

## Ecography

E4677

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Appendix 1. List of species in emu droppings in the Eneabba Plain, Fitzgerald River National Park and Cape Range National Park. We used morphospecies when diaspores could not be identified. The dispersal mode is based on morphological features, frequency is total number of dispersal units recovered (seeds, endocarps, fruits or infructescences, as they appeared in the droppings) and number of droppings in which they were present, number of seeds per dispersal unit (mean  $\pm$  SE) and sample size in cases of variable number of seeds per dispersal unit, percentage viability (mean  $\pm$  SE when more than one replicate was used), and replication used for the viability tests. The number of droppings (replicates, since the treatment is seed passage through the emu gut) and total number of seeds, fruits, or seeds-plus-endocarp units (referred as endocarp) used is shown. When there was more than one replicate, equal numbers of seeds (or fruits or endocarps in some cases) per replicate were tested. Symbol \* indicates species revealed as seedlings emerging from the remains. In these cases, the number of seedlings emerged and number of droppings is shown as frequency, and no viability tests were done.

	Dispersal mode	Frequency – no. dispersal units, no. droppings	No. seeds per dispersal unit	Viability %	Replication of viability tests – no. droppings (no. fruits and/or seeds)
Cape Range National Park					
Amaranthaceae					
<i>Ptilotus</i> sp.*	Wind	1, 1			
Areaceae					
<i>Carpentaria acuminata</i> (Wendland & Drude) Beccari	Endozoochory	23, 1	1	93.9 $\pm$ 3.0	3 (33 seeds)
<i>Phoenix dactylifera</i> L.	Endozoochory	21, 2	1	13.3	1 (15 seeds)
Boraginaceae					
<i>Trichodesma zeylanicum</i> (Burm.f.) R.Br.	Unassisted	57, 6	1	46.6 $\pm$ 4.8	3 (30 seeds)
Caesalpiniaceae					
<i>Senna</i> sp.	Unassisted	1, 1	1	–	–
Chenopodiaceae					
<i>Maireana</i> sp.*	Wind	3, 1			
<i>Rhagodia eremaea</i> Paul G. Wilson*	Endozoochory	9, 1			
Euphorbiaceae					
<i>Adriana tomentosa</i> Gaudich.	Ant	1, 1	3	–	–
Papilionaceae					
<i>Medicago</i> sp.	Exozoochory	1, 1	1	–	–
<i>Swainsona pterostylis</i> (DC.) Bakh. f.	Unassisted	6, 1	2	0	1 (2 seeds)
Goodeniaceae					
<i>Goodenia</i> sp.	Wind	1, 1	1	–	–
Gyrostemonaceae					
<i>Codonocarpus corinifolius</i> (Desf.) F. Muell.	Ant	1, 1	1	–	–
Lauraceae					
<i>Cassytha</i> sp.	Endozoochory	2, 1	1	100	1 seed
Mimosaceae					
<i>Acacia farnesiana</i> (L.) Willd.	Unassisted	42, 4	1	100	2 (20 seeds)
<i>Acacia</i> sp. 1	Ant	1, 1	1	–	–
<i>Acacia</i> sp. 2	Ant	1, 1	1	–	–
Moraceae					
<i>Ficus platypoda</i> var. <i>lachnocaulos</i> (Miq.) Benth.	Endozoochory	16,069, 18	1	11.1 $\pm$ 2.2	3 (90 seeds)

<i>Ficus</i> sp.	Endozoochory	1, 1	85	13.3	1 (15 seeds)
Myoporaceae					
<i>Eremophila</i> sp. 1	Endozoochory	788, 17	3.6±0.4 (10)	51.7	1 (10 endocarps, 36 seeds)
<i>Eremophila</i> sp. 2	Endozoochory	1, 1	3	–	–
Olacaceae					
<i>Olax aurantia</i> A.S.George	Endozoochory	1, 1	1	–	–
Portulacaceae					
<i>Calandrinia</i> sp.	Unassisted	4, 1	1	0	1 (2 seeds)
<i>Portulaca oleracea</i> L.*	Ant	19, 1			
Solanaceae					
<i>Solanum</i> sp. 1*	Endozoochory	5, 1			
<i>Solanum</i> sp. 2	Endozoochory	112, 3	1	0	2 (30 seeds)
Surianaceae					
<i>Sylobasium spathulatum</i> Desf.	Endozoochory	1, 1	1	–	–
Unidentified					
Sp. 1	Unassisted	80, 4	1	53.3±3.3	3 (30 seeds)
Sp. 2	Unassisted	2, 1	1	100	1 seed
Sp. 3	Unassisted	211, 8	1	93.3±6.7	3 (30 seeds)
Sp. 4	Unassisted	58, 2	1	78.1±15.1	2 (32 seeds)
Sp. 5	Unassisted	3, 1	1	100	1 seed
Sp. 6	Endozoochory	2, 1	1	100	1 seed
Sp. 7	Endozoochory	51, 7	1	87.9±8.0	3 (33 seeds)
Sp. 8	Unassisted	2, 1	1	100	1 seed
Sp. 9	Unassisted	10, 1	1	42.9	1 (7 seeds)
Sp. 10	Unassisted	2, 1	1	100	1 seed
Sp. 11	Unassisted	14, 4	1	0	3 (9 seeds)
Encabba Plain					
Anthericaceae					
<i>Thysanotus</i> sp.	Ant	2, 1	1	0	1 seed
Asteraceae					
Sp. 1*	Wind	2, 2			
Brassicaceae					
<i>Raphanus raphanistrum</i> L.	Unassisted	985, 1	1	42.9	1 (50 seeds)
Casuarinaceae					
<i>Allocasuarina humilis</i> (Otto & F. Dietr.) L.A.S. Johnson	Wind	572, 16	14.7±1.55 (30)	19.1±13.10	5 (150 seeds)
Dasygongonaceae					
<i>Acanthocarpus preissii</i> Lehm.	Unassisted	104, 6	1	86.7±6.67	3 (15 seeds)
Dilleniaceae					
<i>Hibbertia hypericoides</i> (DC.) Benth.	Ant	9, 2	1	11.1	1 (9 seeds)
Ecdiocolaceae					
<i>Ecdiocola monostachya</i> F. Muell.	Unassisted	44, 3	1	28.2	1 (39 seeds)

Epacridaceae										
<i>Astroloma microdonia</i> Benth.	Endozoochory	20, 1	3.1±0.31 (15)	90.0±7.24	3.1±0.31 (15)	90.0±7.24	1 (15 endocarps, 47 seeds)			
<i>Astroloma</i> sp. 1	Endozoochory	3634, 21	3.4±0.10 (270)	86.1±4.31	3.4±0.10 (270)	86.1±4.31	9 (270 endocarps, 918 seeds)			
<i>Astroloma</i> sp. 2	Endozoochory	5, 1	1	100	1	100	1 (2 seeds)			
<i>Astroloma</i> sp. 3	Endozoochory	16, 1	1.8±0.33 (10)	90.0±5.53	1.8±0.33 (10)	90.0±5.53	1 (10 endocarps, 18 seeds)			
<i>Leucopogon</i> sp. 1	Endozoochory	854, 7	2.5±0.16 (90)	71.0±1.87	2.5±0.16 (90)	71.0±1.87	3 (90 endocarps, 224 seeds)			
<i>Leucopogon</i> sp. 2	Endozoochory	3, 2	3	35.4±25	3	35.4±25	2 (2 endocarps, 5 seeds)			
Gyrostemonaceae										
<i>Tersonia cyathiflora</i> (Fenzl) J.W. Green	Ant	705, 21	17.0±0.24 (70)	0	17.0±0.24 (70)	0	7 (70 fruits, 1192 seeds)			
Haemodoraceae										
<i>Haemodorum spicatum</i> R. Br.	Wind	10, 1	3	28.6	3	28.6	1 (7 seeds)			
<i>Haemodorum</i> sp.	Wind	1, 1	1	–	1	–	–			
Lauraceae										
<i>Cassytha</i> sp.	Endozoochory	90, 1	1	100	1	100	1 (25 seeds)			
Papilionaceae										
<i>Lupinus</i> sp.*	Unknown	1, 1								
Mimosaceae										
<i>Acacia blakeyi</i> Maiden	Ant	460, 3	1	95.8±0.83	1	95.8±0.83	3 (120 seeds)			
Poaceae										
<i>Avena sativa</i> L.	Unassisted	879, 4	1	62.4	1	62.4	3 (90 seeds)			
Unidentified grass (Poaceae or Restionaceae)*	Unknown	4, 3								
Proteaceae										
<i>Dryandra shuttleworthiana</i> Meisn.	Wind	16, 5	1	0	1	0	2 (2 seeds)			
<i>Hakea ruscifolia</i> Labill.	Wind	2, 1	2	50	2	50	1 (2 seeds)			
Santalaceae										
<i>Exocarpos sparteus</i> R. Br.	Endozoochory	139, 2	1	82.5±7.50	1	82.5±7.50	2 (40 seeds)			
<i>Santalum acuminatum</i> (R. Br.) A. DC.	Endozoochory	1, 1	1	–	1	–	–			
<i>Santalum lanceolatum</i> R. Br.	Endozoochory	1, 1	1	–	1	–	–			
Zamiaceae										
<i>Macrozamia fraseri</i> Miq.	Endozoochory	1, 1	1	0	1	0	1 seed			
Unidentified										
Sp. 1	Unassisted	38, 1	1	40	1	40	1 (30 seeds)			
Fitzgerald River National Park										
Caryophyllaceae										
<i>Polycarpon tetraphyllum</i> (L.) L.*	Unassisted	35, 1								
Casuarinaceae										
<i>Allocasuarina humilis</i> (Otto & F. Dietr.) L.A.S. Johnson	Wind	21, 2	14.7	8.33±5	14.7	8.33±5	2 (60 seeds)			

Epacridaceae								
Sp. 1	Endozoochory	3037, 4	3.5	60.1±3.31	4 (60 endocarps, 212 seeds)			
Sp. 2	Endozoochory	1792, 10	3.3±0.81 (n=90)	75.4±1.35	6 (90 endocarps, 297 seeds)			
Papilionaceae								
<i>Daviesia teretifolia</i> Benth.	Ant	4, 2	1	0	2 seeds (aborted)			
Dasygonaceae								
<i>Lomandra</i> sp.	Unassisted	866, 4	3	65.6±13.51	3 (90 seeds)			
Mimosaceae								
<i>Acacia cyclops</i> G. Don	Endozoochory	2, 1	1	100	1 seed			
Myrtaceae								
<i>Eucalyptus</i> sp.	Unassisted	17, 3	1	–	–			
Proteaceae								
<i>Grevillea</i> sp.	Unassisted	1, 1	1	100	1 seed			
<i>Hakea</i> sp.	Wind	2, 1	2	50	1 (2 seeds)			
<i>Isopogon trilobus</i> R. Br.	Wind	157, 6	152±38.9 (n=5)	0.7±0.73†	3 (270 seeds)			
Solanaceae								
<i>Solanum symonii</i> H. Eichler*	Endozoochory	17, 3						

## References

Paczkowska, G. and Chapman, A. R. 2000. The western Australian flora – a descriptive catalogue. – Wildflower Society of Western Australia, the Western Australian Herbarium, CALM and the Botanic Gardens and Parks Authority, Perth.