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Supplementary Material

Biogeography of vine thickets and open woodland in subtropical eastern Australia: a case study of three camaenid land snail genera

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Supplementary Files

Table S1. Specimens used for 16S DNA analysis

<i>Figuladra</i> Species	Reg #	Locality	Habitat	Latitude	Longitude	Alt	Date	Collector
<i>appendiculata</i>	MO86833	Mt Archer, Base, SEQ	under logs	23° 20.873'S	150° 34.042'E		03-Mar-19	J. Stanistic, L. Stanistic
	MO86924	Mt Jim Crow, SEQ	under bark of fallen tree	23° 13' 10"S	150° 37' 45.8"E		05-Jul-13	J. Stanistic, L. Stanistic
	MO87110	Keppel Sands CP, MEQ	under logs, in palm forest	23° 20' 19"S	150° 46' 30"E	10m	19-Aug-20	J. Stanistic, L. Stanistic
	MO87114	Mulambin Beach, Bluff Point NR, SEQ	under logs, littoral dry rainforest	23° 11' 7"S	150° 47' 33"E	6m	19-Aug-20	J. Stanistic, L. Stanistic
	MO87120	Great Keppel I, SEQ	in litter in fork of fig tree, fig tree	23° 10' 47"S	150° 56' 8"E		21-Aug-20	J. Stanistic, L. Stanistic
	MO87109	Rockhampton, NE at Lakes Creek, Rockonia Rd, MEQ	under rock, cleared vine thicket	23° 22' 8"S	150° 33' 49"E	40m	19-Aug-20	J. Stanistic, L. Stanistic
<i>aureedensis</i>	MO86835	Johannsens Caves, SEQ	under rocks, burnt vine thicket	23° 09.446'S	150° 27.511'E		03-Mar-19	J. Stanistic, L. Stanistic
	MO87121	Johannsens Caves, SEQ	under rocks, vine thicket	23° 9' 26"S	150° 27' 31"E		22-Aug-20	J. Stanistic, L. Stanistic
<i>barneyae</i>	MO87097	Nebo at Nebo Ck MEQ	under logs/rocks & in concrete rubble piles, bank of watercourse	21° 41' 36"S	148° 41' 22"E	213 m	29-Apr-20	C. Eddie
	MO87127	Connors Hump on St Lawrence-Croydon Rd, MEQ	under rocks, subtropical rainforest	22° 20' 59"S	149° 20' 35"E	235m	22-Aug-20	J. Stanistic, L. Stanistic
	MO87435	St Lawrence, Hausens Rd, MEQ	under logs, NVF	21° 38' 03.7"S	149° 27' 07.9"E	184m	19-Mar-21	J. Stanistic, L. Stanistic
	MO87440	Greenhill, Seaview RD, MEQ	under logs, SEVT	21° 40' 53"S	149° 26' 56"E	75m	19-Mar-21	J. Stanistic, L. Stanistic
<i>bayensis</i>	MO86654	Mt Mudlo NP at Scrubby Creek rest area, SEQ	MVF; rainforest, under logs and rock	26° 04.844'S	152° 07.986'E		12-Mar-18	J. Stanistic, L. Stanistic
	MO86928	Mt Mudlo NP at Scrubby Creek rest area, SEQ	MVF; rainforest, under logs and rock	26° 04.844'S	152° 07.986'E		26-Feb-19	J. Stanistic, L. Stanistic
	MO86659	Mt Biggenden, SEQ	SEVT on limestone, under rocks and logs	25° 31.989'S	151° 58.835'E		13-Mar-18	J. Stanistic, L. Stanistic
Camaenid BL45	MO87124	Wadallah Ck Xing on Stanage Bay Rd, MEQ	under logs	22° 26' 38"S	150° 6' 1"E	30m	22-Aug-20	J. Stanistic, L. Stanistic

Camaenid BL47	MO66973	Mt Ossa, Bruce Hwy/Mt Ossa Rd Junction MEQ	rainforest under logs and bark	20° 57' 17" S	148° 49' 26"E		23-Feb-00	
	MO87133	Strathfield, Oxford-Sarina Rd, c. 8 km E Denison Ck Xing, MEQ	in dirt under logs	21° 46' 18"S	148° 50' 42"E	227m	24-Aug-20	J. Stanistic, L. Stanistic
	MO87456	Seaforth, Finlaysons Point Rd, c. 1km from Seaforth Port, MEQ	in litter, under logs	20°53'34"S	148°56'19"E		21-March-2021	J. Stanistic, L. Stanistic
	MO87437	Clairview, Colonial Dve, northern end, MEQ	in litter under logs, SEVT	22°5'32"S	149°31'19"E		19-Mar-21	J. Stanistic, L. Stanistic
<i>challisi</i>	MO87829	St Bees Id, MEQ	under logs, SEVT /eucalypts	20°54'53"S	149°25'44"E		01-May-19	A. Melzer, G. Foelz, A. McDougall
	MO87828	Keswick Id, MEQ	under logs, in pandanus litter in ornamental garden	20°55'20"S	149°25'24"E		01-May-19	A. Melzer, G. Foelz, A. McDougall
<i>incei</i>	MO87084	Middle Percy Island, MEQ	under bark, in hollow tree, dead on ground	21° 39' 35.37"S	150° 15' 47.47"E		17-Mar-20	C. Radclyffe
	MO87122	Stanage Bay, Schnapper Dve, MEQ	under logs, vine thicket	22° 6' 9"S	150° 3' 6"E		22-Aug-20	J. Stanistic, L. Stanistic
<i>lessoni</i>	MO72163	Calliope, 24k ESE at Mercy Hill, SEQ	vine thicket under logs	24° 5' 49" S	151° 24' 54" E		11-Jan-02	J Johnson
	MO72198	Gladstone, 24k NW Mt Larcom Range, SEQ	vine thicket under logs	23° 45' 17" S	151° 3' 36" E		06-Dec-02	J. Stanistic
	MO72292	Gladstone, c.8.5k S, Maurice Hill, SEQ	vine thicket under logs	23° 55' 59" S	151° 14' 23"E		02-Jan-03	N. Trevor
	MO79347	Bracewell, SEQ	vine thicket/limestone. under among rocks.	23° 54' 11" S	150° 52' 55"E		23-Jun-10	J Stanistic, D Potter
	MO85827	Curtis Island, SEQ	pitfall with drift net	23° 36' 8" S	151° 13' 23"E		22-Aug-10	Eddie, Craig
	MO85828	Curtis Island, SEQ	pitfall with drift net	23° 36' 8" S	151° 13' 23"E		15-May-09	Eddie, Craig
	MO86689	The Barracks, Kroombit Tops NP, SEQ	under logs, grassy open forest	24° 21' 25"S	150° 57' 43"E	780m	13-Mar-18	H. Hines, B. Revell
	MO86803	Henickes Rd, SEQ	buried in litter	23° 49.284'S	150° 55.623'E		14-Aug-18	J. Stanistic, L. Stanistic
	MO86807	Targinnie Rd, c.0.5km past Forest Rd, SEQ	under timber in dried mud	23° 47.223'S	151° 06.575'E		14-Aug-18	J. Stanistic, L. Stanistic

	MO86839	Targinnie, cnr Forest and Targinnie Rd, SEQ	under logs	23° 47.248'S	151° 06.567'E		28-Feb-19	J. Stanistic, L. Stanistic
	MO87102	Ubobo, 7 km W Broom Ck, SEQ	under logs, riparian rainforest	24° 23' 47"S	151° 13' 57"E	101m	17-Aug-20	J. Stanistic, L. Stanistic
	MO87104	Boyne I, Wyndham Park, SEQ	in hollow logs, under logs, littoral dry rainforest	23° 56' 13"S	151° 21' 14"E	11m	18-Aug-20	J. Stanistic, L. Stanistic
	MO87105	Tannum Sands, Canoe Pt, opp. Wild Cattle I, SEQ	in hollow logs, littoral dry rainforest	23° 56' 30"S	151° 22' 5"E	12m	18-Aug-20	J. Stanistic, L. Stanistic
	MO87142	Machine Ck, Ambrose-Bracewell Rd, c. 8km SW Mt Larcom, SEQ	under logs, degraded vine thicket on side of road	23° 50' 19"S	150° 55' 13"E	65m	25-Aug-20	J. Stanistic, L. Stanistic
	MO87144	Henickes Rd, c. 9.4km W Mt Larcom, SEQ	under rocks and timber, vine thicket on limestone	23° 49' 12"S	150° 55' 38"E	65m	25-Aug-20	J. Stanistic, L. Stanistic
	MO87155	Bororen, c. 10.1km W, base Mt Coulston on McClure Rd, SEQ	under logs, in hollow logs, vine thicket	24° 12' 0"S	151° 25' 58"E	94m	26-Aug-20	J. Stanistic, L. Stanistic
	MO87159	Bororen c. 2.1 km S at Dagleish Rd, Lagoon Ck Xing, SEQ	under timber in litter, riparian vine thicket	24° 15' 28"S	151° 29' 32"E	66m	26-Aug-20	J. Stanistic, L. Stanistic
<i>mattea</i>	MO86640	Injune, c. 62.2 km NNE at Castle Hill Stn at Arcadia Creek, Arcadia Valley, SCQ	inside hollow tree and under logs.	25° 43' 25" S	148° 58' E		10-Oct-15	Bendall, A
	MO86643	South Bend, c. 68.7 km NNE Injune, Arcadia Valley, SCQ	under rocks/in crevices between rocks	25° 58' 31" S	149° 17' 27" E		18-Aug-04	Craig Eddie & W McDonald
	MO86799	Targinnie, banks of Targinnie Ck on Forest Rd, SEQ	under rocks	23° 47.076'S	151° 07.188'E		13-Aug-18	J. Stanistic, L. Stanistic
	MO86812	Dulacca, SE at Bidson Station, SEQ	crawling after rain	26° 41' 48.09"S	149° 50' 48.75"E		01-Apr-19	Piper Johnson
	MO86908	Isla Gorge NP, W side of Flagstaff Rd, SCQ	under bark of tree	25°3'52"S	149°51'18"E		20-Feb-19	G.B. Monteith, V. Sandoval
	MO86916	Henickes Hill via Mt Larcom, SEQ	under logs and on ground	23° 49' 17"S	150° 55' 37.2"E		04-Jul-13	J. Stanistic, L. Stanistic
	MO87090	c. 5.0km NNW of Moura, SCQ	under logs/rocks & in concrete rubble piles, degraded SEVT	24° 31' 29"S	149° 57' 35 "E	130 m	15-Mar-20	C. Eddie

	MO87138	Raglan, c. 5.8 km NW at Horrigan Ck Rd, SEQ	under logs at base of eucalypt tree, open woodland next to creek	23° 43' 0"S	150° 4'7 33"E	27m	25-Aug-20	J. Stanistic, L. Stanistic
	MO87140	Raglan, Fire Creek Rd c. 2.2km W Bruce H'way, SEQ	under logs, vine thicket	23° 4'4 27"S	150° 48' 39"E	28m	25-Aug-20	J. Stanistic, L. Stanistic
	MO87243	Point Vernon, 3 Jay Street, SEQ	under litter, suburban garden/cotton trees	25° 14' 57"S	152° 48' 49"E		01-Dec-20	P. Filewood
<i>muirorum</i>	MO77392	Boomer Ra., at Python Scrub, site 5, SEQ	vine thicket	23° 12' S	149° 44' E	240m	29-Sep-99	J Stanistic, G Ingram
	MO87137	Marlborough, 7.7 km N on Glenprairie Rd, SEQ	under rocks and logs, remnant vine thicket, rocky outcrops	22° 45' 18"S	149° 54' 13"E	100m	24-Aug-20	J. Stanistic, L. Stanistic
	MO87431	Marlborough, Coorumburra Rd, SEQ	under logs, NVF	21° 30' 18.8"S	149° 07' 20.8"E	285m	19-Mar-21	J. Stanistic, L. Stanistic
<i>narelleae</i>	MO86831	Bouldercombe Gorge, SEQ	vine thicket; under rocks	23° 35.605'S	150° 28.325'E		03-Mar-19	J. Stanistic, L. Stanistic
	MO87428	Dan Dan Scrub, Tableland Rd, SEQ	vine thicket; under rocks and logs, remnant scrub	24° 10' 40" S	151° 5' 30" E	65m	18-Mar-21	J. Stanistic, L. Stanistic
<i>pallida</i>	MO87117	Byfield, Polka Rd c. 0.6km S of Castle Rock Rd, SEQ	under rocks, dry rainforest along creek	22° 49' 59"S	150° 37' 34"E	94m	20-Aug-20	J. Stanistic, L. Stanistic
<i>reducta</i>	MO86669	Goodnight Scrub, SEQ	under logs	25° 15.110'S	151° 56.508'E		13-Mar-18	J Stanistic, L. Stanistic
	MO86815	Mt Perry, NE at Scrub Rd, SEQ	under rocks	25° 10.651'S	151° 39.835'E		27-Feb-19	J. Stanistic, L. Stanistic
Camaenid SQ 15	MO72209	Eurimbula, 16k SE of Turkey Beach, SEQ	under rocks on ridge	24° 10' 13" S	151° 46' 11" E		05-Jan-03	?
	MO72282	Calliope, c.10k SSE Taragoola Rd, SEQ	woodland under logs	24° 5' 4" S	151° 14' 24" E		19-Jan-03	N. Trevor
	MO72317	Miriam Vale, c.18k NE Pine Ck, SEQ	riverine rainforest under logs	24° 13' 33" S	151° 41' 57" E		12-Jan-03	K. Lamprell
	MO86795	Turkey Beach, c.6km W, SEQ	under timber	24° 06.983'S	151° 38.047'E		13-Aug-18	J. Stanistic, L. Stanistic
	MO86888	Round Hill Head, SEQ	under rocks	24° 09' 02.2"S	15°1' 53 08.9"E		04-Jul-13	J. Stanistic, L. Stanistic
	MO86921	Eurimbula NP, SEQ	under bark of tree	24° 10 56.7"S	151° 49 46.9"E		04-Jul-13	J. Stanistic, L. Stanistic
	MO87062	Watalgan SF, SEQ	under logs, vine scrub	24° 39.598'S	152° 01.187'E		17-Feb-20	J. Stanistic, L. Stanistic

	MO87148	Calliope, c. 4km SE, Old Ten Chain Rd, SEQ	under bark on logs, eucalypt forest with shrub underlayer	24° 0' 0"S	151° 14' 42"E	65m	25-Aug-20	J. Stanistic, L. Stanistic
	MO87152	Rodds Peninsula, Tanti Rd 500m N Worthington Ck Xing, SEQ	under bark of tree, dry rainforest	24° 7' 52"S	151° 41' 46"E	1m	25-Aug-20	J. Stanistic, L. Stanistic
	MO87153	Turkey Beach, SEQ	under timber	24° 5' 27"S	151° 38' 51"E		26-Aug-20	J. Stanistic, L. Stanistic
	MO87163	Gin Gin, 40km N at Kolan R Xing, Bruce H'way, SEQ	in litter at base of tree, vine thicket	24° 42' 42"S	151° 41' 51"E	84m	27-Aug-20	J. Stanistic, L. Stanistic
Camaenid SQ 16	MO86761	Poona Conservation Park, SEQ	under bark on ground	25° 07.043'S	152° 34.152'E		17-Aug-18	J. Stanistic, L. Stanistic
	MO87064	South Aramara SF, SEQ	on ground, MVF	25° 38.521'S	152° 19.433'E		19-Jan-20	J. Stanistic, L. Stanistic
	MO86867	Eli Creek Rd Hervey Bay SEQ	under logs & debris.	25°15' 52"S	152°48' 55"E		18-Aug-07	J. Ferguson, R. Crookshanks
	MO86887	Dundowran Beach, SEQ	under bark of tree	25° 16' 7.6"S	152° 46' 19.5"E		03-Jul-13	J. Stanistic, L. Stanistic
Camaenid SQ 17	MO72190	Miriam Vale, 18k ESE, Gwynne Range, North End, SEQ	remnant vine thicket under logs along creek	24° 23' 21" S	151° 43' 37" E		25-Dec-02	H Janetzki, P Lawless, D Potter
	MO86663	The Hummock, Bundaberg, SEQ	under logs and rocks	24° 50.637'S	152° 25.550'E		14-Mar-18	J. Stanistic, L. Stanistic
	MO87075	Coonar, end Davenport Dve, SEQ	under log, coastal vine thicket	24° 58.872'S	152° 28.900'E		17-Feb-20	J. Stanistic, L. Stanistic
	MO87076	Mon Repos, SEQ	under logs	24° 48.067'S	152°26'E.704		16-Feb-20	J. Stanistic, L. Stanistic
	MO87078	Woodgate NP, SEQ	under timber, coastal scrub with palms	25° 07.261'S	152° 34.416'E		17-Feb-20	J. Stanistic, L. Stanistic
	MO87079	Bargara Caravan Park, SEQ	under logs, remnant vine thicket	24° 48.489'S	152° 27.48'E		17-Feb-20	J. Stanistic, L. Stanistic
	MO87100	Colosseum Ck, Blackmans Gap Rd, c. 6km Colosseum, SEQ	under flood debris, vine thicket	24° 24' 56"S	151° 29' 45"E	82m	17-Aug-20	J. Stanistic, L. Stanistic
	MO87160	Granite Ck Forestry Rd c. 12 km from Bruce H'way, SEQ	under rocks, riparian vine thicket	24° 38' 3"S	151° 34' 21"E	64m	27-Aug-20	J. Stanistic, L. Stanistic
<i>volgiola</i>	MO78118	Peak Range, via Clermont, SE of range along Roper Ck, MEQ	eucalypt on sandstone under rocks and timber	22° 53' 51" S	148° 18' 57" E		11-Jan-06	A Rozenfelds

MO78170	Peak Range, Mt Donald slopes, MEQ	vine thicket under rocks	22° 35' 14" S	147° 56' 55" E		07-Mar-06	J Stanisic
MO87092	Stoney Creek, c. 25.5 km NNE of Duaringa, MEQ	under/inside logs; base of trees, SEVT	23° 30' 07.5"S	149° 46' 09 "E	161m	14-Dec-19	C. Eddie C. Andrew
MO87096	'Foleyvale' c. 32.1 km NNE of Duaringa, MEQ	under/among rocks; inside/base of fig, SEVT	23° 25' 46"S	149° 43' 31 "E	196m	11-Dec-19	C. Eddie C. Andrew
MO87135	Langdale Hill, Angelwood Rd, Ogmore, MEQ	under rocks, vine thicket	22° 44' 49"S	149° 33' 0"E	54m	24-Aug-20	J. Stanisic, L. Stanisic

Table S2. P-distance between species of *Figulara*, *Brigaladra* and *Euryladra* from SCQ, MEQ and SEQ (%)

		Camaenid BL47	<i>barneyae</i>	<i>challisi</i>	<i>Incei</i>	<i>appendiculata</i>	<i>aureedensis</i>	<i>lessoni</i>	<i>muirorum</i>	<i>pallida</i>	<i>reducta</i>	Camaenid SQ15	Camaenid SQ16	Camaenid SQ17	<i>bayensis</i>	<i>narelleae</i>	<i>mattea</i>
MEQ	BL47																
	<i>barneyae</i>	5.59															
	<i>challisi</i>	4.90	4.53														
	<i>Incei</i>	5.97	4.43	4.55													
SEQ	<i>appendiculata</i>	12.23	12.12	12.29	11.94												
	<i>aureedensis</i>	12.25	12.15	12.78	11.43	3.85											
	<i>lessoni</i>	12.28	12.24	12.69	11.72	4.30	3.19										
	<i>muirorum</i>	12.83	12.52	13.27	12.60	4.44	4.68	5.18									
	<i>pallida</i>	12.00	12.09	12.78	12.18	4.48	4.37	4.26	4.48								
	<i>reducta</i>	12.33	12.42	12.70	11.93	3.75	3.75	3.58	5.24	4.11							
	SQ15	12.97	12.94	12.85	12.81	4.36	5.14	5.42	5.94	5.35	4.40						
	SQ16	12.29	12.57	12.78	12.03	3.56	4.20	4.46	5.07	4.30	3.13	3.53					
SQ17	12.12	12.16	12.23	11.65	3.05	3.93	4.30	4.72	4.10	3.21	3.60	3.5					
SEQ upland	<i>bayensis</i>	13.26	12.48	13.60	12.24	9.83	9.49	9.74	10.33	10.85	10.26	10.99	10.60	9.77			
	<i>narelleae</i>	12.70	11.45	12.90	11.44	12.59	12.53	12.98	12.58	13.17	12.51	13.30	12.63	11.33	6.40		
Euryladra	<i>mattea</i>	16.10	15.56	16.99	15.42	15.73	16.00	16.51	16.06	16.49	16.44	16.53	15.98	15.19	15.57	15.06	
Brigaladra	<i>volgiola</i>	13.31	13.84	14.59	14.16	14.82	14.70	15.15	14.33	14.77	15.00	15.12	14.76	13.98	13.77	14.03	16.47

Table S3. P-distance between samples of *Figuladra*, *Brigaladra* and *Euryladra* from SCQ, MEQ and SEQ (%)

A. MEQ <i>Figuladra</i> species	<i>incei</i> Cullen I	<i>incei</i> Percy I	<i>incei</i> Stanage Bay	<i>challisi</i> Keswick I	<i>challisi</i> St Bees	<i>barneyae</i> Oxford Sarina Rd	<i>barneyae</i> Greenhill	<i>barneyae</i> GQ851100	<i>barneyae</i> Connors	<i>barneyae</i> St Lawrence	<i>barneyae</i> Clairview	BL47 Nebo	BL47 Mt Ossa	BL47 Seaforth
<i>incei</i> Cullen I														
<i>incei</i> Percy I	1.4													
<i>incei</i> Stanage Bay	0.3	0.9												
<i>challisi</i> Keswick I	2.0	5.0	5.3											
<i>challisi</i> St Bees	2.0	5.5	5.7	0.9										
<i>barneyae</i> Oxford Sarina Rd	2.3	5.8	5.6	4.6	5.0									
<i>barneyae</i> Greenhill	3.0	4.9	5.3	5.2	5.0	5.3								
<i>barneyae</i> GQ851100	3.8	4.3	3.3	3.3	3.3	4.8	1.3							
<i>barneyae</i> Connors	2.8	4.8	5.4	4.4	4.5	5.0	1.5	1.5						
<i>barneyae</i> St Lawrence	2.7	4.6	5.1	5.1	4.9	5.2	0.1	1.3	1.7					
<i>barneyae</i> Clairview	3.3	6.2	6.8	3.7	3.8	5.7	6.0	4.5	6.0	5.9				
BL47 Nebo	2.5	4.7	5.3	4.8	4.9	5.0	2.0	1.8	1.7	2.2	6.4			
BL47 Mt Ossa	4.5	6.9	7.5	5.4	5.8	2.6	5.7	5.8	5.5	5.6	6.9	5.7		
BL47 Seaforth	5.1	6.8	6.5	5.3	5.7	2.9	5.7	5.9	5.3	5.4	6.6	5.4	0.3	
BL47 Seaforth	5.8	6.2	5.2	4.8	4.8	3.8	5.8	7.1	6.1	4.9	5.8	5.8	1.8	1.3

D. SEQ putative <i>Figuladra</i> species	SQ15 Bulburin	SQ15 Granite Ck	SQ15 Colosseum	SQ15 Mercy Hill	SQ15 Calliope	SQ15 Rodds P	SQ15 Turkey Beach	SQ15 Watalgan	SQ15 Kolan Xing	SQ15 Kolan Xing	SQ15 Turkey Beach	SQ15 Miriam Vale	SQ15 Ten Chain	SQ15 Round Head	SQ 16 Aramara SF	SQ 16 Dundowran	SQ 16 Dundowran	SQ16 Woodgate	SQ17 Coonar	SQ17 Bagara	SQ17 Hummock	SQ17 Mon Repos	
SQ15 Bulburin																							
SQ15 Granite Ck	0.0																						
SQ15 Colosseum	0.3	0.7																					
SQ15 Mercy Hill	2.0	4.7	4.5																				
SQ15 Calliope	3.8	4.5	4.8	6.4																			
SQ15 Rodds P	2.3	4.3	4.1	6.0	1.6																		
SQ15 Turkey Beach	2.3	4.1	4.0	5.8	1.5	0.4																	
SQ15 Watalgan	2.8	4.5	4.1	6.2	1.6	0.8	0.7																
SQ15 Kolan Xing	2.5	4.9	4.5	6.6	1.6	1.2	1.1	0.7															
SQ15 Kolan Xing	2.5	4.8	4.4	6.5	1.6	1.1	0.9	0.5	0.1														
SQ15 Turkey Beach	2.8	4.4	4.2	6.1	1.5	0.7	0.5	0.7	1.1	0.9													
SQ15 Miriam Vale	3.0	4.7	4.9	6.2	2.9	3.0	2.9	3.0	3.3	3.3	2.9												
SQ15 Ten Chain	2.5	4.7	4.5	6.0	2.8	2.8	2.6	2.8	3.0	3.0	2.6	0.1											
SQ15 Round Head	2.5	3.6	3.6	5.4	2.6	1.9	1.8	1.9	2.2	2.2	1.8	0.3	0.1										
SQ 16 Aramara SF	1.8	3.5	3.3	4.8	3.6	3.0	2.9	2.9	3.3	3.2	2.9	4.0	3.7	3.0									
SQ 16 Dundowran	1.5	3.2	3.1	4.5	3.5	3.0	2.9	3.3	3.7	3.6	3.2	4.0	3.7	2.9	1.6								
SQ 16 Dundowran	1.5	3.1	2.9	4.4	3.5	2.9	2.8	3.2	3.6	3.4	3.0	3.9	3.6	2.9	1.5	0.1							
SQ16 Woowoonga	1.3	2.6	2.7	4.7	4.8	4.2	4.1	4.5	4.9	4.8	3.8	5.0	4.6	3.6	2.6	2.3	2.2						
SQ17 Coonar	0.3	1.1	0.7	4.1	4.5	3.7	3.6	3.7	4.1	4.2	4.4	4.4	4.1	4.8	2.9	2.7	2.5	2.9					
SQ17 Bagara	0.3	1.1	0.9	4.5	4.7	3.8	3.7	4.1	4.5	4.6	4.0	4.9	4.5	4.6	3.3	3.1	2.9	0.9	2.3				
SQ17 Hummock	0.3	1.1	0.9	4.5	4.7	3.8	3.7	4.1	4.5	4.6	4.0	4.9	4.5	4.6	3.3	3.1	2.9	0.9	1.1	0.0			
SQ17 Mon Repos	0.3	1.1	0.9	4.5	4.7	3.8	3.7	4.1	4.5	4.6	4.0	4.9	4.5	4.6	3.3	3.1	2.9	0.9	1.1	0.0	0.0	2.5	

E. Euryladra	<i>mattea</i> Arcadia	<i>mattea</i> Arcadia	<i>mattea</i> Injune	<i>mattea</i> Targinnie	<i>mattea</i> Fire Ck	<i>mattea</i> Horrigans Rd	<i>mattea</i> Dulacca	<i>mattea</i> Moura	<i>mattea</i> Taroom	<i>mattea</i> Isla Gorge	<i>mattea</i> Henickes Rd
<i>mattea</i> Arcadia											
<i>mattea</i> Arcadia	0.1										
<i>mattea</i> Injune	0.3	0.1									
<i>mattea</i> Targinnie	0.8	1.0	1.1								
<i>mattea</i> Fire Ck	0.7	0.9	1.0	0.1							
<i>mattea</i> Horrigans Rd	0.8	1.0	1.1	0.3	0.1						
<i>mattea</i> Dulacca	0.9	1.2	1.3	0.4	0.3	0.4					
<i>mattea</i> Moura	1.2	1.4	1.5	1.2	1.1	1.2	1.3				
<i>mattea</i> Taroom	1.8	1.6	1.6	1.3	1.5	1.8	1.5	1.8			
<i>mattea</i> Isla Gorge	3.0	3.2	3.0	2.7	2.6	2.7	2.6	3.2	1.1		
<i>mattea</i> Henickes Rd	2.8	2.7	3.0	2.5	2.3	2.5	2.6	2.9	1.6	2.2	
<i>mattea</i> Pt Vernon	4.0	3.5	4.4	3.7	3.6	3.7	3.9	3.7	1.9	4.0	4.7

F. Brigaladra	<i>volgiola</i> Rogers Ck	<i>volgiola</i> Langdale Hill	<i>volgiola</i> Broadsound	<i>volgiola</i> Mt McDonald	<i>volgiola</i> Peak Ra	<i>volgiola</i> Duaringa1	<i>volgiola</i> Duaringa2
<i>volgiola</i> Rogers Ck							
<i>volgiola</i> Langdale Hill	3.5						
<i>volgiola</i> Broadsound	1.5	0.3					
<i>volgiola</i> Mt McDonald	2.9	3.2	2.3				
<i>volgiola</i> Peak Ra	2.9	3.2	2.3	0.0			
<i>volgiola</i> Duaringa1	3.8	4.3	2.8	4.1	4.1		
<i>volgiola</i> Duaringa2	3.8	4.3	2.8	4.1	4.1	0.0	
<i>volgiola</i> Duaringa3	3.9	4.3	2.8	4.1	4.1	0.0	0.0