SUPPLEMENTARY DATA

TABLE S1. *Herbarium accession number, geographic details and regions amplified for all individuals used in microsatellite and/or sequence analysis.* 1 = successful amplification (and successful sequencing for the gene regions). 0 = unsuccessful amplification and/or sequencing. Untested marker/individual combinations are shaded grey. Marker/individual combinations in bold indicate sequences gained using 454 sequencing.

						Microsatellite					**Nuclear**								**Chloroplast**		
Individual	**Species**	**Accession no.**	**State**	**Lat**	**Long**	**CA1F4**	**AE5**	**HO1HO6**	**CA1D4**	**MI6B**	***waxy* A**	***waxy* B**	**DMC1 A**	**DMC1 B**	***trx* A**	***trx* B**	**CDO504 A**	**CDO504 B**	**trnH-psbA**	**rpoB-trnC**	**rpl32-trnL**
Pan_ACT_97	*Poa annua*	CANB 312513	ACT	-35.283	149.117						**1**	**1**	**1**	**1**	**0**	**0**	**1**	**1**	**1**	**1**	**1**
Pan_NSW_92	*Poa annua*	CANB 407148	NSW	-36.250	150.233						**1**	**1**	**1**	**1**	**0**	**0**	**0**	**0**	**1**	**1**	**1**
Pan_NSW_93	*Poa annua*	CANB 343723	NSW	-36.450	148.283						**1**	**1**	**1**	**1**	**0**	**0**	**1**	**1**	**1**	**1**	**1**
Pcl_ACT_102	*Poa clivicola*	CANB 438760	ACT	-35.567	148.783						**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Pcl_ACT_103	*Poa clivicola*	CANB 228786	ACT	-35.533	148.917						**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Pcl_ACT_104	*Poa clivicola*	CANB 8906309	ACT	-35.689	148.842						**1**	**1**	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**1**	**1**
Pcl_ACT_105	*Poa clivicola*	CANB 8702739	ACT	-35.542	148.950						**1**	**1**	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**1**	**1**
Pcl_ACT_44	*Poa clivicola*	MEL 650412A	ACT	-35.533	148.900	1	1	1	1	1	0	0	1	1						0	1
Pcl_ACT_45	*Poa clivicola*	MEL 1617342A	ACT	-35.575	148.783	1	1	1	1	1	1	0	1	1						1	1
Pcl_NSW_100	*Poa clivicola*	CANB 329728	NSW	-36.500	148.333						**1**	**1**	**1**	**1**	**1**	**1**	**1**	**0**	**1**	**1**	**1**
Pcl_NSW_101	*Poa clivicola*	CANB 228805	NSW	-35.550	148.667						**1**	**1**	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**1**	**1**
Pcl_NSW_99	*Poa clivicola*	CANB 647153	NSW	-35.783	149.350						**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Pcl_Vic_46	*Poa clivicola*	MEL 2011778A	Vic	-37.017	147.233	1	1	1	1	1	1	1	1	1						1	1
Pco_NSW_1	*Poa costiniana*	MEL 302832A	NSW	-36.450	148.250	1	1	1	1	1	0	1	0	0						0	1
Pco_NSW_107	*Poa costiniana*	CANB 619578	NSW	-34.575	149.736						**1**	**1**	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**1**	**1**
Pco_NSW_108	*Poa costiniana*	CANB 619540	NSW	-34.374	149.545						**1**	**1**	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**0**	**1**
Pco_NSW_110	*Poa costiniana*	CANB 505348	NSW	-36.450	148.267						**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Pco_NSW_117	*Poa costiniana*	CANB 9707880	NSW	-36.456	148.278						**1**	**1**	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**1**	**1**

Pco_NSW_119	*Poa costiniana*	CANB 228898	NSW	-36.417	148.417						**1**	**1**	**1**	**1**	**1**	**1**	**0**	**0**	**1**	**1**	**1**
Pco_NSW_120	*Poa costiniana*	CANB 8101033	NSW	-36.433	148.283						**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Pco_NSW_2	*Poa costiniana*	MEL 300905A	NSW	-36.450	148.283	1	1	0	1	0	0	0									
Pco_NSW_79	*Poa costiniana*	CANB 543047	NSW	-35.783	148.483						**1**	**1**	**0**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Pco_Tas_6	*Poa costiniana*	MEL 658316A	Tas	-41.533	147.663	1	1	1	1	1	0	0	0	0						0	1
Pco_Tas_7	*Poa costiniana*	MEL 626682A	Tas	-41.533	147.650	1	1	1	1	1	1	1	0	0						0	1
Pco_Tas_8	*Poa costiniana*	MEL 2138257A	Tas	-41.533	147.683	1	1	1	1	1	0	0	0	0						0	1
Pco_Vic_3	*Poa costiniana*	MEL 690540A	Vic	-36.900	147.283	1	1	0	1	1	0	0	0	0						0	1
Pco_Vic_4	*Poa costiniana*	MEL 2016689A	Vic	-37.433	145.917	1	1	1	1	1	1	1									
Pco_Vic_36	*Poa costiniana*	MELU M10766	Vic	-37.504	145.883	1	1	1	1	1	0	0									
Pco_Vic_5	*Poa costiniana*	MEL 649167A	Vic	-36.879	147.269	1	1	1	1	1	1	1	1	1						0	0
Pco_Vic_80	*Poa costiniana*	CANB 402908	Vic	-36.767	146.767						**1**	**1**	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**1**	**1**
Pco_Vic_f1	*Poa costiniana* field collection 2005, Mt Nelse, Bogong High Plains, Alpine National Park. Alpine grassland. Coll: S. Byars. Det: N. Walsh		Vic	-36.825	147.342						1	0	1	1						1	1
Pco_Vic_f2	*Poa costiniana* field collection 2005, Mt Nelse, Bogong High Plains, Alpine National Park. Alpine grassland. Coll: S. Byars. Det: N. Walsh		Vic	-36.825	147.342						1	1	1	1						1	1
Pen_ACT_128	*Poa ensiformis*	CANB 8906370	ACT	-35.583	148.500						**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Pen_NSW_130	*Poa ensiformis*	CANB 645156	NSW	-37.100	149.283						**1**	**1**	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**1**	**1**
Pen_NSW_72	*Poa ensiformis*	MEL 2138127A	NSW	-36.450	148.267	1	0	1	0	0	0	0									
Pen_Vic_124	*Poa ensiformis*	CANB 48084	Vic	-37.400	146.383						**1**	**1**	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**1**	**1**
Pen_Vic_125	*Poa ensiformis*	CANB 67340	Vic	-36.983	147.150						**1**	**1**	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**1**	**1**
Pen_Vic_126	*Poa ensiformis*	CANB 363091	Vic	-37.129	147.736						**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Pen_Vic_73	*Poa ensiformis*	MEL 2012970A	Vic	-37.025	147.200	1	1	1	1	1	0	0									
Pen_Vic_74	*Poa ensiformis*	MEL 1589749A	Vic	-37.867	146.417	1	0	1	1	1	0	0									
Pen_Vic_75	*Poa ensiformis*	MEL 1056896A	Vic	-37.400	146.000	0	0	0	1	0	0	0									
Pen_Vic_77	*Poa ensiformis*	MEL 1542374A	Vic	-37.126	147.700	1	1	1	1	1	0	0									

Pen_Vic_78	*Poa ensiformis*	MEL 2023602A	Vic	-37.500	145.867	1	1	1	0	1	0	0									
Pfa_ACT_16	*Poa fawcettiae*	MEL 2138088A	ACT	-35.567	148.767	1	1	1	1	1	1	1	0	0						0	1
Pfa_ACT_9	*Poa fawcettiae*	MEL 596118A	ACT	-37.817	146.294	1	1	1	1	1	0	0									
Pfa_NSW_11	*Poa fawcettiae*	MEL 1518741A	NSW	-37.350	146.783	1	0	1	1	1	0	0									
Pfa_NSW_131	*Poa fawcettiae*	CANB 505356	NSW	-36.450	148.250						**1**	**1**	**1**	**1**	**1**	**1**	**0**	**0**	**1**	**1**	**1**
Pfa_NSW_132	*Poa fawcettiae*	CANB 505353	NSW	-36.450	148.283						**1**	**1**	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**1**	**1**
Pfa_NSW_133	*Poa fawcettiae*	CANB 505340	NSW	-36.450	148.283						**1**	**1**	**1**	**1**	**1**	**1**	**0**	**0**	**1**	**1**	**1**
Pfa_NSW_134	*Poa fawcettiae*	CANB 228865	NSW	-36.350	148.417						**1**	**1**	**1**	**1**	**1**	**1**	**0**	**0**	**1**	**1**	**1**
Pfa_NSW_135	*Poa fawcettiae*	CANB 345640	NSW	-36.400	148.350						**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Pfa_NSW_136	*Poa fawcettiae*	CANB 228879	NSW	-36.417	148.417						**1**	**1**	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**1**	**1**
Pfa_NSW_137	*Poa fawcettiae*	CANB 230925	NSW	-36.450	148.283						**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Pfa_NSW_15	*Poa fawcettiae*	MEL 649620A	NSW	-36.450	148.267	1	1	1	1	1	1	1	0	0						0	1
Pfa_NSW_17	*Poa fawcettiae*	MEL 652850A	NSW	-36.350	148.417	1	1	1	1	1	0	0	0	0						0	1
Pfa_NSW_18	*Poa fawcettiae*	MEL 286299A	NSW	-36.450	148.250	0	0	1	1	0	0	0									
Pfa_Tas_13	*Poa fawcettiae*	MEL 695201A	Tas	-41.533	147.650	1	1	1	1	1	1	1	1	1						0	1
Pfa_Tas_14	*Poa fawcettiae*	MEL 2138673A	Tas	-41.750	147.500	1	1	1	1	1	1	1	0	0						0	1
Pfa_Vic_10	*Poa fawcettiae*	MEL 619714A	Vic	-37.840	146.274	1	1	1	1	1	1	1	0	1						0	0
Pfa_Vic_12	*Poa fawcettiae*	MEL 2013073A	Vic	-37.125	147.117	1	1	1	1	1	0	0	0	0						0	1
Pfa_Vic_146	*Poa fawcettiae*	CANB 488116	Vic	-37.160	146.427						**1**	**1**	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**1**	**1**
Pfa_Vic_147	*Poa fawcettiae*	CANB 67067	Vic	-37.317	142.333						**1**	**1**	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**1**	**1**
Pfa_Vic_148	*Poa fawcettiae*	CANB 9501151	Vic	-36.892	147.138						**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Pfa_Vic_43	*Poa fawcettiae*	MELU M10771	Vic	-37.504	145.883	1	1	1	1	1	0	0									
Pfa_Vic_f1	*Poa fawcettiae* field collection 2005, Mt Nelse, Bogong High Plains, Alpine National Park. Alpine grassland. Coll: S. Byars. Det: N. Walsh		Vic	-36.825	147.342						1	0	1	1						0	1
Pgu_Tas_149	*Poa gunnii*	CANB 8904303	Tas	-42.678	146.503						**1**	**1**	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**0**	**1**
Pgu_Tas_150	*Poa gunnii*	CANB 195943	Tas	-42.650	146.517						**1**	**1**	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**1**	**1**
Pgu_Tas_151	*Poa gunnii*	CANB 341316	Tas	-41.533	147.667						**0**	**1**	**0**	**0**	**1**	**0**	**1**	**1**	**1**	**0**	**1**
Pgu_Tas_152	*Poa gunnii*	CANB 402406	Tas	-42.950	146.400						**1**	**1**	**1**	**0**	**1**	**0**	**1**	**1**	**1**	**0**	**1**
Pgu_Tas_153	*Poa gunnii*	CANB 9215410	Tas	-41.508	147.667						**1**	**1**	**1**	**0**	**1**	**0**	**0**	**1**	**1**	**0**	**1**

Phe_ACT_85	*Poa helmsii*	CANB 9301326	ACT	-35.333	148.800						**1**	**1**	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**1**	**1**
Phe_NSW_82	*Poa helmsii*	CANB 312845	NSW	-35.533	150.000						**1**	**1**	**1**	**0**	**1**	**0**	**1**	**1**	**1**	**1**	**1**
Phe_NSW_83	*Poa helmsii*	CANB 8316158	NSW	-35.550	149.917						**1**	**1**	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**1**	**1**
Phe_NSW_84	*Poa helmsii*	CANB 68026	NSW	-35.583	149.917						**1**	**1**	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**1**	**1**
Phe_NSW_86	*Poa helmsii*	CANB 228839	NSW	-35.567	149.583						**1**	**1**	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**1**	**1**
Phe_NSW_88	*Poa helmsii*	CANB 644862	NSW	-35.917	147.283						**1**	**1**	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**1**	**1**
Phe_Vic_58	*Poa helmsii EXCLUDED*	MEL 673991A	Vic	-37.014	147.190	1	0	1	0	0	0	0									
Phe_Vic_59	*Poa helmsii EXCLUDED*	MEL 1592147A	Vic	-36.733	146.767	1	0	1	1	1	0	0									
Phe_Vic_60	*Poa helmsii EXCLUDED*	MEL 2025908A	Vic	-36.950	147.133	1	1	1	0	1	0	0									
Phe_Vic_61	*Poa helmsii EXCLUDED*	MEL 2050538A	Vic	-36.900	147.217	1	0	1	0	0	0	0									
Phe_Vic_62	*Poa helmsii EXCLUDED*	MEL 1603313A	Vic	-36.583	147.717	1	0	1	0	1	0	0									
Phi_ACT_187	*Poa hiemata*	CANB 7705690	ACT	-35.683	148.800						**1**	**1**	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**1**	**1**
Phi_NSW_185	*Poa hiemata*	CANB 506031	NSW	-36.450	148.267						**0**	**1**	**1**	**0**	**1**	**0**	**1**	**1**	**0**	**0**	**1**
Phi_NSW_186	*Poa hiemata*	CANB 343721	NSW	-36.450	148.300						**0**	**0**	**1**	**1**	**1**	**0**	**1**	**1**	**0**	**0**	**1**
Phi_NSW_19	*Poa hiemata*	MEL 301059A	NSW	-36.450	148.283	1	1	1	1	1	1	1	0	0						0	1
Phi_NSW_20	*Poa hiemata*	MEL 1582287A	NSW	-36.433	148.317	1	1	1	1	1	1	0	1	1						0	1
Phi_Tas_189	*Poa hiemata*	CANB 9012247	Tas	-42.233	146.767						**1**	**1**	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**0**	**1**
Phi_Vic_188	*Poa hiemata*	CANB 8500047	Vic	-36.873	147.279						**1**	**1**	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**0**	**1**
Phi_Vic_21	*Poa hiemata*	MEL 2046322A	Vic	-36.979	147.121	1	1	1	1	1	0	0	0	0						0	1
Phi_Vic_22	*Poa hiemata*	MEL 649168A	Vic	-36.879	147.269	1	1	1	1	1	0	0	0	0						0	1
Phi_Vic_23	*Poa hiemata*	MEL 537905A	Vic	-36.917	147.333	1	0	1	1	1	0	0									
Phi_Vic_38	*Poa hiemata*	MELU M102588	Vic	-36.821	147.276	1	1	1	1	1	0	0									
Phi_Vic_39	*Poa hiemata*	MELU M102586	Vic	-36.847	147.185	1	1	1	1	1	0	0	0	0						0	1
Phi_Vic_40	*Poa hiemata*	MELU M102593	Vic	-36.883	147.257	1	1	1	1	1	0	0	0	0						0	1
Phi_Vic_f1	*Poa hiemata* field collection 2005, Mt Nelse, Bogong High Plains, Alpine National Park. Alpine grassland. Coll: S. Byars. Det: N. Walsh		Vic	-36.825	147.342						1	1	1	1						1	1

Phi_Vic_f2	*Poa hiemata* field collection 2005, Mt Nelse, Bogong High Plains, Alpine National Park. Alpine grassland. Coll: S. Byars. Det: N. Walsh		Vic	-36.825	147.342						0	1	1	1						1	1
Phi_Vic_f3	*Poa hiemata* field collection 2005, Mt Nelse, Bogong High Plains, Alpine National Park. Alpine grassland. Coll: S. Byars. Det: N. Walsh		Vic	-36.825	147.342	1	1	1	1	1	0	0									
Pho_Vic_191	*Poa hothamensis var. hothamensis*	CANB 409990	Vic	-36.867	147.267						**1**	**1**	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**1**	**1**
Pho_Vic_192	*Poa hothamensis var. hothamensis*	CANB 67341	Vic	-36.983	147.150						**1**	**1**	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**1**	**1**
Pho_Vic_198	*Poa hothamensis var. hothamensis*	CANB 207886	Vic	-36.933	147.283						**1**	**1**	**1**	**0**	**1**	**0**	**1**	**1**	**1**	**1**	**1**
Pho_Vic_199	*Poa hothamensis var. hothamensis*	CANB 207893	Vic	-37.833	146.283						**1**	**1**	**0**	**0**	**1**	**0**	**0**	**1**	**1**	**0**	**1**
Pho_Vic_41	*Poa hothamensis var. hothamensis*	MELU M102595	Vic	-36.893	147.214	1	1	1	1	1	0	0	0	0						0	1
Pho_Vic_42	*Poa hothamensis var. hothamensis*	MELU M102597	Vic	-36.875	147.249	0	0	1	0	1	0	0									
Pho_Vic_65	*Poa hothamensis var. hothamensis*	MEL 1592155A	Vic	-36.867	147.267	1	0	1	1	1	0	0									
Pho_Vic_67	*Poa hothamensis var. hothamensis*	MEL 252256A	Vic	-36.883	147.317	1	1	1	1	1	1	0	1	1						0	0
Pho_Vic_68	*Poa hothamensis var. hothamensis*	MEL 1592158A	Vic	-36.750	146.783	0	1	1	1	1	0	0									
Pho_Vic_69	*Poa hothamensis var. hothamensis*	MEL 1542253A	Vic	-36.746	147.537	1	1	1	1	0	0	0									
Pho_Vic_70	*Poa hothamensis var. hothamensis*	MEL 2275845A	Vic	-36.958	147.333	1	0	1	0	0	0	0									
Pho_Vic_71	*Poa hothamensis var. hothamensis*	MEL 717823A	Vic	-37.000	147.150	1	0	1	1	1	0	0									
Pho_Vic_89	*Poa hothamensis var. hothamensis*	CANB 207890	Vic	-36.933	147.283						**1**	**1**	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**1**	**1**
Pho_Vic_f1	*Poa hothamensis var. hothamensis* field collection 2005, Mt Nelse, Bogong High Plains, Alpine National		Vic	-36.825	147.342						1	1	1	1						1	1

	Park. Alpine grassland. Coll: S. Byars. Det: N. Walsh																				
Pho_Vic_f2	*Poa hothamensis var. hothamensis* field collection 2005, Mt Nelse, Bogong High Plains, Alpine National Park. Alpine grassland. Coll: S. Byars. Det: N. Walsh		Vic	-36.825	147.342						0	0	1	1						1	1
Pho_Vic_63	*Poa hothamensis var. parviflora*	MEL 540882A	Vic	-36.683	147.250	0	0	1	1	0	0	0									
Pph_ACT_205	*Poa phillipsiana*	CANB 8413383	ACT	-35.833	149.000						**1**	**1**	**1**	**1**	**1**	**0**	**1**	**1**	**0**	**0**	**1**
Pph_NSW_206	*Poa phillipsiana*	CANB 615444	NSW	-35.576	148.571						**1**	**1**	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**0**	**1**
Pph_NSW_209	*Poa phillipsiana*	CANB 651518	NSW	-35.700	148.517						**1**	**1**	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**1**	**1**
Pph_NSW_47	*Poa phillipsiana*	MEL 2129566A	NSW	-35.576	148.571	1	1	1	1	1	1	0	1	1						1	1
Pph_Vic_203	*Poa phillipsiana*	CANB 67342	Vic	-37.217	147.200						**1**	**1**	**1**	**1**	**1**	**0**	**1**	**1**	**0**	**0**	**1**
Pph_Vic_204	*Poa phillipsiana*	CANB 207889	Vic	-36.917	147.217						**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**1**
Pph_Vic_37	*Poa phillipsiana*	MELU unnumbered	Vic	-36.849	147.350	1	1	1	1	1	0	0	0	0						0	1
Pph_Vic_49	*Poa phillipsiana*	MEL 225819A	Vic	-36.642	147.908	1	1	1	1	1	0	0	0	0						0	1
Pph_Vic_50	*Poa phillipsiana*	MEL 225815A	Vic	-36.681	147.995	1	1	1	1	1	0	0	0	0						0	1
Pph_Vic_51	*Poa phillipsiana*	MEL 677593A	Vic	-36.767	147.826	1	1	1	1	1	0	0									
Pph_Vic_52	*Poa phillipsiana*	MEL 225669A	Vic	-37.083	147.100	1	1	1	1	1	1	0	1	0						0	1
Pph_Vic_53	*Poa phillipsiana*	MEL 2275838A	Vic	-36.739	146.758	1	1	1	1	1	1	1	1	1						1	1
Pph_Vic_54	*Poa phillipsiana*	MEL 1533534A	Vic	-36.931	147.300	1	1	1	1	1	0	0	0	0						0	1
Pph_Vic_55	*Poa phillipsiana*	MEL 225670A	Vic	-36.750	146.750	1	1	1	1	1	0	0	0	0						0	1
Pph_Vic_56	*Poa phillipsiana*	MEL 598014A	Vic	-36.850	147.350	1	1	1	1	1	1	1									
Pph_Vic_57	*Poa phillipsiana*	MEL 619721A	Vic	-36.773	146.790	1	1	1	1	1	0	0	0	0						0	1
Psa_Tas_27	*Poa saxicola EXCLUDED*	MEL 2123183A	Tas	-36.907	147.215	0	0	1	0	0	0	0									
Psa_Tas_28	*Poa saxicola EXCLUDED*	MEL 2139185A	Tas	-41.800	146.500	0	0	1	1	0	0	0									
Psi_NSW_33	*Poa sieberiana var. sieberiana*	MEL 291533A	NSW	-36.575	148.250	1	1	1	1	1	1	1	1	1						1	1
Psi_NSW_34	*Poa sieberiana var. sieberiana*	MEL 246954A	NSW	-30.404	150.722	1	1	1	1	1	1	1	1	1						1	1
Psi_NSW_90	*Poa sieberiana*	CANB 780260	NSW	-33.342	148.992						**1**	**1**	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**1**	**1**

	var. sieberiana																				
Psi_Vic_29	*Poa sieberiana var. sieberiana*	MEL 1056947A	Vic	-37.217	145.900	1	1	1	1	1	0	0	0	0						0	1
Psi_Vic_30	*Poa sieberiana var. sieberiana*	MEL 519545A	Vic	-37.167	146.617	1	0	1	1	1	0	0									
Psi_Vic_31	*Poa sieberiana var. sieberiana*	MEL 2268838A	Vic	-37.053	148.084	1	1	1	1	1	1	0	1	1						1	1
Psi_Vic_32	*Poa sieberiana var. sieberiana*	MEL 2269869A	Vic	-35.848	143.572	1	1	1	1	1	1	1	1	1						1	1
Psi_Vic_35	*Poa sieberiana var. sieberiana*	MEL 1537323A	Vic	-37.353	149.938	1	0	1	1	0	0	0									
TOTAL						65	53	69	63	60	82	78	78	73	57	16	52	53	56	60	102

TABLE S2. *PCR annealing temperature, size range and total number of alleles detected across the 10 species surveyed for each microsatellite marker.*

Marker	**Primers from**	**Annealing temp. (°C)**	**Size (bp)**	**Plants genotyped**	**Total no. alleles**	**Alleles found by Byars *et al.* (2009)**	**H_o**
AE5	(Albertini et al., 2003)	48	239–305	53	21	6	0.94
CA1D4	(Maurer et al., 2005)	57.5	294–336	65	21	13	0.74
MI6-B	(Kindiger, 2006)	56	127–182	60	24	14	0.73
H01H06	(Kindiger, 2006)	59.5	166–182	69	13	10	0.83
CA1F4	(Maurer et al., 2005)	60	171–229	64	22	35	0.70
GAC1	(Maurer et al., 2005)	57	79–106	Marker excluded	19 (unreliable)	17	---

H_o = observed heterozygosity (proportion of heterozygotes).

TABLE S3. *Chloroplast and nuclear regions: PCR annealing temperature, size range and total number of alleles detected. The primers and conditions reported here are those used for the initial Sanger sequencing (for the chloroplast regions, and the nuclear regions waxy and DMC1); and those used for the 454 sequencing that were not reported in Griffin et al. (2011): trx and CDO504.*

Region	**Sequencing method**	**Primers from**	**PCR conditions**	**No. individuals sequenced**	**Gene Copy**	**Length (bp)**	**Base changes**	**Indels**
***rpl*32-*trn*L**	Sanger	(Shaw et al., 2007)	80°C (5 min); 30 × 95°C (60 s), 54°C (60 s), 65°C (4 min); 65°C (5 min)	40		838–850	2	3 (2–8 bp)
***rpo*B-*trn*C**	Sanger	(Shaw et al., 2005)	80°C (5 min); 35× 96°C (60 s), 52°C (30 s), 72°C (30 s); 72°C (5 min)	13		1176–1177	3	2 (1 bp)
***trn*H-*psb*A**	Sanger	(Tate and Simpson, 2003), (Sang et al., 1997)	95°C (5 min); 35× 95°C (45 s), 56°C (60 s), 72°C (30 s); 72°C (3 min)	0		Approx. 800	Poor sequence*	Poor sequence*
***DMC*1**	Sanger	(Petersen and Seberg, 2000)	95°C (2 min); 40 × 95°C (60 s), 55°C (60 s), 72°C (2 min); 72°C (10 min). [$MgCl_2$] = 2.5 mM	19	Copy A	1047	17	0
				17	Copy B	1017	29	0
waxy	Sanger	(Petersen and Seberg, 2000)	94°C (2 min); 35 × 94°C (60 s), 65°C (60 s), 72°C (2 min); 72°C (10 min). [$MgCl_2$] = 2.0 mM	26	Copy A	511–519	41	1 (8 bp)
				20	Copy B	519–535	22	5 (1–14 bp)
trx	454	(for) 5’-TGATGTTGATGACCTGA	96°C (2 min); 40 × 96°C (40 s), 50°C (60 s), 72°C (40 s); 72°C	57	Copy A	338-381	113	8 (1-12 bp)

		TGGT-3’	(5 min). [MgCl$_2$] = 2.0 mM					
		(rev) 5’-AGCACACTCCACACAGTTTCA-3’		18	Copy B**	387-393	29	0
waxy	454	(for) 5’-ATTGCCGTCAACTACGATGC-3’	96°C (2 min); 40 × 96°C (40 s), 50°C (60 s), 72°C (40 s); 72°C (5 min). [MgCl$_2$] = 2.0 mM	56	Copy A	362-412	75	7 (2-13 bp)
		(rev) 5’-GGCCATGATCTGGTGAGC-3’		58	Copy B	379-408	87	5 (2-13 bp)

For the multiple-gene analysis described in the text, the Sanger-sequenced results were aligned with the consensus 454 results and trimmed to match their shorter length. The final alignment was used to create input for *BEAST.

The *trx* Copy A dataset included two *Poa annua* sequences from GenBank (accession numbers 51702653 and 51702654).

Trx Copy A and *waxy* Copy A and B 454 results include *Poa annua* sequences, hence the higher number of SNPs and indels.

* These primers produced poor products for *trn*H-*psb*A but the primers used for later sequencing (Griffin et al., 2011) produced shorter, clean products

** *trx* Copy B amplified poorly in most individuals and was excluded from further analysis

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