

III MAMMALS OF DUROKOPPIN AND KODJ KODJIN NATURE RESERVES

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Mammals were recorded on Durokoppin (DR) and Kodj Kodjin (KKR) Reserves between 8-17 October 1975 and 8-15 April 1976. Small mammals were trapped according to the method of Kitchener & Chapman (1976). In addition pit traps (P.V.C. tubing 60 cm long, 10 cm in diameter) were used wherever soil conditions permitted. Female specimens were dissected for information on reproduction. Stomach contents of chiropterans and dasyurids were identified wherever possible. Detailed descriptions of vegetation, soils and leaf litter at traplines, as well as their location are presented in Muir (this publication), and are summarised in Appendix 2 this paper. Trapping effort is presented in Appendix 1. All specimens are in the Western Australian Museum with registration numbers M13897-13906 and M14845-14848.

ANNOTATED LIST

Grey Kangaroo (*Macropus fuliginosus*)

Common, singly or in groups of 2-6 on DR in locations 1.5, 1.8, 1.22, 3.23, 3.31, 3.25, 3.7 and 4.3. A cranium was collected. Equally abundant during both surveys. Only 2 sightings on KKR, in loc. 3.3 and in paddock off south boundary. Both these were in October 1975.

Euro (*Macropus robustus*)

Less common than *M. fuliginosus*. Single animals seen in location 1.19 and in paddock opposite location 1.19, and a group of 3 seen in location 1.2 on DR. A freshly killed specimen (road casualty) was collected on KKR on the east boundary.

Brush Wallaby (*Macropus irma*)

Seen singly on occasions and once as a pair in heath and shrubland formations in DR locs 4.3 and 3.29.

Common Dunnart (*Sminthopsis murina*)

Three females were collected in October. One from trapline 7 on DR weighed 19.0 gm and had 2 elongate teats; it had 2 partially furred pouch

young with crown-rump lengths of 16 and 20 mm. Two other females from trapline 2 on KKR had developed pouches with 8 enlarged teats 2 mm long and were probably nursing young. These traplines were both in heath formations with low shrubs and the sedge *Ecdeiocolea monostachya*. Two specimens had insect and arachnid remains in their stomachs. These were identified as: (a) Araneida, Lepidoptera (adults and larvae), Coleoptera and Diptera and (b) Coleoptera (Scarabaeidae and Curculionidae), Lepidoptera (larvae), Hymenoptera (Formicidae) and Symphyta.

Brush-tailed Possum (*Trichosurus vulpecula*)

One seen at 1930 hrs on 12 April 1976 in DR loc. 1.25 in a Salmon Gum (*Eucalyptus salmonophloia*) tree.

Ashy Grey Mouse (*Pseudomys albocinereus*)

Two males and 3 females were collected in October 1975 and 1 male in April 1976. All were from trapline 7 on DR. The females (weights 26.0, 27.5, and 35.0 gm) were pregnant with 4, 4 and 3 fetuses; 2 were in early stages of pregnancy with small uterine swellings 4-5 mm in diameter. The other had 3 mid-term fetuses with crown-rump lengths of *ca* 13 mm. All females had 2 pairs of moderately developed inguinal mammae. At Jurien Bay *ca* 300 km northwest of Durokoppin, Chapman & Kitchener (1977) record pregnancies in October for this species. In that study 10 pregnant females' weights ranges from 20.0 to 44.6 gm; number of fetuses ranged from 2 to 6 with mean 4.5.

Trapline 7 was in Open Low Scrub A *over* Dense Low Heath D *on* fine sandy loam with *ca* 5% gravel. At Jurien Bay *P. albocinereus* is found in its greatest numbers in heath on deep, sandy soil without gravel (Chapman & Kitchener 1977).

White-striped Mastiff Bat (*Tadarida australis*)

A male and a female were collected in Salmon Gum and Wandoo (*Eucalyptus wandoo*) woodland (location 1.5) in April 1976 on KKR. The female was shot while flying at 1820 hours; the male was collected from a hollow 8 m from the ground in a Salmon Gum (*E. salmonophloia*). Both specimens were originally in the same hollow. Both had empty stomachs.

Gould's Wattled Bat (*Chalinolobus gouldii*)

Remains were present in the stomach contents of a feral cat shot on DR (see Feral Cat below).

Greater Long-eared Bat (*Nyctophilus timoriensis*)

A male was collected from a hollow in the same Salmon Gum from which the above *Tadarida australis* was collected. Its stomach was empty. This species is infrequently collected in the Western Australian wheatbelt.

Echidna (*Tachyglossus aculeatus*)

One was seen at *ca* 1700 hours in *Casuarina campestris* shrubland (DR loc. 3.33) in April 1976. Numerous characteristic scratchings and faeces were seen elsewhere on both Reserves.

Fox (*Vulpes vulpes*)

One was seen while spotlighting from a vehicle in road verge on east side of KKR in October 1975. Foxes were first seen in the Kellerberrin district in 1924 (Leake 1962).

Feral Cat (*Felis catus*)

Cats were seen on 3 occasions in October 1975, twice on DR and once on KKR. In April 1976 a cat was shot at *ca* 2100 hours on the north boundary of DR; its stomach contents included at least 4 (possible 6) *Chalinolobus gouldii*, 1 *Amphibolurus minor*, 1 *Ctenotus pantherinus pantherinus*, 1 *Ctenotus schomburgkii*, 1 *Gehyra variegata*, 1 moth (Hepialidae) and 1 grasshopper (Acrididae).

House Mouse (*Mus musculus*)

Six were collected in October 1975, from traplines 2 (2), 7 (2), and 12 (2). Twenty-five were collected in April 1976 from traplines 2 (3), 7 (11), 8 (3), 10 (2), and 12 (6). Two (out of 9) October females had 5 pairs of enlarged mammae. They did not appear to be lactating or pregnant. In autumn 1975 there was a plague of *Mus musculus* in the wheatbelt and elsewhere in the southern half of the State (Chapman, unpublished). The low *Mus* numbers in spring 1975 compared to autumn 1976 on these Reserves indicate that the plague had diminished by the end of 1975 and numbers returned to normal levels.

Rabbit (*Oryctolagus cuniculus*)

Frequently seen in October 1975 and April 1976. Ten animals was the highest number recorded on a vehicle spotlighting run of one hour and *ca* 15 km distance. More were seen in paddocks and road verges than in the Reserves. Leake (1962) records that rabbits first appeared in the district in 1902, not becoming a pest until about 1918.

DISCUSSION

All mammal species recorded on these Reserves are within their known range. However, in the wheatbelt *Nyctophilus timoriensis* is only known from Katanning (e.g. M6335) and Woodanilling (M6347) and this is the first record from a reserve in Western Australia.

Durokoppin is the only Reserve in the wheatbelt on which the macropods *Macropus fuliginosus*, *M. robustus* and *M. irma* are known to occur together. Kodj Kodjin is the smallest Reserve on which we have recorded *M. fuliginosus*. *M. robustus* is generally recorded from areas with more rugged topography than found on either of these Reserves. Leake (1962) states that *M. robustus* extended its range south into the Kellerberrin district as agricultural settlement proceeded in the north of the wheatbelt. Durokoppin is the smallest wheatbelt Reserve on which we have recorded *M. irma*, and here it is not common; Leake (1962) considered it the rarest of the kangaroos even in the early days of agricultural settlement.

Only one *Trichosurus vulpecula* was sighted on Durokoppin Reserve. It is rare in the Kellerberrin district; Leake (1962) considered it had disappeared by 1902.

From Muir (Fig. 2, Introduction, this report) it is apparent that these Reserves are the only large uncleared blocks of land north of the Great Eastern Highway in the Kellerberrin district. The smaller mammals on these Reserves are thus isolated relict populations. The persistence of the macropods *Macropus fuliginosus* and *M. robustus* here probably requires a tolerant attitude on the part of adjoining landowners because these species frequently come out of the Reserves into paddocks and roadways. Management for the continued survival of most mammal species is required.

APPENDIX 1

Number of trapnights for each trapline on Durokoppin and Kodj Kodjin Reserves. E = Elliott trap, BB = Breakback trap, P = Pit trap, C = Cage trap. Traplines 1, 2, 3, 4, 8 were on Kodj Kodjin, and traplines 6, 7, 9, 10, 11, 12 were on Durokoppin.

Trapline No.	Number of trapnights							
	October 1975				April 1976			
	BB	E	C	P	BB	E	C	P
1	80	80	16	0	60	60	12	0
2	80	80	16	35	60	60	12	20
3	80	80	16	0	60	60	12	0
4	80	80	16	0	60	60	12	0
5	80	80	16	0	60	60	12	0
6	80	80	16	0	60	60	12	0
7	80	80	16	35	60	60	12	25
8	80	80	16	35	60	60	12	25
9	80	80	16	0	60	60	12	0
10	80	80	16	0	60	60	12	0
11	80	80	16	0	60	60	12	0
12	80	80	16	53	60	60	12	25
totals			2262					1679

APPENDIX 2

Vegetation and soil codes with leaf litter density, following Muir (1977a), and vegetation location numbers for each trapline on Durokoppin and Kodj Kodjin Reserves.

Trapline Number	Vegetation location number	Vegetation and soil code	Leaf litter
1	KKR 1.5	eMi. n ₁ JVLd/FSL	Abundant, evenly distributed
2	KKR 4.1	xSBc/FSL	Sparse, clumped
3	KKR 2.9	eKSi. xSCr/FSL	Abundant, evenly distributed
4	KKR 2.11	eKSi. xSCr/FSL	Abundant, evenly distributed
5	road verge	eKSi. xSi Soil and litter not recorded	
6	DR 1.5	eLAc. n ₁ VLr/CLS	Abundant, clumped
7	DR 4.3	cSAr. n ₁ SDd/FSL	Sparse, clumped
8	KKR 3.2	xSd/SL	Abundant, continuous
9	DR 2.5	eKSc	Litter not recorded
10	DR 3.7	cSd. xSBr/CL	Abundant, continuous
11	DR 5.1	xLAI. n ₁ VLi. n ₂ Jc/SL	Absent to abundant
12	DR 3.24	xSr. xSbi/FSL	Abundant, clumped