

Supporting Information

Article title: Historical biogeography across the ditch: continental vicariance and repeated independent dispersals of *Pomaderris* (Rhamnaceae) to New Zealand

Francis J. Nge^{1,2,4}, Jürgen Kellermann^{1,2}, Ed Biffin^{1,2}, Michelle Waycott^{1,2}, Kevin R. Thiele³,

¹School of Biological Sciences, Faculty of Science, The University of Adelaide, Adelaide, South Australia, 5005, Australia

²State Herbarium of South Australia, G.P.O. Box 1047, Adelaide, South Australia 5001

³School of Biological Sciences, University of Western Australia, 35 Stirling Hwy, Crawley (Perth), WA 6009, Australia

Author for correspondence: Francis Nge

⁴Corresponding author Email: francis.nge@adelaide.edu.au

Supplementary Tables and Figures

Table S1a. Sample outgroups included in the divergence dating phylogenetic analyses sourced from GenBank, with GenBank accession number provided.

no.	Taxa	<i>matK</i>	<i>trnL</i>	<i>trnL-trnF</i>
1	<i>Ampelozizyphus amazonicus</i>			AJ390341
2	<i>Barbeya oleoides</i>	JF317418		AJ225795
3	<i>Berchemia racemosa</i>		KP299389	JN900314
4	<i>Ceanothus americanus</i>	AF049797		KC539715
5	<i>Ceanothus cordulatus</i>	AF049799		HQ325601
6	<i>Ceanothus cuneatus</i>	AF049823		KR083113
7	<i>Ceanothus pumilus</i>	AF049841		HQ325602
8	<i>Colletia spinosissima</i>		KP299391	AY460411
9	<i>Colubrina asiatica</i>	GU135023		AJ390350
10	<i>Colubrina glandulosa</i>			KR083117
11	<i>Colubrina reclinata</i>			AJ390370
12	<i>Dallachya vitiensis</i>			JN900333
13	<i>Dirachma socotrana</i>	JF317423		AJ225796
14	<i>Elaeagnus bockii</i>	JF317425		
15	<i>Emmenosperma alphonseoides</i>	KM894592		AJ390351
16	<i>Gouania mauritiana</i>	JF317427		AJ390344
17	<i>Granitites intangendus</i>			HQ325603
18	<i>Jaffrea erubescens</i>			KJ630949
19	<i>Jaffrea xerocarpa</i>			KJ630950
20	<i>Karwinskia calderonii</i>	JQ588888		JN900326
21	<i>Lasiodiscus mildbraedii</i>			AJ390353
22	<i>Maesopsis eminii</i>	KC627674		AJ390336
23	<i>Noltea africana</i>			AY460407
24	<i>Paliurus spina-christi</i>			AJ390354
25	<i>Phyllica pinea</i>		KP299447	KC633917

Table S1a. Continued.

no.	Taxa	<i>matK</i>	<i>trnL</i>	<i>trnL-trnF</i>
26	<i>Phylica rubra</i>	KP110121	KP299454	
27	<i>Phylica thodei</i>			AF327611
28	<i>Phylica villosa</i>	JX517300	KP299462	KC633919
29	<i>Reissekia smilacina</i>			AJ390345
30	<i>Rhamnella franguloides</i>			AJ390330
31	<i>Rhamnus utilis</i>	JF317432		KR083470
32	<i>Sageretia thea</i>	KP093750		AJ225792
33	<i>Schistocarpaea johnsonii</i>			AJ390349
34	<i>Scutia myrtina</i>	KR734548		KR083140
35	<i>Spyridium burragorang</i>			EF528536
36	<i>Spyridium buxifolium</i>			EF528508
37	<i>Spyridium cordatum</i>			EF528530
38	<i>Spyridium daltonii</i>			EF528534
39	<i>Spyridium eriocephalum</i>			EF528522
40	<i>Spyridium globulosum</i>			EF528529
41	<i>Spyridium gunnii</i>			EF528524
42	<i>Spyridium halmaturinum</i>			EF528527
43	<i>Spyridium mucronatum</i>			EF528528
44	<i>Spyridium nitidum</i>			EF528531
45	<i>Spyridium parvifolium</i>	AF049849		EF528526
46	<i>Spyridium scortechinii</i>			EF528537
47	<i>Spyridium subochreatum</i>			EF528532
48	<i>Spyridium thymifolium</i>			EF528533
49	<i>Spyridium tricolor</i>			
50	<i>Spyridium ulicinum</i>			EF528523
51	<i>Spyridium vexilliferum</i>			
52	<i>Spyridium waterhousei</i>			EF528538
53	<i>Ventilago harmandiana</i>	AB925081		

Table S1a. Continued.

no.	Taxa	<i>rpl16</i>	NADH	ITS
1	<i>Ampelozizyphus amazonicus</i>			
2	<i>Barbeya oleoides</i>		JF317437	
3	<i>Berchemia racemosa</i>	KP299297	KP299595	JN900290.1
4	<i>Ceanothus americanus</i>		CAU78893	AF048901.1
5	<i>Ceanothus cordulatus</i>		CCU78894	HQ325315.1
6	<i>Ceanothus cuneatus</i>		CCU78900	HQ325355.1
7	<i>Ceanothus pumilus</i>		CPU78902	AF048961.1
8	<i>Colletia spinosissima</i>	KP299300	KP299596	KP299471.1
9	<i>Colubrina asiatica</i>			AF328831.1
10	<i>Colubrina glandulosa</i>			KR083065.1
11	<i>Colubrina reclinata</i>			AF328832.1
12	<i>Dallachya vitiensis</i>			JN900300.1
13	<i>Dirachma socotrana</i>		JF317442	
14	<i>Elaeagnus bockii</i>		JF317444	AF440258.1
15	<i>Emmenosperma alphonseioides</i>			HQ340159.1
16	<i>Gouania mauritiana</i>		JF317447	
17	<i>Granitites intangendus</i>			HQ340160.1
18	<i>Jaffrea erubescens</i>			
19	<i>Jaffrea xerocarpa</i>			KJ630937.1
20	<i>Karwinskia calderonii</i>			JN900296.1
21	<i>Lasiodiscus mildbraedii</i>			AF328833.1
22	<i>Maesopsis eminii</i>			
23	<i>Noltea africana</i>			AF328822.1
24	<i>Paliurus spina-christi</i>	KP299305	KP299601	DQ146613.1
25	<i>Phylica pinea</i>	KP299360	KP299649	KP299521.1
26	<i>Phylica rubra</i>	KP299369	KP299658	KP299530.1
27	<i>Phylica thodei</i>	KP299374	KP299663	AF328810.1
28	<i>Phylica villosa</i>	KP299377	KP299666	KC633890.1
29	<i>Reissekia smilacina</i>			DQ146614.1
30	<i>Rhamnella franguloides</i>			JF980328.1
31	<i>Rhamnus utilis</i>		JF317452	KR083319.1
32	<i>Sageretia thea</i>			KP093134.1
33	<i>Schistocarpaea johnsonii</i>			AY911539.1
34	<i>Scutia myrtina</i>			KR733759.1
35	<i>Spyridium burragorang</i>			AY911594.1
36	<i>Spyridium buxifolium</i>			AY911595.1
37	<i>Spyridium cordatum</i>			AY911538.1
38	<i>Spyridium daltonii</i>			
39	<i>Spyridium eriocephalum</i>			AY911581.1
40	<i>Spyridium globulosum</i>			KR083089.1
41	<i>Spyridium gunnii</i>			AY911593.1

Table S1a. Continued.

no.	Taxa	<i>rpl16</i>	NADH	ITS
42	<i>Spyridium halmaturinum</i>			AY911582.1
43	<i>Spyridium mucronatum</i>			AY911589.1
44	<i>Spyridium nitidum</i>			AY911584.1
45	<i>Spyridium parvifolium</i>			KR083090.1
46	<i>Spyridium scortechinii</i>			AY911596.1
47	<i>Spyridium subochreatum</i>			AY911585.1
48	<i>Spyridium thymifolium</i>			AY911586.1
49	<i>Spyridium tricolor</i>			AY911591.1
50	<i>Spyridium ulicinum</i>			AY911592.1
51	<i>Spyridium vexilliferum</i>			KR083092.1
52	<i>Spyridium waterhousei</i>			
53	<i>Ventilago harmandiana</i>			

Table S1b. Newly sequenced *Pomaderris* and outgroup samples in this study, from herbarium specimens.

Collector's no.	Taxon	Voucher
FN 950	<i>Pomaderris halmaturina</i> subsp. <i>halmaturina</i>	AD 155887
FN 944	<i>Pomaderris paniculosa</i> subsp. <i>paniculosa</i>	AD 169208
FN 940	<i>Pomaderris paniculosa</i> subsp. <i>paniculosa</i>	AD 183300
FN 936	<i>Pomaderris paniculosa</i> subsp. <i>paniculosa</i>	AD 187632
FN 942	<i>Pomaderris paniculosa</i> subsp. <i>paniculosa</i>	AD 187999
FN 918	<i>Pomaderris halmaturina</i> subsp. <i>halmaturina</i>	AD 193158
FN 939	<i>Pomaderris paniculosa</i> subsp. <i>paniculosa</i>	AD 197379
FN 943	<i>Pomaderris paniculosa</i> subsp. <i>paniculosa</i>	AD 240132
FN 931	<i>Pomaderris paniculosa</i> subsp. <i>paniculosa</i>	AD 256764
FN 947	<i>Pomaderris paniculosa</i> subsp. <i>paniculosa</i>	AD 259848
FN 946	<i>Pomaderris paniculosa</i> subsp. <i>paniculosa</i>	AD 259850
FN 809	<i>Stenanthemum notiale</i> subsp. <i>notiale</i>	AD 269303
FN 919	<i>Pomaderris halmaturina</i> subsp. <i>continentalis</i>	AD 99550046
FN 935	<i>Pomaderris paniculosa</i> subsp. <i>paniculosa</i>	AD 99702537
FN 933	<i>Pomaderris paniculosa</i> subsp. <i>paniculosa</i>	AD 99704209
JK 390	<i>Siegfriedia darwinoides</i>	AD 213387
JK 403	<i>Cryptandra congesta</i>	AD 213398
JK 175	<i>Cryptandra pungens</i>	AD 213408
JK 182	<i>Polianthion wichurae</i>	AD 213411
JK 204	<i>Stenanthemum notiale</i> subsp. <i>notiale</i>	AD 213424
JK 210	<i>Cryptandra arbutiflora</i> var. <i>arbutiflora</i>	AD 213428
JK 223	<i>Cryptandra arbutiflora</i> var. <i>borealis</i>	AD 213433
JK 226	<i>Blackallia nudiflora</i>	AD 213436
JK 235	<i>Stenanthemum pomaderroides</i>	AD 213439
JK 247	<i>Stenanthemum intricatum</i>	AD 213442
JK 248	<i>Cryptandra myriantha</i>	AD 213443
JK 255	<i>Cryptandra multispina</i>	AD 213445
JK 267	<i>Stenanthemum complicatum</i>	AD 213450
JK 269	<i>Cryptandra intermedia</i>	AD 213452
JK 273	<i>Trymalium daphnifolium</i>	AD 213455
JK 275	<i>Papistylus grandiflorus</i>	AD 213456
JK 279	<i>Cryptandra inconspicua</i>	AD 213459
JK 280	<i>Cryptandra nutans</i>	AD 213460
JK 286	<i>Stenanthemum pomaderroides</i>	AD 213464
JK 287	<i>Cryptandra micrantha</i>	AD 213465
JK 289	<i>Cryptandra stellulata</i>	AD 213467
JK 291	<i>Cryptandra dielsii</i>	AD 213468
JK 318	<i>Cryptandra myriantha</i>	AD 213476
JK 330	<i>Cryptandra minutifolia</i> subsp. <i>brevistyla</i>	AD 213482
JK 335	<i>Cryptandra apetala</i>	AD 213485
JK 354	<i>Cryptandra wilsonii</i>	AD 213495
JK 360	<i>Cryptandra minutifolia</i> subsp. <i>minutifolia</i>	AD 213496
JK 368	<i>Cryptandra recurva</i>	AD 213499
JK 374	<i>Cryptandra myriantha</i>	AD 213504
JK 375	<i>Cryptandra pungens</i>	AD 213505

Table S1b. Continued.

Collector's no.	Taxon	Voucher
JK 300	<i>Stenanthemum nanum</i>	AD 213513
JK 262	<i>Serichonus gracilipes</i>	AD 219564
JK 508	<i>Stenanthemum leucophractum</i>	AD 232572
FN 344	<i>Pomaderris grandis</i>	PERTH 07757441
FN 345	<i>Trymalium daphnifolium</i>	PERTH 05866006
FN 347	<i>Trymalium monospermum</i>	PERTH 08008248
FN 348	<i>Trymalium spathulatum</i>	PERTH 06762840
FN 349	<i>Trymalium urceolare</i>	PERTH 08161216
FN 351	<i>Trymalium ledifolium</i> var. <i>ledifolium</i>	PERTH 07890508
FN 410	<i>Cryptandra intratropica</i>	PERTH 08685487
FN 412	<i>Cryptandra arbutiflora</i> var. <i>pygmaea</i>	PERTH 07188617
FN 414	<i>Cryptandra craigiae</i>	PERTH 0780474
FN 415	<i>Cryptandra crispula</i>	PERTH 08414122
FN 416	<i>Cryptandra glabriflora</i>	PERTH 08858373
FN 417	<i>Cryptandra monticola</i>	PERTH 07197675
FN 418	<i>Cryptandra mutila</i>	PERTH 05789354
FN 455	<i>Pomaderris adnata</i>	MEL 2369173
FN 456	<i>Pomaderris hamiltonii</i>	MEL 2036073
FN 457	<i>Pomaderris vellea</i>	MEL 2172168
FN 458	<i>Pomaderris tropica</i>	MEL 2339497
FN 459	<i>Pomaderris sericea</i>	MEL 2113669
FN 460	<i>Pomaderris queenslandica</i>	MEL 2407248
FN 461	<i>Pomaderris precaria</i>	MEL 2330228
FN 462	<i>Pomaderris pauciflora</i>	MEL 2385078
FN 463	<i>Pomaderris mediора</i>	MEL 2365573
FN 464	<i>Pomaderris ledifolia</i>	MEL 2357374
FN 465	<i>Pomaderris graniticola</i>	MEL 2150341
FN 466	<i>Pomaderris gilmourii</i>	MEL 1620663
FN 467	<i>Pomaderris elachophylla</i>	MEL 2379943
FN 468	<i>Pomaderris kumeraho</i>	MEL 2036069
FN 709	<i>Stenanthemum bremerense</i>	PERTH 08800979
FN 710	<i>Stenanthemum divaricatum</i>	PERTH 06101518
FN 711	<i>Stenanthemum liberum</i>	PERTH 07408838
FN 712	<i>Stenanthemum limitatum</i>	PERTH 07934424
FN 713	<i>Stenanthemum poicilum</i>	PERTH 07889445
FN 714	<i>Stenanthemum pumilum</i> subsp. <i>majus</i>	PERTH 08172641
FN 715	<i>Stenanthemum stipulosum</i>	PERTH 08514046
FN 716	<i>Stenanthemum sublineare</i>	PERTH 08742553
FN 717	<i>Stenanthemum yorkense</i>	PERTH 08893020
FN 718	<i>Stenanthemum mediale</i>	PERTH 08505683
FN 719	<i>Stenanthemum newbeyi</i>	PERTH 07979665
FN 720	<i>Stenanthemum patens</i>	PERTH 08584931
FN 721	<i>Stenanthemum petraeum</i>	PERTH 08726108
FN 722	<i>Polianthion biloculare</i>	PERTH 08726108
FN 723	<i>Polianthion collinum</i>	PERTH 07341539

Table S1b. Continued.

Collector's no.	Taxon	Voucher
FN 724	<i>Cryptandra distigma</i>	PERTH 07758995
FN 725	<i>Cryptandra graniticola</i>	PERTH 08656924
FN 726	<i>Cryptandra aridicola</i>	PERTH 08656924
FN 727	<i>Cryptandra connata</i>	PERTH 08429855
FN 728	<i>Cryptandra imbricata</i>	PERTH 05329566
FN 729	<i>Cryptandra polyclada</i> subsp. <i>aequabilis</i>	PERTH 08275882
FN 730	<i>Cryptandra apetala</i> var. <i>apetala</i>	PERTH 08198209
FN 731	<i>Cryptandra arbutiflora</i> var. <i>tubulosa</i>	PERTH 08619875
FN 732	<i>Cryptandra beverleyensis</i>	PERTH 05913837
FN 733	<i>Cryptandra exserta</i>	PERTH 08568782
FN 734	<i>Cryptandra intonsa</i>	PERTH 05809002
FN 735	<i>Cryptandra nola</i>	PERTH 08591261
FN 736	<i>Cryptandra pendula</i>	PERTH 08157898
FN 737	<i>Cryptandra polyclada</i> subsp. <i>polyclada</i>	PERTH 08986282
FN 738	<i>Cryptandra scoparia</i>	PERTH 07345763
FN 739	<i>Cryptandra spyridioides</i>	PERTH 08603936
FN 828	<i>Pomaderris vellea</i>	AQ 797156
FN 829	<i>Pomaderris argyrophylla</i>	AQ 826240
FN 830	<i>Pomaderris argyrophylla</i>	AQ 820827
FN 831	<i>Pomaderris clivicola</i>	AQ 756302
FN 832	<i>Pomaderris canescens</i>	AQ 915833
FN 858	<i>Pomaderris coomingalensis</i>	AQ 838373
FN 859	<i>Pomaderris crassifolia</i>	AQ 839237
FN 860	<i>Pomaderris angustifolia</i>	NSW 1001931
FN 861	<i>Pomaderris prunifolia</i> var. <i>prunifolia</i>	NSW 930741
FN 862	<i>Pomaderris ferruginea</i>	NSW 987296
FN 863	<i>Pomaderris eriocephala</i>	NSW 989466
FN 864	<i>Pomaderris eriocephala</i>	NSW 496339
FN 865	<i>Pomaderris ferruginea</i>	NSW 908147
FN 866	<i>Pomaderris intermedia</i>	NSW 993031
FN 867a	<i>Pomaderris lanigera</i>	NSW 496446
FN 867b	<i>Pomaderris langiera</i>	NSW 858975
FN 868	<i>Pomaderris ligustrina</i>	NSW 467331
FN 869	<i>Pomaderris gilmourii</i>	NSW 924071
FN 870	<i>Pomaderris pilifera</i> subsp. <i>pilifera</i>	NSW 929775
FN 920	<i>Pomaderris rugosa</i>	AK 297571
FN 921	<i>Pomaderris prunifolia</i> var. <i>edgerleyi</i>	AK 306898
FN 922	<i>Pomaderris amoena</i>	AK 360833
FN 923	<i>Pomaderris paniculosa</i> subsp. <i>novae-zelandiae</i>	AK 284497
FN 924	<i>Pomaderris paniculosa</i> subsp. <i>novae-zelandiae</i>	AK 319472
FN 925	<i>Pomaderris kumeraho</i>	AK 368458
FN 926	<i>Pomaderris kumeraho</i>	AK 330063
FN 927	<i>Pomaderris hamiltonii</i>	AK 309603
FN 928	<i>Pomaderris hamiltonii</i>	AK 328641
FN 929	<i>Pomaderris apetala</i> subsp. <i>maritima</i>	AK 308966
FN 930	<i>Pomaderris apetala</i> subsp. <i>maritima</i>	AK 367915

Table S1c. Newly sequenced *Pomaderris* and outgroup samples in this study, from fresh-collected material. Vouchers are all accessioned at the State Herbarium of South Australia (AD).

Collector's no.	Taxon	Voucher
FN 200	<i>Trymalium wayi</i>	to be vouchers
FN 201	<i>Pomaderris paniculosa</i>	to be vouchers
FN 203	<i>Spyridium subochreatum</i>	to be vouchers
FN 204	<i>Pomaderris paniculosa</i> subsp. <i>paniculosa</i>	to be vouchers
FN 260	<i>Trymalium odoratissimum</i> subsp. <i>odoratissimum</i>	AD279950
FN 261	<i>Trymalium ledifolium</i> var. <i>rosmarinifolium</i>	AD279951
FN 264	<i>Trymalium angustifolium</i>	AD280027
FN 271	<i>Trymalium litorale</i>	AD279944
FN 277	<i>Trymalium elachophyllum</i>	AD279941
FN 278	<i>Trymalium myrtillus</i> subsp. <i>pungens</i>	AD279942
FN 279	<i>Pomaderris myrtilloides</i>	AD279946
FN 289	<i>Pomaderris paniculosa</i> subsp. <i>paniculosa</i>	AD280030
FN 294	<i>Pomaderris brevifolia</i>	AD279939
FN 296	<i>Trymalium myrtillus</i> subsp. <i>myrtillus</i>	AD279994
FN 303	<i>Trymalium odoratissimum</i> subsp. <i>trifidum</i>	AD279948
FN 360	<i>Pomaderris racemosa</i>	to be vouchers
FN 361	<i>Pomaderris apetala</i>	AD284750
FN 363	<i>Pomaderris aspera</i>	AD284751
FN 366	<i>Pomaderris prunifolia</i> var. <i>prunifolia</i>	to be vouchers
FN 372	<i>Pomaderris angustifolia</i>	to be vouchers
FN 376	<i>Pomaderris discolor</i>	to be vouchers
FN 381	<i>Pomaderris ferruginea</i>	AD284758
FN 382	<i>Pomaderris andromedifolia</i>	AD284759
FN 383	<i>Pomaderris eriocephala</i>	AD284760
FN 384	<i>Pomaderris elliptica</i>	AD284761
FN 385	<i>Pomaderris parrisiae</i>	to be vouchers
FN 386	<i>Pomaderris aspera</i>	AD284762
FN 390	<i>Pomaderris phyllicifolia</i> subsp. <i>ericoides</i> (smaller leaves)	to be vouchers
FN 391	<i>Pomaderris intermedia</i> (not typical form)	to be vouchers
FN 392	<i>Pomaderris andromedifolia</i> subsp. <i>andromedifolia</i>	to be vouchers
FN 393	<i>Pomaderris eriocephala</i>	to be vouchers
FN 396	<i>Pomaderris paniculosa</i>	AD284765
FN 432	<i>Pomaderris virgata</i>	from Neville Walsh cultivated material
FN 434	<i>Pomaderris rugosa</i>	RBGV garden collections
FN 435	<i>Pomaderris costata</i>	RBGV garden collections
FN 436	<i>Pomaderris angustifolia</i> (Mitta Mitta)	RBGV garden collections
FN 437	<i>Pomaderris lanigera</i>	RBGV garden collections
FN 438	<i>Pomaderris elliptica</i> subsp. <i>diemenica</i>	RBGV garden collections
FN 439	<i>Pomaderris oblongifolia</i>	RBGV garden collections
FN 440	<i>Pomaderris elliptica</i> subsp. <i>ellitpica</i>	RBGV garden collections
FN 441	<i>Pomaderris helianthemifolia</i> subsp. <i>helianthemifolia</i>	RBGV garden collections
FN 442	<i>Pomaderris oraria</i> subsp. <i>calcicola</i>	RBGV garden collections

Table S1c. Continued.

Collector's no.	Taxon	Voucher
FN 443	<i>Pomaderris aurea</i>	RBGV garden collections
FN 444	<i>Pomaderris subplicata</i>	RBGV garden collections
FN 445	<i>Pomaderris cocoparrana</i>	RBGV garden collections
FN 447	<i>Pomaderris reperta</i>	RBGV garden collections
FN 448	<i>Pomaderris betulina</i> subsp. <i>betulina</i>	RBGV garden collections
FN 449	<i>Pomaderris apetala</i> subsp. <i>maritima</i>	RBGV garden collections
FN 451	<i>Pomaderris buehneri</i>	RBGV garden collections
FN 452	<i>Pomaderris briagolensis</i>	RBGV garden collections
FN 453	<i>Pomaderris subcapitata</i>	RBGV garden collections
FN 563	<i>Stenanthemum humile</i>	AD284767
FN 564	<i>Stenanthemum reissekii</i>	AD284768
FN 580	<i>Stenanthemum radiatum</i>	AD284769
FN 596	<i>Stenanthemum notiale</i>	AD284770
FN 621	<i>Stenanthemum tridentatum</i>	AD284771
FN 632	<i>Stenanthemum coronatum</i>	AD284772
FN 636	<i>Stenanthemum emarginatum</i>	AD284773
FN 684	<i>Stenanthemum pumilum</i> subsp. <i>pumilum</i>	AD284774
FN 696	<i>Cryptandra leucopogon</i>	AD284775
FN 756 A	<i>Pomaderris paniculosa</i>	AD284820
FN 780	<i>Pomaderris flabellaris</i>	AD284821
FN 782	<i>Pomaderris paniculosa</i>	AD284822
FN 814	<i>Cryptandra amara</i>	Tasmanian cultivated material
FN 815	<i>Pomaderris apetala</i>	Tasmanian cultivated material
FN 816	<i>Pomaderris elliptica</i>	Tasmanian cultivated material
JK 655	<i>Stenanthemum leucophractum</i>	to be vouchered
JK 659	<i>Cryptandra tomentosa</i> typical	to be vouchered
JK 679	<i>Cryptandra</i> sp. 'Recurved apex'	to be vouchered
JK 743	<i>Stenanthemum leucophractum</i>	to be vouchered
JK 746	<i>Cryptandra tomentosa</i> typical	to be vouchered
JK 750	<i>Cryptandra</i> sp. 'Hiltaba'	to be vouchered
CANB 885463	<i>Pomaderris andromedifolia</i>	from ANBG living collections
CANB J E Ward 22	<i>Pomaderris betulina</i> subsp. <i>actensis</i>	from ANBG living collections
CANB J McAuliffe 1955	<i>Pomaderris bodalla</i>	from ANBG living collections
CANB 8702729 or 8702731	<i>Pomaderris brogoensis</i>	from ANBG living collections
CANB JL Percival 120	<i>Pomaderris brunnea</i>	from ANBG living collections
CANB J McAuliffe 1767	<i>Pomaderris cinerea</i>	from ANBG living collections
CANB J McAuliffe 1805	<i>Pomaderris cotoneaster</i>	from ANBG living collections
CANB J McAuliffe 1966	<i>Pomaderris delicata</i>	from ANBG living collections
CANB J McAuliffe 1734	<i>Pomaderris elliptica</i> var. <i>elliptica</i>	from ANBG living collections
CC 544 (Cat Clowes)	<i>Pomaderris forrestiana</i>	from Cat Clowes Melbourne Uni
CANB Jo McAuliffe 1602	<i>Pomaderris helianthemifolia</i> subsp. <i>hispida</i>	from ANBG living collections
CANB JL Pescival 123	<i>Pomaderris ligustrina</i> subsp. <i>ligustrina</i>	from ANBG living collections
NGW 7757	<i>Pomaderris nitidula</i>	from Neville Walsh

Table S1c. Continued.

Collector's no.	Taxon	Voucher
CANB 631012	<i>Pomaderris obcordata</i>	from ANBG living collections
CANB 67559	<i>Pomaderris oraria</i>	from ANBG living collections
CANB ML Henery 44	<i>Pomaderris pallida</i>	from ANBG living collections
CANB Burns 453 CANB	<i>Pomaderris pilifera</i> subsp. <i>talpicutica</i>	from ANBG living collections
CANB CM Canning 5628	<i>Pomaderris paniculosa</i> var. <i>paralia</i>	from ANBG living collections
CANB EM Canning 5661	<i>Pomaderris racemosa</i>	from ANBG living collections
CC 541 (Cat Clowes)	<i>Pomaderris rotundifolia</i>	from Cat Clowes Melbourne Uni
CC 378 (Cat Clowes)	<i>Pomaderris vacciniifolia</i>	from Cat Clowes Melbourne Uni
CANB J McAuliffe 1754	<i>Pomaderris velutina</i>	from ANBG living collections
CANB S Pedersen 1407	<i>Pomaderris walshii</i>	from ANBG living collections

Table S2. The thirty nuclear orthologs used in this study.

contig	<i>Arabidopsis thaliana</i>	gene name	NCBI Reference sequence (position on refseq)
contig 5	AT1G49540.2	elongator protein 2	XM_016021267.2 (748..1,943)
contig 121	AT3G01660.1	S-adenosyl-L-methionine-dependent methyltransferases superfamily protein	XM_016023528.2 (136..1,048)
contig 17	AT2G38270.1	CAX-interacting protein 2	XM_016041750.2 (469..1,008)
contig 171	AT2G22650.1	FAD-dependent oxidoreductase family protein	XM_016037427.2 (975..1,430)
contig 179	AT2G40570.1	initiator tRNA phosphoribosyl transferase family protein	XM_016035496.2 (70..186)
contig 186	AT1G77930.1	Chaperone DnaJ-domain superfamily protein	XM_025076062.1 (141..477)
contig 208	AT5G39410.1	Saccharopine dehydrogenase	XM_021602434.2 (395..952)
contig 229	AT1G12370.2	photolyase 1	XM_016041072.2 (272..1,103)
contig 25	AT1G49380.1	cytochrome c biogenesis protein family	XM_016047385.2 (552..757)
contig 26	AT1G05055.1	general transcription factor II H2	XM_031106615.1 (713..1,303) <i>Quercus lobata</i>
contig 27	AT5G56740	histone acetyltransferase of the GNAT family 2	XM_025076092.1 (902..1,016)
contig 282	AT1G07970.1	PTHR21780:SFO - TRANSMEMBRANE PROTEIN 209	XM_016022952.2 (764..1,976)
contig 301	AT3G15290.1	3-hydroxyacyl-CoA dehydrogenase family protein	XM_016031844.2 (677..793)
contig 340	AT4G03200.1	PTHR12145:SF11 - SPERMATOGENESIS-ASSOCIATED PROTEIN 20	XM_025077671.1 (1,194..1,306)
contig 356	AT3G09180.1	K15170 - mediator of RNA polymerase II transcription subunit 27 (MED27)	XM_025067131.1 (287..750)
contig 377	AT3G17040.1	high chlorophyll fluorescent 107	XM_025073955.1 (1,471..1,581)
contig 378	AT5G65860.1	ankyrin repeat family protein	XM_016029545.2 (817..1,145)
contig 459	AT2G31840.1	Thioredoxin superfamily protein	XM_016024034.2 (371..1,007)
contig 498	AT1G15390.1	peptide deformylase 1A	XM_016015676.2 (620..1,012)
contig 585	AT1G21370.1	KOG4533 - Uncharacterized conserved protein	XM_016030909.2 (1,000..1,371)
contig 606	AT3G26580.1	Tetratricopeptide repeat (TPR)-like superfamily protein	XM_016039159.2 (586..717)
contig 61	AT4G36390.1	Methylthiotransferase	XM_016034390.2 (407..2,135)
contig 62	AT4G26980.1	RNI-like superfamily protein	XM_016044316.2 (820..1,247)
contig 66	AT4G33030.1	sulfoquinovosyldiacylglycerol 1	XM_025074823.1 (722..1,278)
contig 68	AT1G74640.1	alpha/beta-Hydrolases superfamily protein	XM_016012577.2 (832..1,380)

contig 714	AT5G10920.1	L-Aspartase-like family protein	XM_016030483.2 (855..1,005)
contig 773	AT4G35910.1	Adenine nucleotide alpha hydrolases-like superfamily protein	XM_016042688.2 (727..816)
contig 78	AT2G04560.1	transferases, transferring glycosyl groups	XM_016026012.2 (587..1,136)
contig 87	AT5G64150.1	RNA methyltransferase family protein	XM_025075431.1 (233..1,113)
contig 98	AT2G02590.1	PF06695 - Putative small multi-drug export protein (Sm_multidrug_ex)	XM_016039395.2 (986..1,579)

Table S3. Summary statistics and AIC scores for all 20 models in this study across the different scenarios for the continent-wide analysis. AIC scores from BAYAREA models were excluded from model selection as these models do not account for vicariance. The model with the lowest score is highlighted in red.

	LnL	numparam						
		s	d	e	j	x	AIC	AIC wt
Default parameters with no time stratification and distance								
DEC	-66.8	2	0.0068	1.00E-12	0	n/a	137.6	0.0073
DEC+J	-61.11	3	0.0034	1.00E-12	0.011	n/a	128.2	0.8
DIVALIKE	-70.59	2	0.0086	1.00E-12	0	n/a	145.2	0.0002
DIVALIKE+J	-62.64	3	0.0039	1.00E-12	0.012	n/a	131.3	0.17
BAYAREALIK E	-94.99	2	0.01	0.01	0	n/a	194	4.20E-15
BAYAREALIK E+J	-64.77	3	0.0028	1.00E-07	0.015	n/a	135.5	0.021
Scenario 1: current relative distance (x) between regions with no time stratification								
DEC	-64.75	3	0.0014	1.00E-12	0	0.24	130.4	0.018
DEC+J	-57.96	4	0.0005	1.00E-12	0.0018	0.29	122.8	0.81
DIVALIKE	-67.21	3	0.0013	1.00E-12	0	0.28	141.3	8.10E-05
DIVALIKE+J	-58.98	4	0.0006	1.00E-12	0.0018	0.29	126	0.17
BAYAREALIK E	-87.01	3	0.0019	0.033	0	0.2	181.9	1.20E-13
BAYAREALIK E+J	-63.09	4	0.0021	1.00E-07	0.0083	0.077	192.3	6.80E-16
Scenario 2: gradual retreat of W, E, N and expansion of the arid interior (A) from 40 Ma stratified at 10 Ma time intervals								
DEC	-64.89	3	0.0015	1.00E-12	0	0.23	135.8	0.0027
DEC+J	-58.18	4	0.0005	1.00E-12	0.0019	0.28	124.4	0.81
DIVALIKE	-68.01	3	0.0019	1.00E-12	0	0.23	142	0.0001
DIVALIKE+J	-59.8	4	0.0008	1.00E-12	0.0025	0.25	127.6	0.16
BAYAREALIK E	-87.08	3	0.002	0.033	0	0.2	180.2	6.20E-13
BAYAREALIK E+J	-61.73	4	0.0005	1.00E-07	0.0029	0.26	131.5	0.023
Scenario 3: similar to scenario 2 but with distances scaled relative to the geographic distance between areas								
DEC	-66.47	3	0.0025	1.00E-12	0	0.42	138.9	0.0052
DEC+J	-60.41	4	0.0008	1.00E-12	0.003	0.57	128.8	0.81
DIVALIKE	-70.18	3	0.0033	1.00E-12	0	0.4	146.4	0.0001
DIVALIKE+J	-62.03	4	0.0011	1.00E-12	0.0036	0.51	132.1	0.16
BAYAREALIK E	-88.05	3	0.0026	0.034	0	0.4	182.1	2.20E-12
BAYAREALIK E+J	-64	4	0.0007	1.00E-07	0.004	0.56	136	0.022
Scenario 4: similar to scenario 3 with scaled distances excluding New Zealand								
DEC	-64.76	3	0.013	1.00E-12	0	-0.33	135.5	0.0032
DEC+J	-58.25	4	0.0069	1.00E-12	0.024	-0.4	124.5	0.8
DIVALIKE	-67.59	3	0.017	1.00E-12	0	-0.37	141.2	0.0002
DIVALIKE+J	-59.72	4	0.008	1.00E-12	0.023	-0.36	127.4	0.18
BAYAREALIK E	-87.23	3	0.012	0.033	0	-0.27	180.5	5.60E-13
BAYAREALIK E+J	-62.06	4	0.0054	1.00E-07	0.029	-0.35	132.1	0.018

Table S3. Summary statistics and AIC scores for the 8 models in this study across the different scenarios for the SEA subset analysis. AIC scores from BAYAREA models were excluded from model selection as these models do not account for vicariance. The model with the lowest score is highlighted in red.

	LnL	numparams	d	e	j	x	AIC	AIC wt
Default parameters with no time stratification and distance metric								
DEC	-242.1	2	0.023	1.00E-12	0		488.2	1.70E-14
DEC+J	-238.2	3	0.021	1.00E-12	0.012		482.4	3.20E-13
DIVALIKE	-254.3	2	0.027	1.00E-12	0		512.6	8.60E-20
DIVALIKE+J	-248.6	3	0.023	1.00E-12	0.016		503.2	9.60E-18
BAYAREALIKE	-229.9	2	0.012	0.12	0		463.9	3.20E-09
BAYAREALIKE+J	-209.4	3	0.0069	0.063	0.02		424.8	1
Scenario 1: current relative distance (x) between regions with no time stratification								
DEC	-213	3	0.29	1.00E-12	0	-2.11	432.1	0.0084
DEC+J	-209.7	4	0.33	1.00E-12	0.16	-2.33	427.4	0.086
DIVALIKE	-225.9	3	0.27	1.00E-12	0	-1.8	457.8	2.20E-08
DIVALIKE+J	-221.3	4	0.23	1.00E-12	0.12	-1.78	450.5	8.20E-07
BAYAREALIKE	-227.8	3	0.12	0.12	0	-1.81	461.5	3.40E-09
BAYAREALIKE+J	-207.4	4	0.023	0.053	0.06	-0.75	422.7	0.91

Table S4a. Average number and directionality of range-expansion events estimated for *Pomaderris* over 50 biogeographical stochastic mapping (BSM) events of continent-wide analysis. Number includes total number of dispersal events (from found and range expansion events). Colour indicates frequency of events (red–green, highest–lowest). Area names in first row indicate source areas (where lineages dispersed from) and names in first column indicate sink areas (where lineages dispersed to). Area names are southwest Australia (W), eastern Australia (E), central arid Eremaean zone (A), northern Australia (N), and New Zealand (Z).

	W	E	A	N	Z	total	% source
W	0	0.14	0.98	0	0	1.12	23.9
E	0.12	0	0.98	0	2.1	3.2	68.4
A	0	0.02	0	0	0	0.02	0.4
N	0	0	0	0	0	0	0.0
Z	0	0.34	0	0	0	0.34	7.3
total	0.12	0.5	1.96	0	2.1	4.68	
% sink	2.6	10.7	41.9	0.0	44.9		

Table S4b. Average number and directionality of founder events estimated for *Pomaderris* over 50 biogeographical stochastic mapping (BSM) events of continent-wide analysis. Number includes total number of dispersal events (from found and range expansion events). Colour indicates frequency of events (red–green, highest–lowest). Area names in first row indicate source areas (where lineages dispersed from) and names in first column indicate sink areas (where lineages dispersed to). Area names are southwest Australia (W), eastern Australia (E), central arid Eremaean zone (A), northern Australia (N), and New Zealand (Z).

	W	E	A	N	Z	total	% source
W	0	0.36	0	0	0	0.36	5.7
E	0.82	0	0.04	0	4.18	5.04	79.7
A	0	0	0	0	0	0	0.0
N	0	0	0	0	0	0	0.0
Z	0	0.58	0	0	0	0.58	9.2
total	0.82	0.94	0.04	0	4.18	5.98	
% sink	13.0	14.9	0.6	0.0	66.1		

Table S5a. Average number and directionality of range expansion events estimated for *Pomaderris* over 50 biogeographical stochastic mapping (BSM) events of SEA subset analysis. Number includes total number of dispersal events (from found and range expansion events). Colour indicates frequency of events (red–green, highest–lowest). Area names in first row indicate source areas (where lineages dispersed from) and names in first column indicate sink areas (where lineages dispersed to). Area names are South Australia (S), Victoria (V), Tasmania (T), South-eastern (E), Eastern Queensland (Q), Atherton tropics (A), and non-SEA (O).

	S	V	T	E	Q	A	O	total	% source
S	0	1.38	0.7	0.96	0.02	0	0.62	3.68	7
V	2.28	0	4.22	6	0.74	0.04	0.4	13.68	26
T	1.14	2.06	0	0.7	0	0.02	0.76	4.68	9
E	1.04	17.88	2.2	0	4.64	0.26	0.66	26.68	51
Q	0	0.34	0.04	0.74	0	1	0	2.12	4
A	0	0.02	0	0.02	0.96	0	0	1	2
O	0.04	0.02	0.16	0.04	0	0.02	0	0.28	1
total	4.5	21.7	7.32	8.46	6.36	1.34	2.44	52.12	100
% sink	9	42	14	16	12	3	5		0

Table S5b. Average number and directionality of founder events estimated for *Pomaderris* over 50 biogeographical stochastic mapping (BSM) events of SEA subset analysis. Number includes total number of dispersal events (from found and range expansion events). Colour indicates frequency of events (red–green, highest–lowest). Area names in first row indicate source areas (where lineages dispersed from) and names in first column indicate sink areas (where lineages dispersed to). Area names are South Australia (S), Victoria (V), Tasmania (T), South-eastern (E), Eastern Queensland (Q), Atherton tropics (A), and non-SEA (O).

	S	V	T	E	Q	A	O	total	% source
S	0	0.54	0.14	0.44	0	0	0.62	1.74	23
V	0.1	0	0.06	0.24	0.06	0	0.3	0.76	10
T	0	0	0	0	0	0	0.4	0.4	5
E	0.02	1.18	0.22	0	1.44	0	1.12	3.98	53
Q	0	0	0	0.16	0	0.08	0	0.24	3
A	0	0	0	0	0	0	0	0	0
O	0.16	0	0.18	0	0	0	0	0.34	5
total	0.28	1.72	0.6	0.84	1.5	0.08	2.44	7.46	100
% sink	4	23	8	11	20	1	33		

Fig. S1a. Calibrated BEAST chronogram of *Pomaderris* based on 30 loci, with branch lengths scaled according to time (Ma). Blue bars indicate the 95% confidence interval of the node age estimates. Numbers for each node indicate the posterior probability support values.

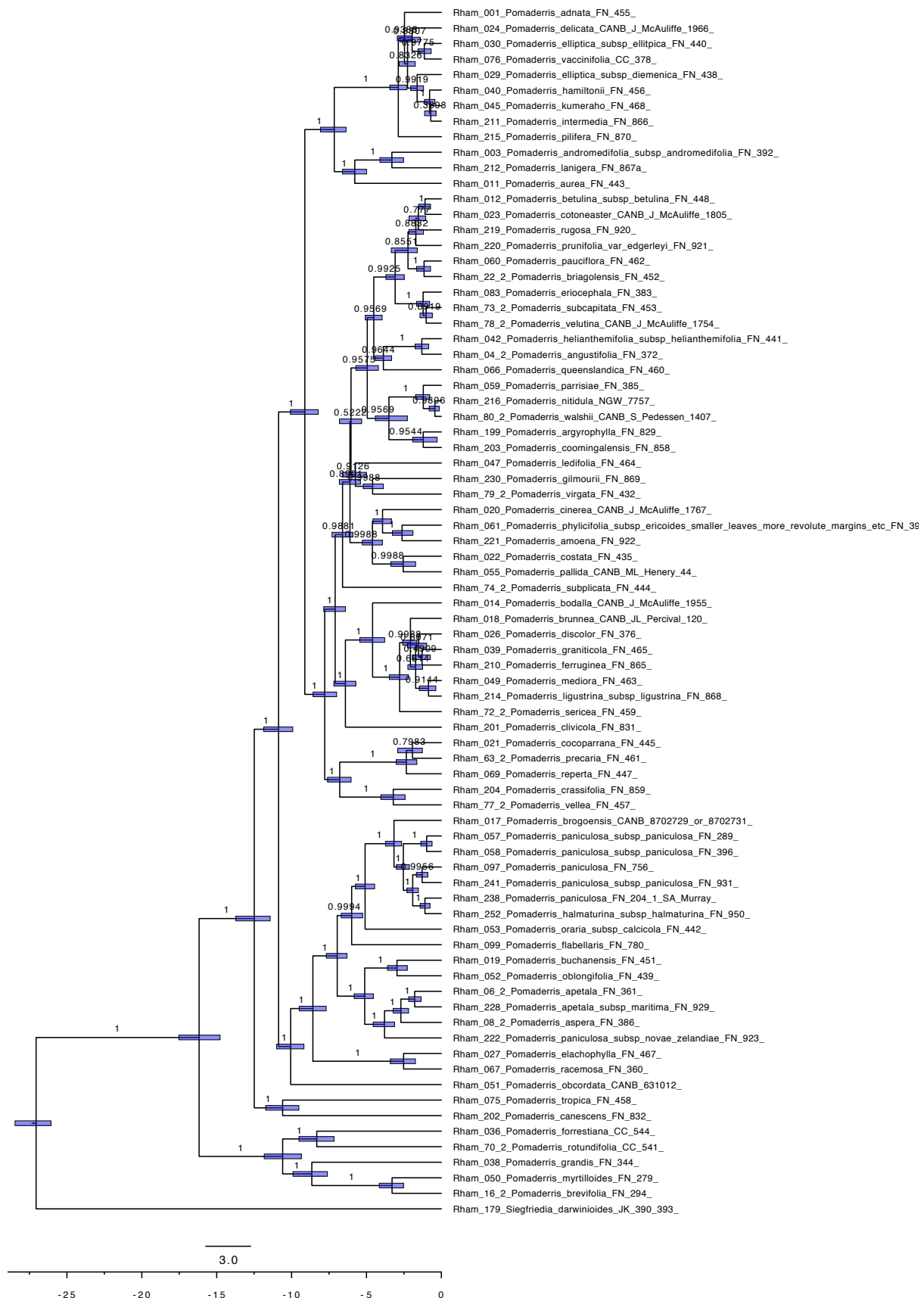


Fig. S1b. Calibrated BEAST chronogram of *Pomaderris* based on 30 loci, with branch lengths scaled according to time (Ma). Blue bars indicate the 95% confidence interval of the node age estimates. Numbers for each node indicate node ages (Ma).

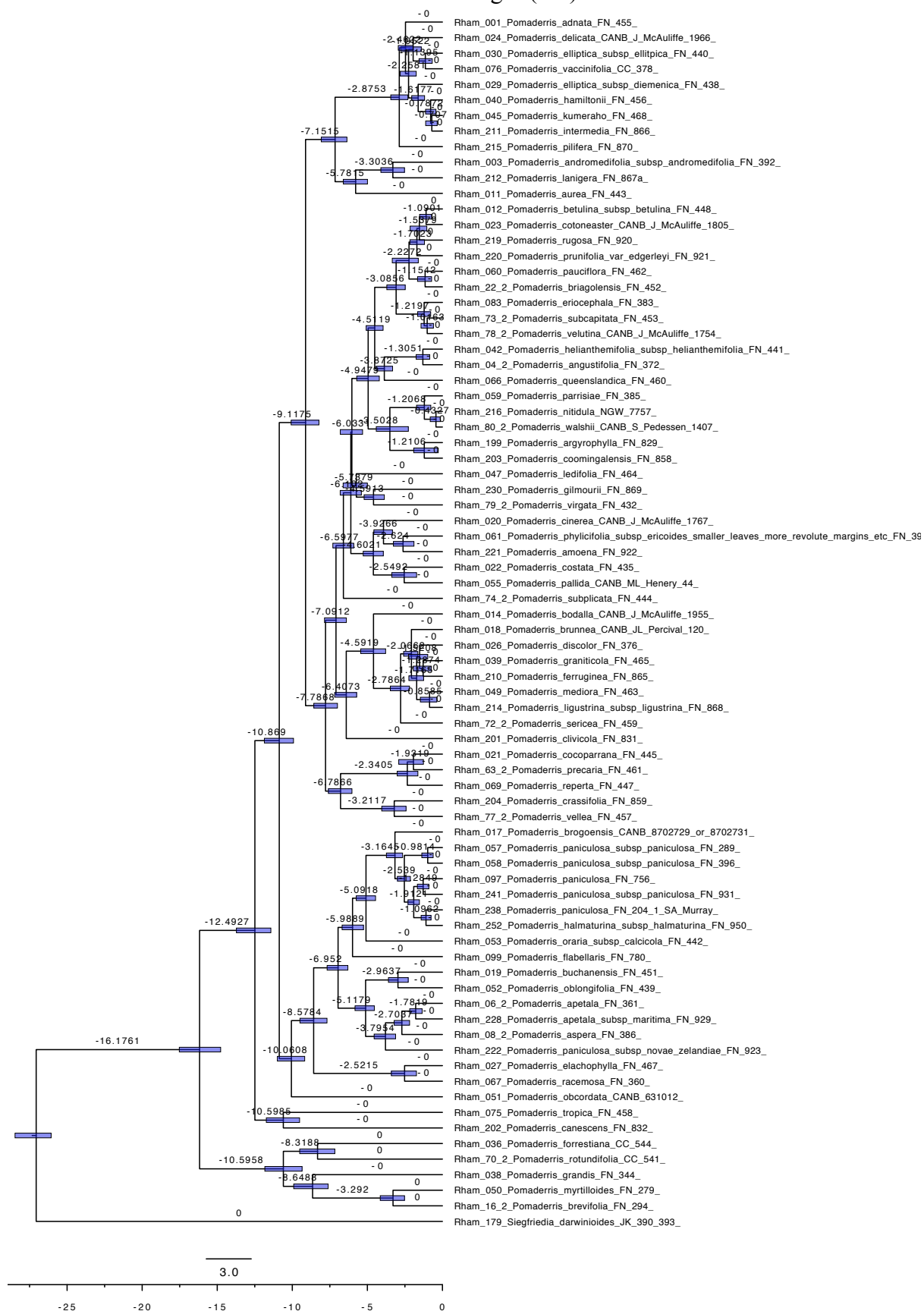


Fig. S2. Calibrated BEAST chronogram of *Pomaderris* and outgroups based on five chloroplast and one nuclear loci, with an additional calibration point at the stem of *Pomaderris* based on the leaf fossil found in New Zealand (Campbell, 2002).

*Uploaded as a separate Pdf file.

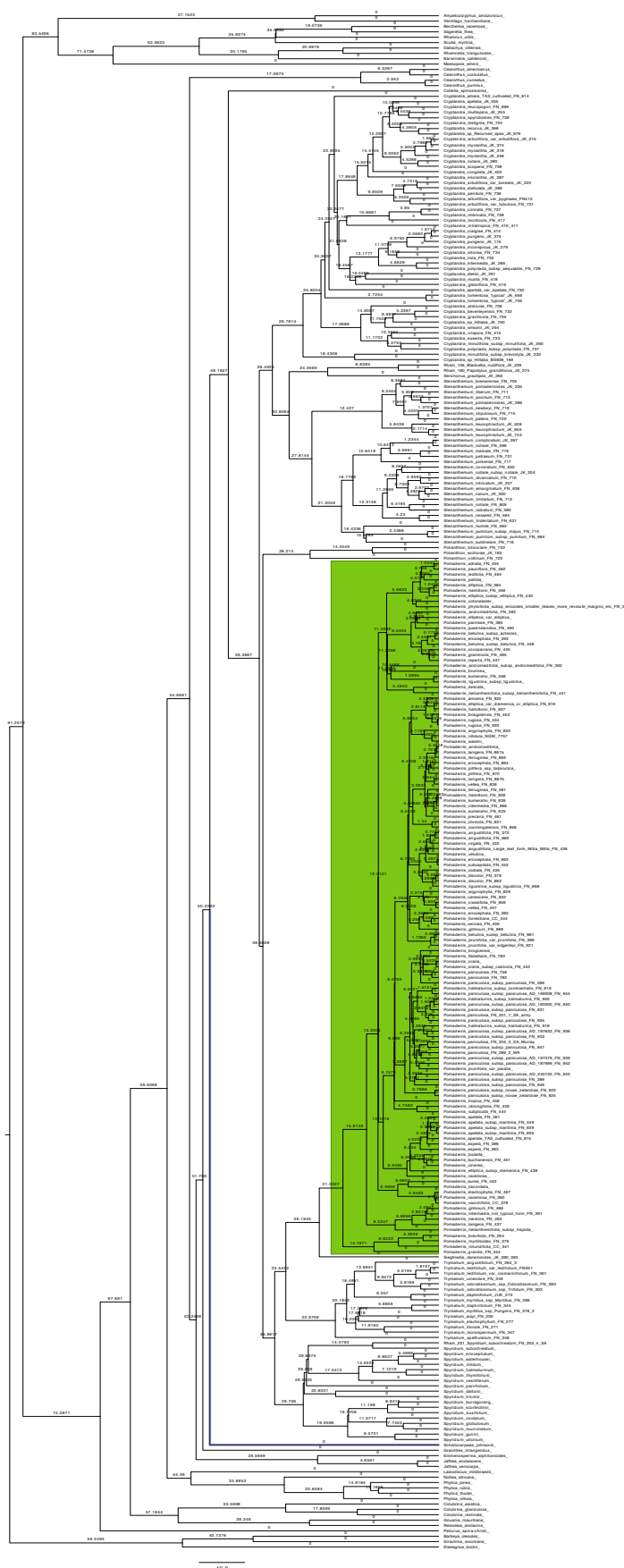
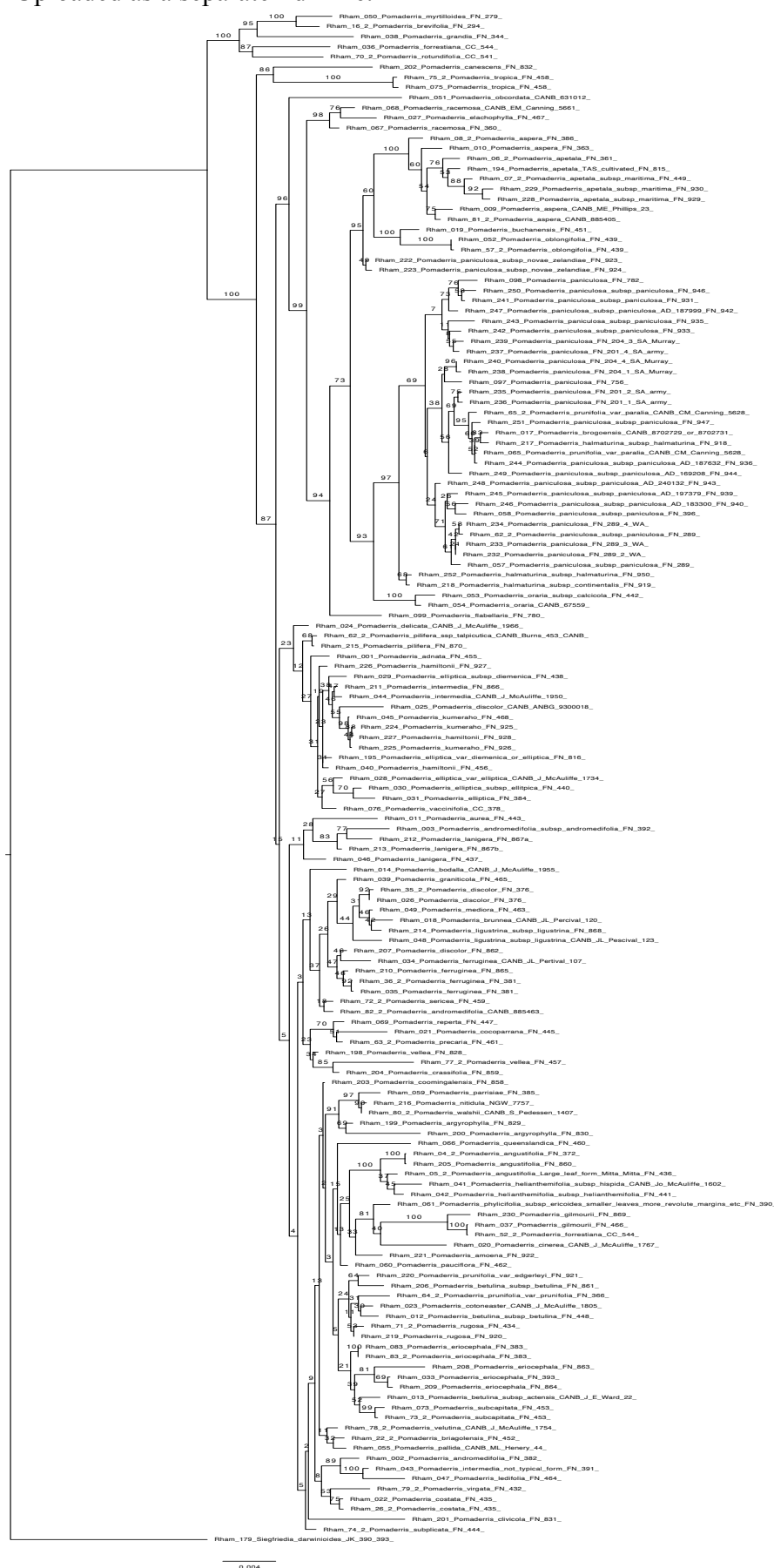


Fig. S3. Maximum likelihood (RAxML) topology of *Pomaderris* based on 30 nuclear loci. Support values are bootstrap support.
 *Uploaded as a separate Pdf file.



References

Campbell, J., 2002. Angiosperm fruit and leaf fossils from Miocene silcrete, Landslip Hill, northern Southland, New Zealand. *Journal of the Royal Society of New Zealand* 32, 149–154.