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Supplementary Material

Using molecular and morphometric data as operational criteria for the analysis of a threatened rainforest species complex shows interspecific variation, with implications for cryptic-species delimitation and conservation

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Table S1. Values for nucleotide substitution models used to select best-fit model for a phylogenetic tree construction of three *Fontainea* taxa: *F. australis*, *F. oraria* and Coffs Harbour *Fontainea* from concatenation of DArTseq SNPs 18,457.

Model	d.f.	logLik	AIC	AICc	BIC
JC	385	–525326	1051422.36	1051438.95	1054431.09
JC+I	386	–515942	1032655.60	1032672.27	1035672.14
JC+G	386	–495856	992483.23	992499.90	995499.77
JC+G+I	387	–495855	992484.99	992501.75	995509.35
F81	388	–525164	1051103.23	1051120.08	1054135.40
F81+I	389	–515753	1032283.52	1032300.45	1035323.50
F81+G	389	–495551	991879.20	991896.13	994919.18
F81+G+I	390	–495550	991880.77	991897.80	994928.57
K80	386	–517581	1035933.93	1035950.60	1038950.47
K80+I	387	–508090	1016953.79	1016970.55	1019978.15
K80+G	387	–487502	975777.52	975794.28	978801.87
K80+G+I	388	–487501	975778.96	975795.81	978811.13
HKY	389	–517472	1035722.96	1035739.90	1038762.95
HKY+I	390	–507948	1016676.46	1016693.48	1019724.26
HKY+G	390	–487186	975151.68	975168.71	978199.49
HKY+G+I	391	–487185	975152.76	975169.87	978208.37
SYM	390	–516897	1034574.08	1034591.11	1037621.88
SYM+I	391	–507467	1015715.99	1015733.11	1018771.61
SYM+G	391	–486918	974617.39	974634.51	977673.01
SYM+G+I	392	–486917	974618.70	974635.90	977682.13
GTR	393	–516888	1034562.43	1034579.72	1037633.67
GTR+I	394	–507462	1015712.55	1015729.93	1018791.61
GTR+G	394	–486904	974595.59	974612.97	977674.65
GTR+G+I	395	–486903	974596.99	974614.46	977683.86

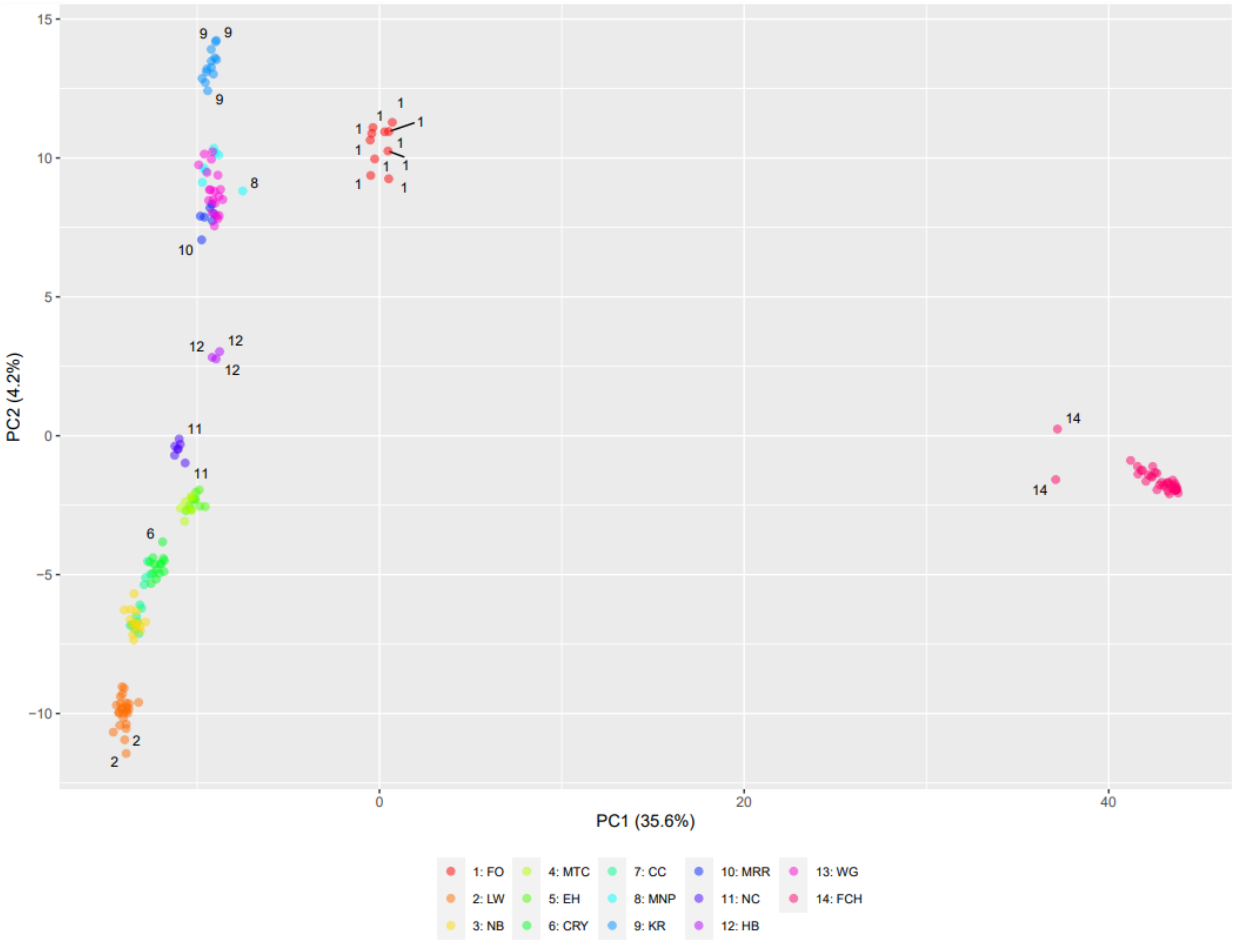

Figure S1. Principal component analysis (PCA) of three *Fontainea* taxa, *F. australis*, *F. oraria* and *F.* sp. Coffs Harbour from a set of reduced-representation DArTseq SNP data (18,314 SNPs) showing genetic grouping along axes 1 and 2.

Table S2. Pairwise F_{ST} matrix of the *Fontainea* complex from central eastern Australia generated from reduced-representation SNP data (18,314 SNPs).

	LW	NB	CC	CRY	EH	MTC	MNP	KR	MRR	NC	HB	WG	FO	FCH
LW	0.000	0.208	0.250	0.168	0.267	0.211	0.327	0.341	0.254	0.240	0.226	0.300	0.377	0.805
NB	0.208	0.000	0.260	0.178	0.288	0.243	0.378	0.356	0.311	0.291	0.260	0.302	0.402	0.829
CC	0.250	0.260	0.000	0.164	0.305	0.268	0.392	0.365	0.323	0.325	0.302	0.326	0.413	0.836
CRY	0.168	0.178	0.164	0.000	0.233	0.194	0.327	0.298	0.254	0.246	0.234	0.254	0.352	0.806
EH	0.267	0.288	0.305	0.233	0.000	0.202	0.381	0.359	0.324	0.326	0.309	0.315	0.379	0.794
MTC	0.211	0.243	0.268	0.194	0.202	0.000	0.364	0.329	0.294	0.300	0.317	0.278	0.358	0.504
MNP	0.327	0.378	0.392	0.327	0.381	0.364	0.000	0.275	0.276	0.398	0.397	0.357	0.415	0.516
KR	0.341	0.356	0.365	0.298	0.359	0.329	0.275	0.000	0.219	0.362	0.320	0.345	0.394	0.812
MRR	0.254	0.311	0.323	0.254	0.324	0.294	0.276	0.219	0.000	0.333	0.337	0.292	0.368	0.494
NC	0.240	0.291	0.325	0.246	0.326	0.300	0.398	0.362	0.333	0.000	0.311	0.282	0.382	0.510
HB	0.226	0.260	0.302	0.234	0.309	0.317	0.397	0.320	0.337	0.311	0.000	0.216	0.346	0.439
WG	0.300	0.302	0.326	0.254	0.315	0.278	0.357	0.345	0.292	0.282	0.216	0.000	0.326	0.778
FO	0.377	0.402	0.413	0.352	0.379	0.358	0.415	0.394	0.368	0.382	0.346	0.326	0.000	0.685
FCH	0.805	0.829	0.836	0.806	0.794	0.504	0.516	0.812	0.494	0.510	0.439	0.778	0.685	0.000

Coloured boxes represent gradient level of genetic differentiation among each species.

Table S3. Taxonomic classifications of three *Fontainea* taxa, *F. australis* (as.aust), *F.* sp. Coffs Harbour (as.coffs) and *F. oraria* (as.or) using a linear discriminant analysis (LDA) based on seven leaf traits (petiole length, leaf length, leaf area, leaf width, leaf ratio, specific leaf area and dry leaf mass).

Taxon	*N*	as.aust	as.coffs	as.or	Correct	Correct (%)
F. australis	133	121	1	11	120	90.98
F. sp. Coffs Harbour	12	1	11	0	11	91.67
F. oraria	7	1	0	6	6	85.71
Total	**152**	**123**	**12**	**17**	**138**	**90.79**

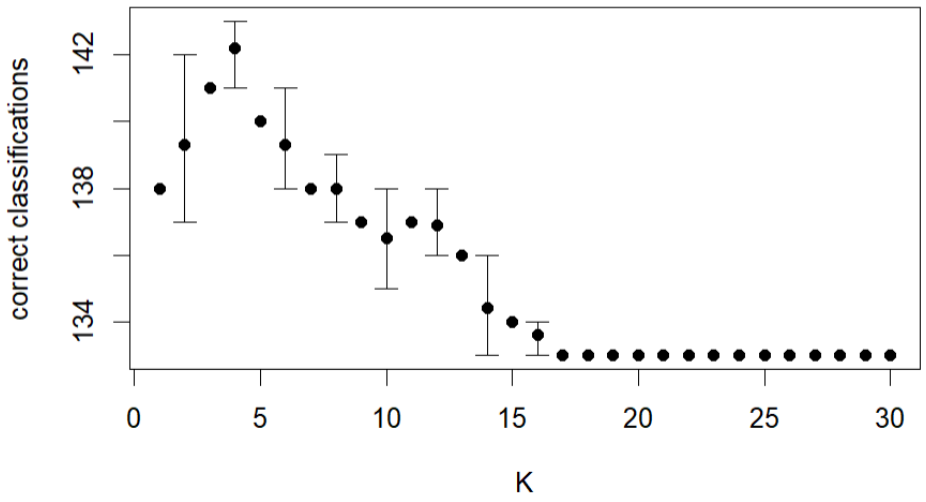

Figure S2. K-nearest neighbours (KNN) analysis of three *Fontainea* taxa, *F. australis*, *F. oraria* and *F.* sp. Coffs Harbour the number of groups that generated the highest number of correct classifications based on seven leaf traits (petiole length, leaf length, leaf area, leaf width, leaf ratio, specific leaf area and dry leaf mass).

Table S4. Multiple comparisons of means 95% family-wise confidence levels from ANOVA models fitted for three significant leaf traits among three threatened *Fontainea* species.

Species	SLA	DLM	PL
F.* sp Coffs Harbour–*F. australis	**<0.001**	**0.008**	**0.040**
F. oraria*–*F. australis	**<0.001**	**0.024**	0.855
***F. oraria*–*F.* sp Coffs Harbour**	**<0.001**	0.967	0.118

Bold numbers indicate *P* values ≤0.05.

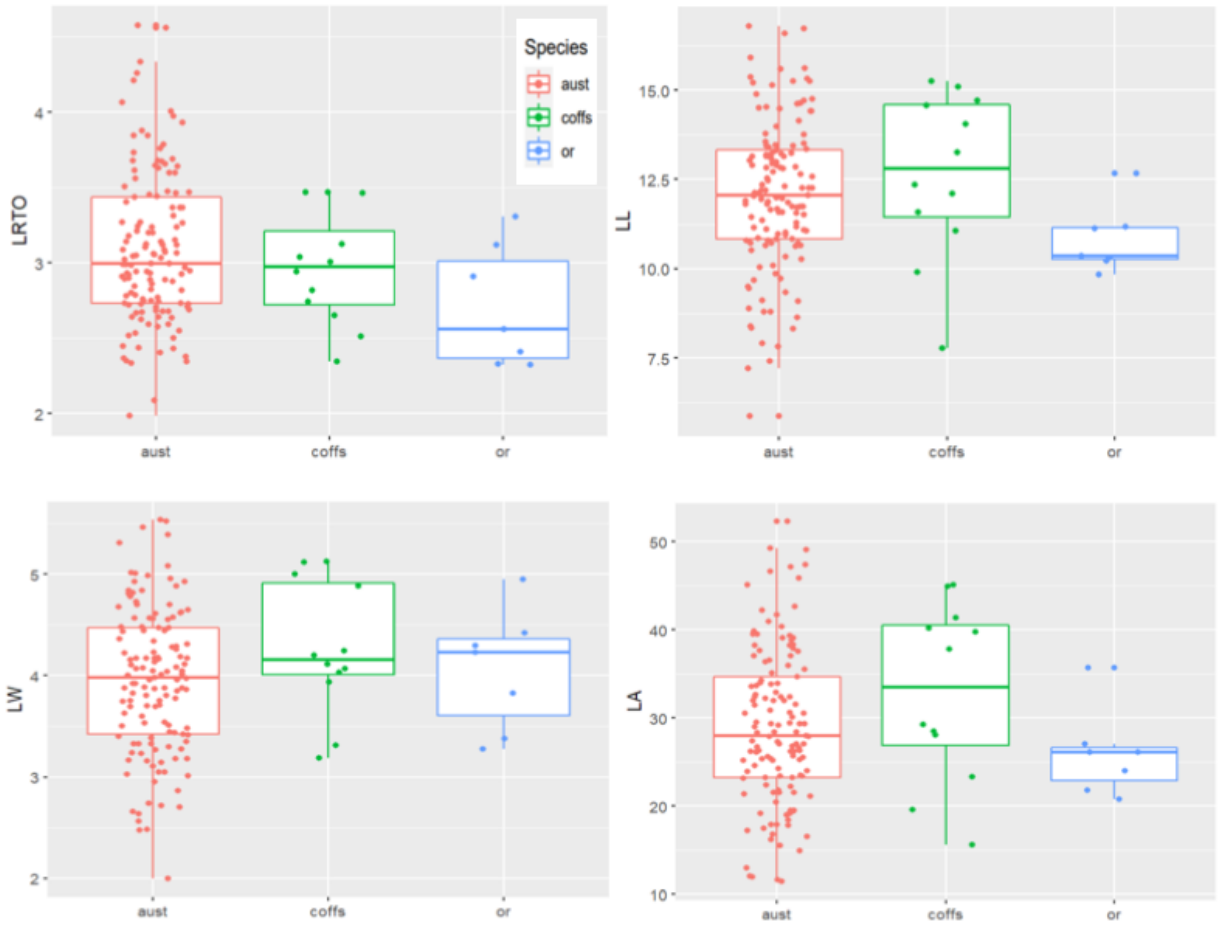

Figure S3. Box plots (a, b, c, d) representing four leaf traits: leaf ratio (LRTO); leaf length (LL), leaf width (LW) and leaf area (LA) among three, threatened *Fontainea* taxa (aust, *F. australis*; coffs, *F.* sp. Coffs Harbour; and or, *F. oraria*) from central, eastern Australia.