

Description of Additional Supplementary Files

Supplementary Data 1: Explanation of all environmental gradients used in the present study and their mean value across the sampled range of pure *Pinus strobiformis* and *P. flexilis*. Seasons including winter, spring, summer and autumn encompass the following months: Winter = Jan, Feb & Dec; Spring = March to May; Summer = June to August; Autumn = September to November.

Supplementary Data 2: Summary statistics for Bayenv outlier SNPs associated with each of the 88 environmental gradients. Values in bold indicate significance at $p < 0.05$.

BF: median Bayes factor values across 3 replicate chains in Bayenv.

Noutliers: number of bayenv outliers as determined through the intersection of BF and $|\rho|$ detailed in the methods section of the main text.

Supplementary Data 3: Observed correlations for each pair of environmental gradients and the number of Bayenv outlier SNPs shared between them.

Overlap: Number of overlapping bayenv outlier SNPs, *perOverlap*: Percent overlapping

Supplementary Data 4: Putative functional annotation of freeze related dDocent contigs using *Pinus lambertiana* v.1.0 genome as the reference.

Column names are standard output from blastfmt 6.

PILALoc: name of the contig in *P. lambertiana* v.1.0 genome, *dDocentloc*: name of the contig in the denovo assembled genome used in this study.

Supplementary Data 5: Proportion of times sets of three, four, five and six Bayenv outliers were represented in the same OCs.

Supplementary Data 6: R^2 estimates and the corresponding p -values from the multiple matrix regression for D_{IS} and D_{ST} across the 88 environmental gradients. For gradients with 10 or fewer unique response values, only the R^2 is reported.

Supplementary Data 7: Fold enrichment (FE) estimates as obtained from genomic cline analyses for all 88 environmental gradients.

Supplementary Data 8: Loadings of all 88 environmental gradients on the top seven PC axes that were used as the environmental matrix in RDA.