

**Supplemental Table 2.** Marker information for microsatellite loci on *Populus* chromosome XIX, including marker name, repeat type, primer sequences, and PCR size expected from the *P. trichocarpa* genome sequence.

Locus <sup>1</sup>	Repeat type	Forward primer	Reverse primer	Expected size/ <i>P. trichocarpa</i>
con3.1	di	TAATATTATCAGGCTTTTCTAGTTTTT	AAAGGGCTTGAGAGAACCCTA	204
con49.1	tri	GATGGCTTTTGTGCCACTTT	TTGCATTTCAAAGCGTCAAG	250
con49.2	di	TGGAGGACAAAGACCAAACC	CAACGACAGCCAAACAGAGA	168
con52.4	di	TCAAACCTTTATGTTTCATCAGTT	AGCTAAAAGATAAGAGAAAAGCAA	300
con58.1	di	TAGCTGTGTTCCCTCGTCGTC	TACGGATGTCCTTGCTTGTG	269
Yin1	tri	AACCTCACCATCAACAGAAC	CCTAAAGGGAAAGGAATGTT	343
Yin2	tri	TGTCATCCGATCTACTCTCC	TGGGTGAATTATGGTAAAGG	344
O206	di	CCGTGGCCATTGACTCTTTA	GAACCCATTTGGTGCAAGAT	196
O276	tri	GCAGGAGAAAACACCAGGAA	TCGCGAAAGAGAAGAAAAGC	205

<sup>1</sup> Markers starting with 'con' were isolated from contigs 3-58 of scaffold 117 of *P. trichocarpa* genome assembly v.1, known to be homologous to chromosome XIX (Yin et al. 2008), markers Yin 1 and Yin 2 correspond to tri-repeats starting at positions 102637 and 112352 of chromosome XIX in Yin et al. (2009), markers starting with O refer to the ORPM marker panel available at <http://www.ornl.gov/sci/ipgc>.

**Supplemental Table 3.** Characteristics of microsatellite loci on *Populus* chromosome XIX in natural populations of *P. alba* and *P. tremula*, including locus name, repeat type, number of alleles (*A*), size range in base pairs, expected ( $H_E$ ) and observed ( $H_O$ ) heterozygosity and inbreeding coefficients ( $F_{IS}$ ).

Species/ Population	Locus	Repeat type	<i>A</i>	Size range (bp)	$H_E$	$H_O$	$F_{IS}$
<i>P. alba</i> / Danube	con49.2	di	11	467-502	0.854	0.865	-0.013
	con58.1	di	13	248-399	0.843	0.361	0.575**
	Yin1	tri	5	344-371	0.585	0.667	-0.142
	Yin2	tri	13	339-377	0.832	0.686	0.178
	O206	di	2	209-214	0.027	0.027	n.c.
	O276	tri	6	216-240	0.653	0.500	0.237
<i>P. alba</i> / Tisza	con 49.2	di	12	455-522	0.857	0.813	0.042
	con 58.1	di	15	244-408	0.921	0.387	0.584**
	Yin1	tri	5	344-355	0.652	0.719	-0.105
	Yin2	tri	11	344-372	0.760	0.750	0.013
	O206	di	1	209	0.000	0.000	n.c.
	O276	tri	9	215-240	0.606	0.516	0.150
<i>P. tremula</i> / Eastern Alps	con49.2	di	24	454-503	0.934	0.821	0.123
	con58.1	di	11	189-394	0.707	0.700	0.010
	Yin1	tri	6	344-356	0.702	0.703	-0.001
	Yin2	tri	11	339-366	0.855	0.825	0.036
	O206	di	4	205-214	0.515	0.400	0.238
	O276	tri	7	216-240	0.673	0.564	0.164
<i>P. tremula</i> / Sweden	con49.2	di	20	454-505	0.936	0.879	0.062
	con58.1	di	9	189-347	0.765	0.722	0.057
	Yin1	tri	6	344-356	0.612	0.700	-0.146
	Yin2	tri	12	339-360	0.778	0.806	-0.037
	O206	di	5	205-215	0.588	0.556	0.057
	O276	tri	6	216-240	0.620	0.556	0.105

\*\*Significant departures from HWE at the 0.01 level; n.c., not calculated.