

Supplementary Material for

Potential for dietary competition between the threatened black-flanked rock-wallaby and sympatric western grey kangaroo

Julia Louise White^A and Patricia A. Fleming^{A,B}

^ATerrestrial Ecosystem Science and Sustainability, Harry Butler Institute, Murdoch University, WA 6150, Australia.

^BCorresponding author. Email: t.fleming@murdoch.edu.au



Fig. S1. Feral cats captured at the outcrops in Paruna Wildlife Sanctuary, Western Australia

Table S1. Selectivity for plant species (Ivlev's Selectivity Index) calculated by comparing the relative abundance of plant species in black-flanked rock-wallaby (*Petrogale lateralis lateralis*) and western grey kangaroo (*Macropus fuliginosus*) scats compared to their the relative abundance at the outcrops in Paruna Wildlife Sanctuary, Western Australia.

Class Functional group	Family	Plant Species	Relative availability (%)		<i>P. l. lateralis</i>		<i>M. fuliginosus</i>	
			Release site	New site	Occurrence in scats (%)	Ivlev's Selectivity Index, E	Occurrence in scats (%)	Ivlev's Selectivity Index, E
Monocot								
Forb	Asparagaceae	<i>Dichopogon capillipes</i>	0.6	1.0	0.0	-1	0.0	-1
Forb	Asparagaceae	<i>Thysanotus manglesianus</i>	0.1	0.1	0.0	-1	0.0	-1
Forb	Boryaceae	<i>Borya sphaerocephala</i>	0.2	0.8	31.7	1	1.3	1
Sedge	Cyperaceae	<i>Lepidosperma</i> sp. 1	0.0	0.0	0.0	-1	0.0	-1
Sedge	Cyperaceae	<i>Lepidosperma</i> sp. 2	0.0	0.0	0.0	-1	0.0	-1
Sedge	Cyperaceae	<i>Schoenus nanus</i>	0.0	0.8	0.0	-1	0.0	-1
Forb	Haemodoraceae	<i>Haemodorum</i> sp.	0.2	0.2	0.0	-1	0.0	-1
Forb	Hemerocallidaceae	<i>Caesia micrantha</i>	0.3	1.0	0.0	-1	0.0	-1
Forb	Hemerocallidaceae	<i>Tricoryne elatior</i>	0.1	0.3	0.0	-1	6.0	1
Forb	Hypoxidaceae	<i>Pauridia occidentalis</i>	0.7	0.4	0.0	-1	0.0	-1
Forb	Iridaceae	<i>Orthrosanthus laxus</i>	0.0	0.1	0.0	-1	0.7	1
Forb	Iridaceae	* <i>Romulea rosea</i>	3.2	3.9	0.0	-1	0.0	-1
Forb	Orchidaceae	<i>Caladenia flava</i>	0.0	0.0	0.0	-1	0.0	-1
Forb	Orchidaceae	<i>Leptoceras menziesii</i>	0.0	0.0	0.0	-1	0.0	-1
Forb	Orchidaceae	<i>Prasophyllum macrostachyum</i>	0.0	0.0	0.0	-1	0.0	-1
Forb	Orchidaceae	<i>Prasophyllum</i> sp.	0.0	0.0	0.0	-1	0.0	-1
Forb	Orchidaceae	<i>Pterostylis</i> sp.	0.0	0.1	0.0	-1	0.0	-1
Grass	Poaceae	* <i>Aira cupaniana</i>	0.0	0.8	0.0	-1	0.0	-1
Grass	Poaceae	* <i>Aira praecox</i>	0.3	2.5	0.3	0	0.0	-1
Grass	Poaceae	* <i>Bellardia trixago</i>	0.3	1.3	15.6	1	4.5	1

Plant			Relative availability (%)		<i>P. l. lateralis</i>		<i>M. fuliginosus</i>		
Class	Functional group	Family	Species	Release site	New site	Occurrence in scats (%)	Ivlev's Selectivity Index, E	Occurrence in scats (%)	Ivlev's Selectivity Index, E
Class	Functional group	Family	Species	Release site	New site	Occurrence in scats (%)	Ivlev's Selectivity Index, E	Occurrence in scats (%)	Ivlev's Selectivity Index, E
Grass	Poaceae	* <i>Briza maxima</i>	0.4	0.4	0.0	-1	0.0	-1	
Grass	Poaceae	* <i>Briza minor</i>	1.9	2.8	0.0	-1	0.0	-1	
Grass	Poaceae	* <i>Bromus diandrus</i>	0.4	2.4	0.0	-1	0.0	-1	
Grass	Poaceae	* <i>Ehrharta longiflora</i>	5.8	2.9	7.0 [†]	0	4.0 [†]	0	
Grass	Poaceae	<i>Microlaena? stipoides</i>	0.0	0.5	0.0	-1	0.0	-1	
Grass	Poaceae	<i>Neurachne alopecuroidae</i>	0.5	1.8	0.0	-1	1.3	0	
Grass	Poaceae	* <i>Vulpia myuros</i>	4.0	3.5	0.0	-1	0.0	-1	
		Unknown Poaceae			12.5		7.7		
Forb	Restionaceae	<i>Desmocladus flexuosus</i>	0.0	0.1	0.0	-1	0.0	-1	
Forb	Xanthorrhoeaceae	<i>Chamaescilla corymbosa</i>	0.0	0.2	0.0	-1	0.0	-1	
Browse	Xanthorrhoeaceae	<i>Xanthorrhoea preissii</i>	0.8	0.0	0.0	-1	0.0	-1	
Browse	Zamiaceae	<i>Macrozamia riedlei</i>	1.5	0.1	0.0	-1	0.6	0	
		Unknown monocots			14.1		21.2		
		Total monocots			65.6		42.2		
Dicot									
Forb	Amaranthaceae	<i>Ptilotus drummondii</i>	0.0	0.1	0.0	-1	0.0	-1	
Forb	Apiaceae	<i>Daucus glochidiatus</i>	3.5	3.9	0.0	-1	0.0	-1	
Forb	Apiaceae	<i>Eryngium pinnatifidum</i>	0.0	0.3	0.0	-1	0.0	-1	
Forb	Araliaceae	<i>Trachymene? pilosa</i>	0.0	0.2	0.0	-1	0.0	-1	
Forb	Asteraceae	* <i>Arctotheca calendula</i>	0.4	1.4	0.0	-1	0.0	-1	
Forb	Asteraceae	<i>Brachyscome pusilla</i>	0.0	0.3	0.0	-1	0.0	-1	
Forb	Asteraceae	* <i>Carduus pycnocephalus</i>	0.5	0.4	0.0	-1	0.0	-1	
Forb	Asteraceae	<i>Helichrysum? luteoalbum</i>	0.3	0.0	0.0	-1	0.0	-1	
Forb	Asteraceae	* <i>Hypochaeris glabra</i>	4.6	4.4	0.0	-1	0.0	-1	
Forb	Asteraceae	* <i>Hypochaeris radicata</i>	0.0	0.2	0.0	-1	0.0	-1	
Forb	Asteraceae	<i>Plantago? debilis</i>	0.0	0.7	0.0	-1	0.0	-1	

Plant			Relative availability (%)		<i>P. l. lateralis</i>		<i>M. fuliginosus</i>		
Class	Functional group	Family	Species	Release site	New site	Occurrence in scats (%)	Ivlev's Selectivity Index, E	Occurrence in scats (%)	Ivlev's Selectivity Index, E
Forb	Asteraceae	<i>Podolepis lessonii</i>	0.3	0.5	0.0	-1	0.0	-1	
Forb	Asteraceae	<i>Podotheca gnaphaloides</i>	0.0	0.1	0.0	-1	0.0	-1	
Forb	Asteraceae	* <i>Sigesbeckia orientalis</i>	0.0	0.8	0.0	-1	0.0	-1	
Forb	Asteraceae	* <i>Sonchus oleraceus</i>	4.7	3.1	2.5	0	17.0 [†]	1	
Forb	Asteraceae	* <i>Ursinia anthemoides</i>	1.3	2.4	0.0	-1	0.0	-1	
Forb	Asteraceae	<i>Lagenophora huegelii</i>	0.5	0.9	0.0	-1	0.0	-1	
Forb	Asteraceae	<i>Lawrencella rosea</i>	0.0	0.2	0.0	-1	0.0	-1	
Forb	Asteraceae	<i>Quinetia urvillei</i>	0.5	2.3	0.0	-1	0.0	-1	
Forb	Asteraceae	<i>Siloxerus humifusus</i>	0.0	0.4	0.0	-1	0.0	-1	
Forb	Asteraceae	<i>Waitzia nitida</i>	0.0	0.1	0.0	-1	0.0	-1	
Forb	Asteraceae	Unknown Asteraceae	0.0	0.0	0.0	-1	0.0	-1	
Browse	Casuarinaceae	<i>Allocasuarina huegeliana</i>	0.1	0.2	0.0	-1	0.0	-1	
Forb	Caryophyllaceae	* <i>Silene gallica</i>	0.2	0.2	0.0	-1	0.0	-1	
Forb	Crassulaceae	<i>Crassula colorata</i>	0.3	0.2	0.0	-1	0.0	-1	
Browse	Dilleniaceae	<i>Hibbertia hypericoides</i>	0.0	0.2	0.0	-1	0.0	-1	
Browse	Dilleniaceae	<i>Hibbertia lasiopus</i>	1.1	1.7	0.0	-1	0.0	-1	
Forb	Dioscoreaceae	<i>Dioscorea hastifolia</i>	7.6	1.5	0.0	-1	0.0	-1	
Forb	Droseraceae	<i>Drosera bulbosa</i>	0.8	0.5	0.0	-1	0.0	-1	
Forb	Droseraceae	<i>Drosera glanduligera</i>	0.7	1.2	0.0	-1	0.0	-1	
Forb	Droseraceae	<i>Drosera pallida</i>	0.0	0.7	0.0	-1	0.0	-1	
Browse	Ericaceae	<i>Astroloma drummondii</i>	0.0	0.1	0.0	-1	0.0	-1	
Browse	Fabaceae	<i>Acacia pulchella</i>	0.0	0.0	0.0	-1	0.0	-1	
Forb	Fabaceae	* <i>Melilotus indicus</i>	0.0	0.3	0.0	-1	0.0	-1	
Forb	Fabaceae	* <i>Trifolium dubium</i>	0.0	0.8	0.0	-1	0.0	-1	
Forb	Fabaceae	* <i>Trifolium campestre</i>	0.2	0.5	0.0	-1	0.0	-1	
Forb	Fabaceae	* <i>Trifolium subterraneum</i>	0.3	3.0	0.0	-1	0.0	-1	

Plant			Relative availability (%)		<i>P. l. lateralis</i>		<i>M. fuliginosus</i>		
Class	Functional group	Family	Species	Release site	New site	Occurrence in scats (%)	Ivlev's Selectivity Index, E	Occurrence in scats (%)	Ivlev's Selectivity Index, E
Forb	Gentianaceae	<i>Centaurium erythraea</i>	1.1	1.7	0.0	-1	0.0	-1	
Forb	Gentianaceae	* <i>Cicendia filiformis</i>	0.0	0.4	0.0	-1	0.0	-1	
Forb	Geraniaceae	<i>Erodium cygnorum</i>	0.1	0.0	0.0	-1	0.0	-1	
Forb	Goodeniaceae	<i>Goodenia pulchella</i>	0.0	0.0	0.0	-1	0.0	-1	
Forb	Lamiaceae	* <i>Stachys arvensis</i>	1.5	1.6	0.0	-1	0.0	-1	
Forb	Montiaceae	<i>Calandrinia</i> sp.	0.4	1.9	0.0	-1	0.0	-1	
Forb	Mulvaceae	<i>Thomasia</i> sp.	0.0	0.0	0.0	-1	0.0	-1	
Browse	Myrtaceae	<i>Corymbia calophylla</i>	0.1	0.2	0.0	-1	0.0	-1	
Browse	Myrtaceae	<i>Darwinia citriodora</i>	13.2	0.0	0.0	-1	0.0	-1	
Browse	Myrtaceae	<i>Eucalyptus accedens</i>	0.0	0.4	0.0	-1	5.3	1	
Browse	Myrtaceae	<i>Hypocalymma angustifolium</i>	1.1	0.8	0.0	-1	0.0	-1	
Browse	Myrtaceae	<i>Leptospermum erubescens</i>	0.0	0.0	0.0	-1	0.0	-1	
Browse	Myrtaceae	<i>Melaleuca radula</i>	1.8	0.0	0.0	-1	1.7	0	
Forb	Orobanchaceae	<i>Parentucellia latifolia</i>	0.5	1.1	0.0	-1	0.0	-1	
Forb	Oxalidaceae	<i>Oxalis perennans</i>	0.4	0.4	0.0	-1	0.0	-1	
Forb	Papaveraceae	* <i>Fumaria capreolata</i>	0.8	0.0	0.0	-1	0.0	-1	
Browse	Phyllanthaceae	<i>Phyllanthus calycinus</i>	2.6	2.2	0.0	-1	0.0	-1	
Forb	Phyllanthaceae	<i>Poranthera microphylla</i>	0.0	0.2	0.0	-1	0.0	-1	
Forb	Primulaceae	* <i>Lysimachia arvensis</i>	6.6	4.5	0.0	-1	0.0	-1	
Browse	Proteaceae	<i>Hakea cristata</i>	0.3	0.0	0.0	-1	0.4	0	
Browse	Rhamnaceae	<i>Trymalium o. odoratissimum</i>	~	15.5	3.1	-1	14.9	0	
Forb	Solanaceae	* <i>Solanum nigrum</i>	0.0	0.0	0.0	-1	0.0	-1	
Browse	Solanaceae	<i>Solanum lasiophyllum</i>	0.0	0.0	0.0	-1	0.0	-1	
Forb	Stylidiaceae	<i>Levenhookia pusilla</i>	0.0	0.2	0.0	-1	0.0	-1	
Forb	Stylidiaceae	<i>Stylium androsaceum</i>	0.0	0.2	0.0	-1	0.0	-1	
Browse	Thymelaeaceae	<i>Pimelea argentea</i>	0.4	0.7	0.0	-1	0.0	-1	

Plant			Relative availability (%)		<i>P. l. lateralis</i>		<i>M. fuliginosus</i>		
Class	Functional group	Family	Species	Release site	New site	Occurrence in scats (%)	Ivlev's Selectivity Index, E	Occurrence in scats (%)	Ivlev's Selectivity Index, E
Class									
Functional	Forb	Urticaceae	<i>Parietaria debilis</i>	0.7	0.1	0.0	-1	0.0	-1
group	Forb		Unidentified forb 1	0.3	0.8	0.0	-1	0.0	-1
	Forb		Unidentified forb 2	0.0	0.2	0.0	-1	0.0	-1
	Forb		Unidentified forb 3	0.0	0.0	0.0	-1	0.0	-1
	Forb		Unidentified forb 4	0.0	0.2	0.0	-1	0.0	-1
	Forb		Unidentified forb 5	0.0	0.2	0.0	-1	0.0	-1
			Unknown dicots			5.2		3.5	
			Total dicots			26.3		47.8	
Pteridophyte									
Fern		Pteridaceae	<i>Cheilanthes austrotenuifolia</i>	7.2	4.1	7.3	0	7.4	0
Fern		Aspleniaceae	<i>Pleurosorus rutifolius</i>	0.1	0.2	0.0	-1	0.0	-1
			Unknown fragments			0.9		2.7	

Functional group: browse = woody trees and shrubs, forb = non-woody herbaceous plants other than grasses, grass = Poaceae family. †Camera trap captured a photo of this being consumed. Ivlev's Selectivity Index: used relative abundance values at the release site only because no scats were found at the new site, -1 = avoidance, 0 = use in proportion to availability, 1 = selection (shaded).