bait have been described in Kitchener and Chapman (1976). The 10 standard small mammal traplines were located in the same position during each survey. In addition pit traps and cage traps were set. Traplines are located as shown in **Map 1** (Muir, this publication). The trapping effort is detailed in **Appendix 1**. They were located to sample the major vegetation formations described by Muir. Included in Muir's section are descriptions of the vegetation and soils at each trapline. Female specimens were dissected and their reproductive tracts examined *in situ*. Contents of stomachs are listed where possible.

ANNOTATED LIST

Grey Kangaroo (*Macropus fuliginosus*)

Sightings of groups of up to 6 individuals were common around the base of the granite outcrop in a *Casuarina huegeliana* and *Eucalyptus wandoo* association. Sightings of up to 10, including juveniles were frequent on traplines 3, 5, and 9. Individuals were seen in the paddock on the east and northeast boundaries of the Reserve.

Brush-tailed Possum (*Trichosurus vulpecula*)

A male was collected in April and 1 female with young in September. In April the male was collected near trapline 10, which was at the base of a laterite breakaway. It was first seen at 2000 hrs on the ground beneath Red Morrel (*Eucalyptus longicornis*) trees. The September specimen was trapped at trapline 9. The young was sitting next to the cage trap. They were both released and immediately climbed a

15 m *Eucalyptus wandoo* tree. Scats thought to be from *T. vulpecula* were found in *E. wandoo* woodland. Scratchings were also present on some of the trees in the vicinity.

Red-tailed Wambenger (*Phascogale calura*)

A total of 8 males and 6 females, and 7 females were collected in April and September respectively. Four males and 3 females were released in April and 5 females were released in September. These were captured at traplines 2(1), 3(6), 4(1), and 9(6) in April, and 3(3) and 9(4) in September. All these capture localities contain *Casuarina huegeliana* and *E. wandoo* as dominant upper stratum species—the proportion of which varies considerably. In structure they range from Low Forest A to Open Low Woodland A, with variable lower strata. Traplines 3 and 9 have the highest proportion of *Casuarina huegeliana* on the Reserve; these are areas in which most *P. calura* were captured (19 of the 21 specimens). Although these results suggest that *P. calura* favours *Casuarina* Low Forest or Low Woodlands on Yornaning Reserve, Kitchener and Chapman (1977) found that on Bending and West Bending Reserve the species is widely distributed over a number of habitats where only *Casuarina campestris* (shrubs to 2 m) is found, although apparently not in the densities recorded at Yornaning.

Stomach contents of *P. calura* from Yornaning contained hair, flesh, some *Casuarina* needles, and remains of Coleoptera, Lepidoptera and Araneida.

Of the 2 females collected in April, one (M13616) is probably sub-adult. It was small (pes 2.03 cm) and had very small teats and uterine horns. The other female (M13621) was larger (48 gms, pes 2.16 cm) and the condition of the pouch and uterine horns suggest it was parous. There was no indication, however, that it had recently bred or was pregnant. Mammary glands were not enlarged, teats were only 1.2 mm long and the uterine horns were not noticeably swollen. The condition of the pouch of the released female was similar.

The 2 September females (weighing 41.4 and 42.5 gms) had obviously recently carried and nursed young; they had enlarged pouches with swollen mammary glands and although milk could not be expressed from the teats, they were still distended and about 3.5 mm long. The 5 females released also had swollen mammary glands and teats.

Common Dunnart (*Sminthopsis murina*)

One small female weighing 12 gms with a barely discernible pouch was captured in April at trapline 7. This trapline was by a granite outcrop with dense ground litter.

Gould's Wattle Bat (*Chalinolobus gouldii*)

Two adult females were collected in April over a firebreak on the north side of the Reserve, and adjacent to Low Woodland A comprising *E. wandoo* and *C. huegeliana* as the dominant upperstorey species. A further adult female was collected

at the campsite over a laterite breakaway in September. None were pregnant or had recently bred. In September 3 bats, thought to be *C. gouldii*, were seen leaving a *E. wandoo* hollow at dusk, in the same position that the 2 females were shot in April.

Little Bat (*Eptesicus regulus*)

One adult male was shot in September over a laterite breakaway near the campsite.

Echidna (*Tachyglossus aculeatus*)

One seen in April near trapline 8 on a small laterite breakaway. Another was seen crossing the road into the reserve on the north boundary. One shallow echidna burrow was found half way up a laterite breakaway on the southern boundary. Diggings were common in this area also.

Fox (*Vulpes vulpes*)

One seen in April crossing the firebreak into the Reserve on the eastern boundary. Skeletal remains and faeces were also found near traplines 1, 5 and 12.

Rabbit (*Oryctolagus cuniculus*)

Sightings were common in areas adjoining cleared land. Burrows were plentiful in the sandy heath situations. In September, some rabbits in the surrounding area seemed to be afflicted with Myxomatosis.

Domestic Cat (*Felis catus*)

One seen in granite boulders near trapline 8. Cat faeces were also found on trapline 1.

Black Rat (*Rattus rattus*)

One trapped in an Elliott trap in trapline 8. This area has been invaded by introduced grasses. Examination of the stomach contents revealed grasses of the family Poaceae, orthopteran legs and body parts, hair and sand.

House Mouse (*Mus Musculus*)

A total of 69 were collected in April and only 5 in September. The apparent plague that existed at Yornaning in April was observed throughout the wheatbelt. Harold and Dell (this publication) record Barn Owls (*Tyto alba*) in April, but not in September, attributing this to the fact that this owl feeds on mice.

DISCUSSION

Museum records show that 15 species of native mammal once occurred within a 25 km radius of Yornaning Reserve. Tuttaning Reserve, 20 km to the north, still contains 12 species of mammal (Sampson 1971). The collection of only 7 native species at Yornaning Reserve in part may be attributable to the relative small size of the Reserve (247 ha) and the absence within it of extensive areas of diverse vegetation.

For example the Brush Wallaby, *Macropus irma*, found on many larger reserves in the wheatbelt (unpublished data) was not observed there. Another mammal which may occur at Yornaning but was not collected there is the Pigmy Possum, *Cercartetus concinnus*. This has been collected at Popanyinning, 20 km to the west. Yornaning Reserve contains habitat similar to that in which *C. concinnus* was recently collected at Dongolocking, i.e. *Xanthorrhoea* in a complex shrub assemblage on sandplain (Kitchener and Chapman 1977).

The collection of the Red-tailed Wambenger (*Phascogale calura*) in relatively high numbers was of interest. Under the Fauna Conservation Act *P. calura* has been declared rare and likely to become extinct. It appears that on both the Yornaning and Tuttaning Reserves, *Casuarina huegeliana* and *Eucalyptus wandoo* woodland is important habitat for *P. calura*. Approximately 50 per cent of Yornaning Reserve contains this woodland formation.

The collection of the introduced Black Rat (*Rattus rattus*) is one of the few from a wheatbelt reserve.

Other mammal species collected on Yornaning Reserve are generally common on reserves throughout the wheatbelt.

APPENDIX 1

Number of trapnights for each trapline at Yornaning Reserve during April and September 1975 (BB = breakback, E = Elliott, C = cage, and P = pit trap). Location numbers refer to vegetation and soil descriptions at each trapline given in Muir (this publication).

Trapline Number	April				September			
	BB	E	C	P	BB	E	C	P
1	80	80	56	150	60	60	50	75
2	80	80	0	0	60	60	50	0
3	56	80	0	0	60	60	50	0
4	80	80	0	0	60	60	50	0
5	80	80	0	0	60	60	50	0
6	80	80	0	0	60	60	50	0
7	80	80	0	0	60	60	50	0
8	80	80	0	0	60	60	50	0
9	60	50	0	0	60	60	50	0
10	80	80	0	0	60	60	50	0
			Total	1558				1775

APPENDIX 2

Codified vegetation and soil descriptions and leaf litter density, following Muir (1977), and vegetation location numbers for each trapline at Yornaning Nature Reserve.

Trapline Number	Location Number	Muir Vegetation Code	Litter
1	4.1	xSBi.xSDr/FSL	sparse, clumped
2	1.7	ecLAI.xSBr.xSDr/FSL	sparse, clumped
3	1.16	cLAc.xSDc/CLS	abundant
4	3.1	n ₁ Sd/KL n ₁ = <i>Dryandra nobilis</i>	sparse, clumped
5	1.8	eLAr-ceLAI.n ₁ SBi-cLAc n ₁ = <i>Gastrolobium crassifolium</i>	abundant, continued
6	4.2	xSBr.xSDi.xVLJi/SCL	mod. abundant, clumped
7	5.1	*cLAc.n ₁ VTi.xXJc-ceLAc.n ₂ SAr.n ₁ VTc n ₁ = <i>Lepidosperma angustatum</i> n ₂ = <i>Xanthorrhoea reflexa</i>	absent-dense
8	1.4	eMr.eLAI.xVLJc/SL	sparse, clumped
9	1.5	eLAI.cLBI.n ₁ LAI/FSL n ₁ = <i>Gastrolobium crassifolium</i>	mod. abundant, clumped

*ecotone