

Table S1: Sampling locations and diversity measures for microsatellites (5 loci) and ITS2 sequences in *G. chilensis*. N, number of individuals per sampling locations used for microsatellite genotyping; (Ho) observed heterozygosity, (He) expected heterozygosity, Ae, multi-locus estimates of expected allelic richness based on the smallest sample size (20 genes / 10 individuals); Pa: number of private alleles; Weir and Cockerham's [32] F_{IS} estimate (NS non-significant, * significant deviation from HW expectation, $P < 0.0028$, $\alpha = 0.05$, Bonferroni correction of multiple test with 18 populations); n, number of individuals used for sequencing; nR, number of ribotypes; Re, expected haplotype richness based on the smallest sample size (5 ribotypes); Ribotypes: details of the different ribotypes observed in the populations, private ribotypes are in bold. Mean \pm SEM are indicated for all New Zealand samples (i.e. Global New Zealand) and all Chilean samples (i.e. Global Chile).

Population (abbreviation)	Position	N	Microsatellites					ITS2 sequences			
			Ae	Pa	Ho	He	F_{IS}	n	nR	Re	Ribotypes
NEW ZEALAND											
West New Zealand											
Whanganui Inlet (NZ-WIN)	40° 34' S, 172° 32' E	25	1.84	1	0.28	0.44	0.37*	11	2	0.45	r6, r8
Golden Bay (NZ-PGB)	40° 48' S, 172° 48' E	10	2.65	3	0.39	0.56	0.35*	8	2	0.62	r6, r7
Moutere Inlet (NZ-MOU)	40° 59' S, 173° 01' E	30	0.86	2	0.59	0.33	- 0.78*	11	3	0.91	r6, r9, r10
East New Zealand											
Pautahanui Inlet (NZ-PIW)	41° 06' S, 174° 49' E	32	2.32	11	0.56	0.52	- 0.07 ^{NS}	14	2	0.60	r1, r4
Scorching Bay (NZ-SCB)	41° 18' S, 174° 48' E	25	0.82	0	0.27	0.23	- 0.18 ^{NS}	15	3	1.18	r1, r2, r3
Avon-Heathcote estuary (NZ-CAH)	43° 36' S, 172° 45' E	-	-	-	-	-	-	5	2	1.00	r1, r4
Stewart Island (NZ-STI)	46° 54' S, 168° 07' E	30	1.97	7	0.50	0.48	- 0.02 ^{NS}	17	2	0.29	r1, r5
Chatham Island											
Chatham Island (NZ-CHT)	43° 52' S, 176° 33' W	30	1.86	6	0.19	0.49	0.62*	12	7	2.74	

											r1, r11, r12, r13, r14, r15, r16
GLOBAL NEW ZEALAND		182	1.76 ± 0.69	49/69	0.40 ± 0.16	0.44 ± 0.12	0.21*	93	16	0.97 ± 0.77	15/21
CHILE											
Araucanian region											
Dichato (CH-DIC)	36° 45' S, 73° 11' W	43	1.29	0	0.32	0.38	0.17 ^{NS}	13	2	0.64	r1, r21
Lenga (CH-LEN)	36° 32' S, 72° 56' W	19	1.32	0	0.41	0.39	- 0.02 ^{NS}	9	2	0.56	r1, r17
Tubul (CH-TUB)	37° 15' S, 73° 26' W	28	1.72	0	0.54	0.58	0.10 ^{NS}	9	3	1.11	r1, r20, r21
Valdivia river región											
Molinos (CH-MOL)	39° 50' S, 73° 23' W	49	0.63	0	0.30	0.23	- 0.28*	12	2	0.84	r1, r18
Niebla (CH-NIE)	39° 52' S, 73° 23' W	72	0.44	0	0.13	0.13	0.00 ^{NS}	9	1	0.00	r1
Austral region											
Metri (CH-MET)	41° 36' S, 72° 42' W	41	0.65	1	0.37	0.30	- 0.24 ^{NS}	8	2	0.62	r1, r21
Mauillin (CH-MAU)	41° 37' S, 73° 35' W	43	1.26	0	0.48	0.46	- 0.04 ^{NS}	7	2	0.71	r1, r19
Ancud (CH-ANC)	41° 52' S, 73° 48' W	22	1.23	0	0.31	0.36	0.17 ^{NS}	9	2	0.56	r1, r21
Hornopiren (CH-HOR)	41° 58' S, 72° 28' W	34	0.69	0	0.19	0.26	0.27*	12	2	0.68	r1, r21

Chaiten (CH-CTE)	42° 55' S, 72° 42' W	12	0.63	0	0.23	0.20	-0.14 ^{NS}	9	1	0.00	r1
Raul Marin (CH-RMA)	43° 46' S, 72° 57' W	47	0.60	0	0.24	0.25	0.06 ^{NS}	11	1	0.00	r1
GLOBAL CHILE		410	0.95 ± 0.42	4/69	0.32 ± 0.12	0.32 ± 0.13	0.04 ^{NS}	108	6	0.52 ± 0.37	5/21