
Table S1. Information of natural *Arabidopsis thaliana* accessions from the Swiss Alps used in this study.

Accession ID	Name	Nearest Locality	Altitude(m, a.s.l.)	Latitude (N)	Longitude (E)
E002	NAT	Naters	850	46° 19' 56.0"	07° 59' 12.0"
E004	AUS	Ausserberg	1000	46° 15' 50.4"	07° 52' 00.9"
E005	GEI	Geimen	1030	46° 20' 27.3"	07° 59' 02.6"
E006	RI1	Ritzingen	1360	46° 27' 37.3"	08° 13' 33.7"
E008	SF1	Saas Fee	1719	46° 06' 40.1"	07° 56' 04.5"
E015	SF2	Saas Fee	1730	46° 06' 38.6"	07° 56' 03.8"
E016	SF3	Saas Fee	1792	46° 06' 38.6"	07° 56' 03.8"
E017	SAB	Saas Fee	1949	46° 07' 26.3"	07° 55' 36.9"
E011	SAO	Saas Fee	2012	46° 06' 20.3"	07° 54' 35.0"
E007	BRA	Brail	2040	46° 39' 20.7"	10° 01' 07.6"
E018	VLA	Val Lavinuoz	2450	46° 49' 11.4"	10° 04' 52.0"
E012	ZIN	Zinal	2700	46° 09' 20.4"	07° 38' 40.0"

Table S2 and Table S3 are presented in two Excel files, separately.

Table S4. Multiple comparisons of plant height in *Arabidopsis thaliana* (11 accessions) at three transplant sites, S1 at 640m, S2 at 2000m and S3 at 2170m a.s.l., in a mixed model analysis including accession as a random factor and altitude of origin and site as fixed factors. P-values were adjusted for multiple comparisons to an overall alpha = 0.05 using false discovery rate control.

Test	Estimate	Std. error	z-Value	P-Values
S2 - S1 == 0	66.005	7.459	8.849	$< 2 * 10^{-16}$
S3 - S1 == 0	39.952	7.545	4.897	$4.16 * 10^{-6}$
S3 - S2 == 0	-29.042	7.497	-3.875	0.0001

Table S5. Mixed model analysis of altitude of origin effects on total seed number in 11 accessions of *Arabidopsis thaliana* at three transplant sites.

		S1: 640 m		S2: 2000 m		S3: 2170 m	
	df	Deviance	P-Value ^a	Deviance	P-Value ^a	Deviance	P-Value
Altitude model	4	220.32		147.35		136.04	0.2264
Intercept only model	3	221.28	0.3261	147.35	0.9789	137.50	0.2264

^aP-Value of a likelihood ratio test comparing the altitude model with the intercept only model; both models had accession as a random factor.

Table S6. Selection analysis for plant height in 11 *Arabidopsis thaliana* accessions at each of three transplant sites at different altitudes. We used mixed models on relative seed number as a fitness proxy with standardized plant height as a fixed effect and accession as a random effect. Selection on plant height was tested using a likelihood ratio tests the above model and one containing only the intercept as a fixed effect.

		Site					
		S1: 640 m		S2: 2000 m		S3: 2170 m	
	df	Deviance	P-Value	Deviance	P-Value	Deviance	P-Value
Plant height model	4	56.99		142.08		150.00	
Intercept only model	3	113.12	1.7×10^{-14}	146.37	0.0384	150.04	0.8481

Table S7 are presented in an Excel file, separately.