III MAMMALS OF DONGOLOCKING NATURE RESERVE

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INTRODUCTION

Mammals of Dongolocking Nature Reserve were surveyed between 15-25 October 1974 and 8-16 April 1975. The manner of survey is recorded in Kitchener and Chapman (1976). 'Standard' mammal traplines were used throughout. In addition pit traps (P.V.C. tubing 60 cm long and 10 cm in diameter) were placed in sandy areas; these were sunk into the ground except at trapline 6 where they were tied upright to the base of *Eucalyptus falcata* trees. Traplines were located as shown on **Map 1** (Muir this publication). They were placed to sample the major vegetation formations.

The following annotated species list includes mammals sighted, captured and released, and those collected and lodged in the collections of the Western Australian Museum; those collected in October are registered as M12414-40, and M12503; and in April, M13476-585. The trapping effort is detailed in **Appendix 1.** Weight of all specimens, and body measurements for those specimens made into study skins, was recorded. All females were dissected and their reproductive organs examined *in situ.* Only weights for females nursing young are presented herein. If more than one animal was captured in a trapline, the numbers caught are indicated in brackets. Identification of stomach contents are included where these have been made.

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

ANNOTATED LIST

Grey Kangaroo (*Macropus fuliginosus*)

Common, they were seen at locs 1.33, 1.54, 3.1, 4.21, 4.26 and 4.29. In October and April, between 4 and 6 were sighted daily, on average. These were usually in small groups of 2 to 3; on one occasion in April a group of 9 was seen in *Eucalyptus wandoo* woodland (loc. 1.54). In October a group of 3 females, each with a pouch young, was seen.

Brush Wallaby (*Macropus irma*)

On average an individual was sighted each day in October and April. All

were solitary. In April an injured animal and a road-kill specimen were collected. Sightings were made in locs 1.54, 1.58, 2.1, 4.21, 4.23 and 4.26.

Brush-tailed Possum (*Trichosurus vulpecula*)

A male was captured at traplines 9 and 6 in October and April respectively. The April animal was released. Both these captures were in vegetation that had an upper strata of Low Forest A with *E. wandoo/E. longicornis* and *E. gardneri/E. astringens* codiminants. There was virtually no understory in the second association. This species does not appear to be wide ranging in wheatbelt reserves and is restricted to areas with eucalypt trees, tree mallees and adjoining open shrub-shrub mallees (Kitchener and Chapman 1976, 1977). The favoured habitat appears to be Low Forest A.

Red-tailed Wambenger (*Phascogale calura*)

In October a female was collected from trapline 9. In April 2 males and 2 females were collected. These were from trapline 6(2) and 9(2); 2 males were released from trapline 6. These captures were in Low Forest A. Trapline 6 was a *Eucalyptus gardneri/E. astringens* association with almost no understory. Trapline 9 was *Eucalyptus wandoo* and *E. longicornis* with an understory dominated by *Casuarina huegeliana.* These captures support the observation by Kitchener and Chapman (1977) at Bendering and West Bendering Reserves that this species, because of its ability as an aerialist, prefers vegetation dominated by trees, mallees, or tall shrubs which allow it to move easily through foliage.

The large female (104 gm) collected in October was not pregnant but it did appear to be nursing young; it had an enlarged pouch, and swollen teats and mammary glands. This observation is consistent with the suggestion of Kitchener and Chapman (1977) that young of this species leave the pouch from late winter to spring. Neither of the two females collected in April were pregnant nor appeared to have recently nursed young. It is possible, however, that they were subadult because they weighed only 32 and 59 gms.

All specimens had empty stomachs and appeared to have been collected before they had fed.

White-tailed Dunnart (*Sminthopsis granulipes*)

Four females and 2 males were collected in October. These came from traplines 1, 2, 4(3), and 10. None were collected in April. These captures were from traplines in vegetation which had an upper stratum of Dwarf Scrub C, Low Heath, Open Scrub Mallee, and Open Scrub. The latter two strata were very sparse (6-13% canopy cover) and were probably not as

important to this species as the understory which was Thicket *over* Dwarf Scrub D, and Heath B *over* Dwarf Scrub D, respectively. On this Reserve the species appears to prefer habitat that has a moderately dense canopy cover of low to medium height shrub on sandy soil (4 of the 6 were caught in vegetation which had an upper stratum of shrubs less than 1 m tall). Kitchener and Chapman (1977) suggest that this species prefers vegetation dominated by low to medium height shrubs.

None of the 4 October females were pregnant but they were all thought to be nursing young at the time of their capture. They had enlarged pouches and swollen mammary glands and teats.

The stomach contents of 5 October specimens were examined, confirming earlier observation at Bendering and West Bendering Reserves that this species largely eats insects and spiders. Their stomachs contained fragments of the following: Coleoptera, Lepidoptera, Hymenoptera (Ichneumonidae), Chilopoda (Scolopendridae), Blattodea, Orthoptera, Diptera (Tabanidae) and Araneida (Miturgidae-*Miturga* sp.), Lycosidae, and Theridiidae. Of these, centipedes (Scolopendridae), sawfly (Pergidae) larvae, beetles, and spiders (Miturgidae) appeared to form a large part of their diet.

Honey Possum (*Tarsipes spencerae*)

A female was collected in October and April from traplines 8 and 12 respectively. Both these traplines were on sand in vegetation in which the major strata was a heath: one a mixed assemblage of shrubs, and the other with *Melaleuca pungens*, *Casuarina humilis* and *Gastrolobium spinosum* prominent. This latter strata had an upper Open Scrub strata of *Lambertia inermis*.

The April female had 3 pouch-young with crown to rump length of 4.5 mm. Over its range in the South West this species appears to breed all year (Chapman and Kitchener 1977). The occurrence of a pregnant female on this Reserve in April and one from Tarin Rock, 60 km northeast, in September, with a young about the same size, indicates that breeding in this part of the wheatbelt may also be protracted.

Pygmy Possum (*Cercartetus concinnus*)

A female was collected from a dead Blackboy (*Xanthorrhoea reflexa*) which was emergent in a heath of mixed shrub species (loc. 4.21). This female was either nursing young at its time of capture, or had recently been doing so. It had an enlarged pouch, swollen mammary glands and elongate teats.

Gould's Wattled Bat (*Chalinolobus gouldii*)

Two females were shot in April flying through *Eucalyptus wandoo* woodland near trapline 10.

Little Brown Bat (*Eptesicus regulus*)

Three males and 1 female were shot at the same site as the above *C. gouldii* in October and two males and 1 female were shot in April. These specimens have been included in a study of the reproduction of this species by Kitchener and Halse (in press). Females are monoestrous; they are fertilized in autumn and sperm appears to be stored over winter. They give birth to a single young about December.

Echidna (*Tachyglossus aculeatus*)

One was seen foraging in woodland at loc. 3.1 at 1500 hrs in October. Their scratchings and faeces were seen over much of the Reserve.

Rabbit (*Oryctolagus cuniculus*)

Several were seen in the Reserve during both surveys. A young rabbit was killed in a breakback trap at trapline 1 in October. They were common in road verges adjacent to the Reserve.

House Mouse (*Mus musculus*)

Twelve and 176 were captured in October and April respectively. Other similar trapping surveys elsewhere in the South West, including the wheatbelt, show that *Mus* are usually more abundant in autumn than spring. The particularly large numbers caught on this Reserve in April reflect a major irruption of this species in southern Western Australia in autumn 1975. In October the specimens came from traplines 2, 3, 4, 8, and 10, which were thicket, heath and shrub mallee formations. Further, it was apparent that the largest catches in April (of 14.0 to 17.8 *Mus* per 100 trapnight) were from traplines 1, 2, 3, 7, and 12. The vegetation at these lines was also dominated by shrubs or shrub mallees. The smallest catches in October were from the traplines 5, 6, and 9 in Low Forest A, or Forest (0.6 to 3.9 *Mus* per 100 trapnights).

Of the 40 females collected in April only 1 was pregnant. This is a low incidence of breeding for autumn.

DISCUSSION

Although Dongolocking Reserve is relatively small it is not surprising that these surveys recorded 10 species of native mammals there. This is because the Reserve offers a diverse range of habitat and has all major wheatbelt vegetation formations with the exception of salt complexes (Muir, this publication). The presence of *Phascogale calura* and *Trichosurus vulpecula*, which favour woodland, and *Tarsipes spencerae* and *Sminthopsis granulipes*, which favour heath, no doubt relates to the large extent of these two formations on this Reserve. The absence of native rodents *Notomys mitchelli* and *Pseudomys occidentalis* from the Reserve was not expected; this absence, however, may be explained when the trapping results of all reserves selected in this wheatbelt project have been examined. The Western Native Cat, *Dasyurus geoffroii*, and Short-nosed Bandicoot, *Isoodon obesulus* are now rarely recorded from the wheatbelt and their apparent absence from Dongolocking Reserve is not unexpected.

APPENDIX 1

Number of trapnights for each trapline at Dongolocking Reserve during October 1974 and April 1975 (BB = breakback, E = Elliott, C = cage, and P = pit trap). A trapnight is one trap set for 24 hours.

Trapline Number	October 1974				April 1975			
	E	BB	C	P	E	BB	C	P
1	90	90	16	0	90	90	27	0
2	90	90	16	0	90	90	27	0
3	90	90	16	0	90	90	27	0
4	90	90	16	0	40	40	8	0
5	90	90	16	0	90	90	21	0
6	90	90	32	36	90	90	18	0
7	90	90	16	40	90	90	18	0
8	90	90	16	40	40	40	8	24
9	90	90	25	9	90	90	18	0
10	56	56	12	0	90	90	18	0
11	0	0	0	0	50	50	15	0
12	0	0	0	55	50	50	15	112

APPENDIX 2

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

Trapline Number	Vegetation Location Number	Vegetation and Soil Code	Leaf Litter
1	3.4	n_{1+2}Sr.xSBc.xSDi/S	sparse, clumped
2	2.7	eKSi.xSc.xSDi/SL	sparse
3	2.8	eKSc.xSAi.n_1SDr/SL	abundant
4	4.24	xSCc.xSDi/S	moderately abundant, clumped
5	1.54	ecMc.xSAr.xJVLd/S	abundant
6	1.16	eLAc/SL+LC	abundant
7	4.4	n_{1+2}SCi.xSDc/SL	moderately abundant, clumped
8	3.1	n_1Sr.xSBc.SDi/S	moderate
9	1.14	eLAc.cLBi.xJVLc/LS	abundant
10	4.23	xSCi.xSDc/S	moderately abundant, clumped
11	2.1	eKSi.xSi.xSDc/SL	abundant, clumped
12	4.16	xSBc.xSDi/S	moderately abundant