

Supplementary file for: Eidesen P.B., Müller E., Lettner C., Alsos I.G., Bender M., Kristiansen M., Peeters B., Postma F. & Verweij K.F. 2013. Tetraploids do not form cushions: association of ploidy level, growth form and ecology in the High Arctic *Saxifraga oppositifolia* L. s. lat. (Saxifragaceae) in Svalbard. *Polar Research* 32. Correspondence: Pernille Bronken Eidesen, University Centre in Svalbard, P.O. Box 156, NO-9171 Longyearbyen, Svalbard, Norway. E-mail: pernillee@unis.no.

Supplementary Table S1. Result of the fitting of environmental factors to non-metric multidimensional scaling (NMDS) based on 148 vegetation plots analysed near samples of *Saxifraga oppositifolia*, excluding plots with triploids, plots without vascular plant cover and the plots from Wijdefjorden (Location 5; Table 1). Significance values are based on 1000 permutations.

Environmental variables		NMDS1	NMDS2	r ²	Pr(>r)
Soil	soil pH	0.780	0.625	0.186	0.001
	soil temperature	1.000	-0.004	0.251	0.001
	loss on ignition	-0.834	-0.552	0.217	0.001
	conductivity	-0.237	0.971	0.158	0.002
	soil moisture	-0.648	-0.762	0.040	0.060
Cover	bryophyte cover	-0.883	0.470	0.168	0.001
	lichen cover	-0.328	-0.945	0.241	0.001
	coverage of litter	0.945	0.326	0.088	0.001
	vascular plant cover	0.226	0.974	0.117	0.001
	bare ground	-0.995	0.099	0.047	0.038
	Soil biological crust	0.584	-0.812	0.142	0.001

Supplementary Table S2. Test results of the Wilcoxon rank sum test (ploidy) and Kruskal-Wallis rank sum test (growth form) showing the presence (p) or absence (a) of significant differences in environmental factors in 163 plots where *Saxifraga oppositifolia* individuals with different ploidy levels and growth forms were sampled (six plots with triploids discarded).

Environmental variables	Soil pH	Soil temperature	Loss on ignition	Conductivity	Soil moisture	Cover					Soil biological crust
						Bryophytes	Lichens	Litter	Vascular plants	Bare ground	
Ploidy	p	p	a	a	a	a	p	a	p	p	a
Growth form	p	p	a	a	a	a	p	p	p	p	a

Supplementary Table S3. Correlation of environmental factors associated with 163 vegetation plots tested with correlation tests after Spearman (6 plots with triploids discarded), Rs values are given, significance codes: 0 '***' 0.001 '**' 0.01 '*' 0.05.

Environmental variables	Cover										
	Soil pH	Soil temperature	Loss on ignition	Conductivity	Soil moisture	Bryophytes	Lichens	Litter	Vascular plants	Bare ground	Soil biological crust
Soil pH	-										
Soil temperature	-0.146	-									
Loss on ignition	-0.498***	0.403***	-								
Conductivity	0.253***	-0.295***	0.197*								
Soil moisture	-0.260**	-0.041	0.490***	0.239**	-						
Bryophytes	-0.328***	-0.258***	0.185*	0.184*	0.421***	-					
Lichens	-0.586***	-0.040	0.372***	-0.211**	0.295***	0.124	-				
Litter	-0.140	0.319***	0.479***	0.284***	0.246**	-0.004	-0.057	-			
Vascular plants	0.067	0.245**	0.269***	0.276***	0.297***	0.154*	-0.298***	0.276***	-		
Bare ground	0.178*	-0.355***	-0.432***	-0.215**	-0.493***	-0.198**	-0.007	-0.473***	-0.546***	-	
Soil biological crust	-0.028	0.560***	0.214**	-0.204**	-0.023	-0.370***	0.092	0.001	-0.090	-0.218**	-