SUPPLEMENTARY DATA

TABLE S1. Relative fluorescence intensities of DAPI-stained nuclei (with *Pisum sativum* 'Ctirad' used as internal reference standard for FCM) of 5033 silica gel-dried leaf samples of *Senecio carniolicus* from 100 sample localities. Numbers of individuals upon which the presented mean values are based are given in the Appendix in the main text.

		Relative fluorescence intensity (mean ± s.d.)							
Code	Locality (Country)	2*x*	3*x*	4*x*	5*x*	6*x*	7*x*	8*x*	9*x*
1	Cima dell Uomo (CH)	0.837 ± 0.004							
2	Pizzo di Gino (IT)	0.817 ± 0.010							
3	Campanile di Val Marina (IT)	0.833 ± 0.009							
4	Monte Legnone (IT)	0.813 ± 0.013							
5	Passo Locino (IT)	0.825 ± 0.014				2.230 ± 0.028			
6	Monte Verrobbio (IT)	0.820 ± 0.007	1.219						
7	Cima Cadelle (IT)					2.200 ± 0.033			
8	Laghi Gemelli (IT)					2.178 ± 0.056			
9	Pizzo di Coca (IT)			1.502 ± 0.019		2.273			
10	Monte Colombine (IT)	0.802 ± 0.018				2.211 ± 0.050			
11	Bocchetta Vicima (IT)					2.242 ± 0.018			
12	Bocchetta della Forbici (IT)					2.238 ± 0.017			
13	Diavolezza, Munt Pers (CH)					2.216 ± 0.035			
14	Monte Vago (IT)					2.255 ± 0.025			3.307
15	Piz Nair (CH)					2.211 ± 0.026			
16	Sandhubel (CH)					2.221 ± 0.044			
17	Flüela Schwarzhorn (CH)					2.216 ± 0.031			
18	Hohes Rad (AT)					2.191 ± 0.025			
19	Arlensattel (AT)					2.211 ± 0.028			
20	Monte Verva (IT)			1.491 ± 0.010	1.813 ± 0.060	2.194 ± 0.045			
21	Monte di Gavia (IT)			1.486 ± 0.023	1.840				
22	Monte Serodine (IT)			1.521 ± 0.014					
23	Cresta del Belvedere (IT)	0.820 ± 0.007		1.497 ± 0.024					
24	Cima Valletta (IT)	0.809		1.498 ± 0.023	1.899 ± 0.035				
25	Cima Cavaion (IT)			1.499 ± 0.021	1.824				
26	Stilfser Joch (IT)			1.469 ± 0.029		2.154 ± 0.049			
27	Laaser Spitze (IT)					2.236 ± 0.016			
28	Watles (IT)					2.215 ± 0.038			
29	Steinmandlköpfl, Mittereck (IT)					2.217 ± 0.024			
30	Piz Lad (IT)					2.216 ± 0.031	2.494		3.338
31	Fisser Joch, Brunnenkopf (AT)					2.224 ± 0.023	2.421		
32	Hohe Aifnerspitze (AT)					2.162 ± 0.039			
33	Riffljoch (AT)					2.158 ± 0.042			
34	Gaislachkogel (AT)					2.152 ± 0.026			3.311
35	Schröfwand (IT)	0.819 ± 0.003				2.224 ± 0.020			
36	Festkogel (AT)	0.788 ± 0.012				2.162 ± 0.046			
37	Vermoispitze (IT)					2.239 ± 0.051			
38	Naturnser Hochwart (IT)	0.805 ± 0.011				2.220 ± 0.029		2.780 ± 0.056	3.353
39	Monte Ziolera (IT)	0.802 ± 0.016				2.220 ± 0.037			
40	Cima D'Asta (IT)	0.814		1.535 ± 0.022	1.844 ± 0.058	2.197 ± 0.038			
41	Cavallazza Piccola (IT)	0.811 ± 0.008				2.238 ± 0.035			
42	Col Margherita (IT)					2.210 ± 0.034			
43	Pre de Ciapel (IT)	0.807 ± 0.010				2.208 ± 0.034	2.483		
44	Sarner Scharte (IT)	0.803 ± 0.012							
45	Schrotthorn (IT)	0.791 ± 0.023				2.192 ± 0.050			

46	Plose (IT)	0.810 ± 0.012				2.229 ± 0.028		
47	Schrankogel (AT)	0.796 ± 0.013				2.168 ± 0.042		
48	Rietzer Grießkogel (AT)	0.798 ± 0.007				2.197 ± 0.035		
49	Habicht (AT)	0.783 ± 0.010	1.172					
50	Nößlachjoch, Eggersteller (AT)	0.789 ± 0.010						
51	Patscherkofel, Viggarspitze (AT)					2.189 ± 0.035		
52	Saurüssel (AT)	0.788 ± 0.006						
53	Rauchkofel (IT)	0.796 ± 0.014						
54	Speikboden (IT)	0.805 ± 0.009						
55	Sambock (IT)	0.792 ± 0.025				2.199 ± 0.038		3.252
56	Kronplatz (IT)					2.207 ± 0.033		
57	Antholzer Scharte (IT)	0.805 ± 0.013						
58	Almerhorn (AT)	0.812 ± 0.012				2.172 ± 0.029		
59	Riepenspitz (IT)	0.812 ± 0.029				2.159 ± 0.021		
60	Toblacher Pfannhorn (IT)	0.816 ± 0.007				2.165 ± 0.024		
61	Donnerstein (AT)					2.142 ± 0.019		
62	Gölbner (AT)	0.810 ± 0.006				2.145 ± 0.016		
63	Col Quaternà (IT)	0.810 ± 0.012				2.162 ± 0.031		
64	Monte Peralba (IT)					2.095 ± 0.050		
65	Monte Crostis (IT)					2.117 ± 0.038		
66	Schleinitz (AT)	0.769 ± 0.004				2.154 ± 0.026		
67	Kalser Höhe (AT)					2.125 ± 0.036		
68	Schönleitenspitze (AT)	0.741 ± 0.007				2.032 ± 0.047		
69	Kapruner Törl (AT)	0.754 ± 0.001						
70	Sadnig (AT)	0.760 ± 0.009				2.130 ± 0.028		
71	Scharnik (AT)	0.742 ± 0.014				2.138 ± 0.021		
72	Polinik (AT)	0.726 ± 0.019				2.066 ± 0.057		
73	Dolzer, Gaugen (AT)					2.070 ± 0.029		
74	Gmeineck (AT)	0.750 ± 0.015				2.084 ± 0.022		
75	Reißeck (AT)	0.755 ± 0.013				2.088 ± 0.008		
76	Ankogel (AT)	0.760 ± 0.007	1.110					
77	Großer Hafner (AT)	0.758 ± 0.020				2.163 ± 0.020		
78	Belščica (AT / SLO)	0.778 ± 0.011						
79	Rosennock (AT)	0.762 ± 0.014		1.468	1.799	2.116 ± 0.033		
80	Bretthöhe (AT)	0.754 ± 0.011		1.472 ± 0.035		2.134 ± 0.043	2.590	
81	Wandspitze (AT)			1.479 ± 0.033	1.787 ± 0.049	2.127 ± 0.074		
82	Balonspitze (AT)	0.740 ± 0.008				2.058 ± 0.018		
83	Seekarspitze (AT)			1.427 ± 0.019				
84	Zechnerkarspitze (AT)			1.431 ± 0.010	1.767 ± 0.014	2.046 ± 0.043		
85	Trockenbrotscharte (AT)			1.440 ± 0.026	1.804 ± 0.059			
86	Preber (AT)	0.746 ± 0.012		1.429 ± 0.016		2.046 ± 0.018		
87	Predigstuhl (AT)	0.752 ± 0.018		1.434 ± 0.013		2.068 ± 0.034		
88	Deneck (AT)			1.447 ± 0.028				
89	Großer Knallstein (AT)	0.728 ± 0.015		1.431 ± 0.014				
90	Hochrettelstein (AT)			1.487 ± 0.041				
91	Hohenwart (AT)			1.453 ± 0.011				
92	Schießeck (AT)	0.765 ± 0.011	1.138 ± 0.016	1.458 ± 0.019	1.797	2.121 ± 0.054		
93	Großer Bösenstein (AT)			1.455 ± 0.018	1.790 ± 0.015			
94	Gamskogel (AT)			1.449 ± 0.025	1.779 ± 0.036			
95	Großer Ringkogel (AT)	0.759 ± 0.009			1.770 ± 0.010	2.143 ± 0.034		
96	Seckauer Zinken (AT)	0.758 ± 0.009		1.434 ± 0.025	1.790 ± 0.021	2.104 ± 0.054		
97	Zirbitzkogel (AT)	0.759		1.460 ± 0.013		2.130 ± 0.017		
98	Saualpe (AT)					2.124 ± 0.032		
99	Ameringkogel (AT)					2.139 ± 0.038		
100	Roßbachkogel (AT)					2.077 ± 0.015		

TABLE S2. Mean relative fluorescence intensities (per monoploid genome) of individual ploidy levels of *Senecio carniolicus* (relative to *Pisum sativum* 'Ctirad') in the present study and in our previous work (Suda *et al.*, 2007). Note the stability of fluorescence values in polyploids, indicating the absence of genome downsizing.

DNA ploidy level	Mean fluorescence per monoploid genome (Suda et al. 2007)	Mean fluorescence per monoploid genome (present study)
2*x*	0.395	0.393
3*x*	–	0.387
4*x*	0.375	0.367
5*x*	0.367	0.361
6*x*	0.359	0.359
7*x*	0.360	0.357
8*x*	–	0.348
9*x*	–	0.368

FIG. S1. The spatial distribution of individuals of *Senecio carniolicus* within selected mixed populations illustrates that cytotypes can be largely separated from each other with only a small contact zone (population 20) as well as strongly intermingled (population 86). These patterns did not obviously depend on the combination of cytoypes occurring in a particular population. Diploid, tetraploid and hexaploid individuals are given as yellow, red and blue dots, respectively. Numbers refer to the population number in the Appendix in the main text.

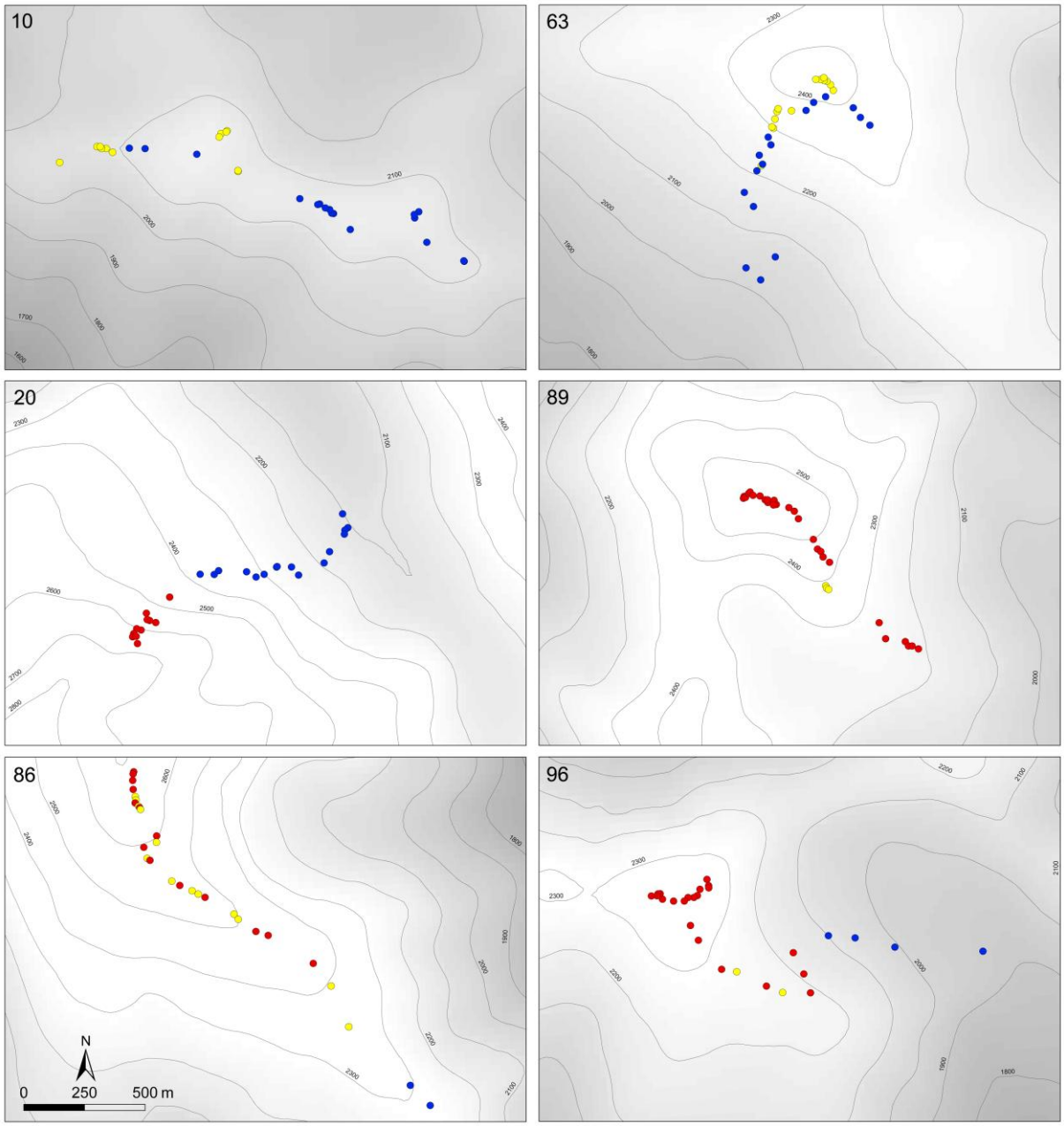

FIG. S2. Mean relative fluorescence intensities of DNA-diploid, DNA-triploid, DNA-tetraploid, DNA-pentaploid and DNA-hexaploid samples of *Senecio carniolicus* (using *Pisum sativum* 'Ctirad', 2C = 9.09 pg as a unit value). Note the marked discontinuity in fluorescence values resulting in distinct separation of putative triploid and pentaploid plants.

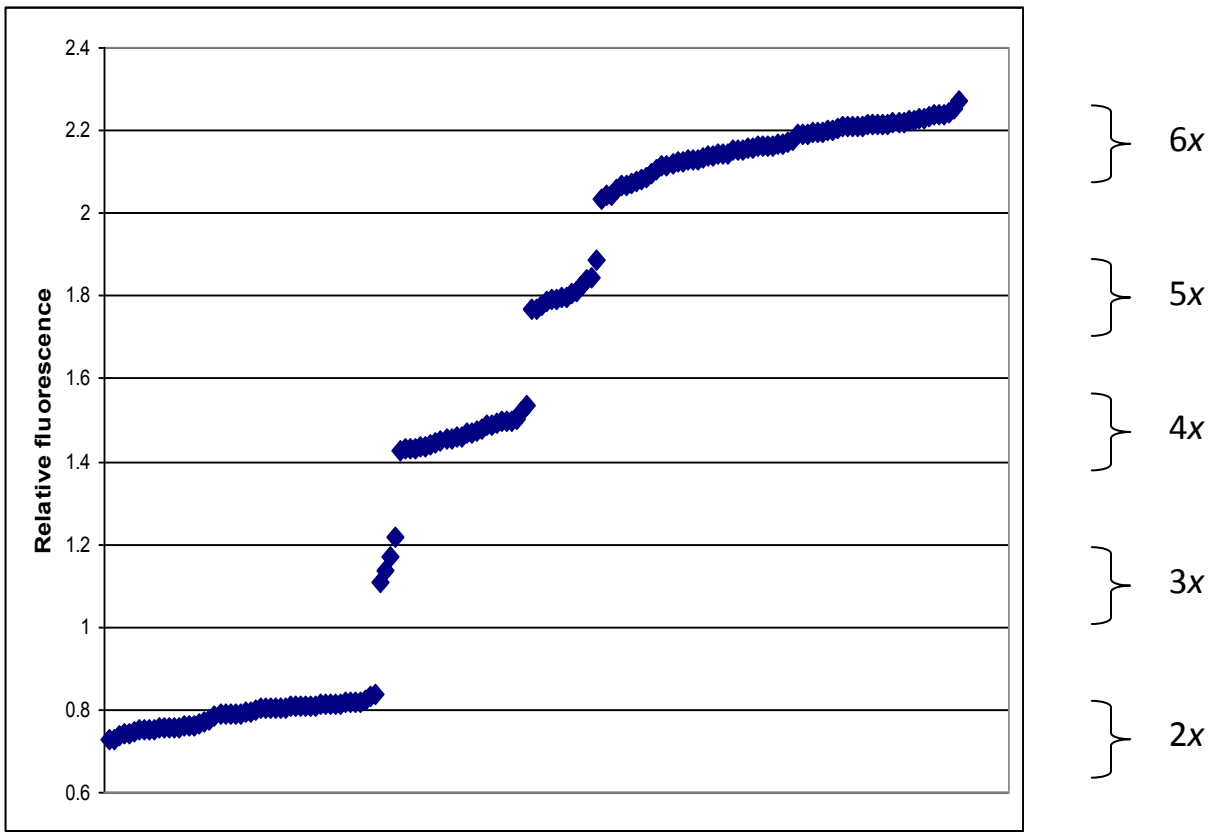

FIG. S3. Mean relative fluorescence intensities of DNA-hexaploid, DNA-heptaploid, DNA-octoploid and DNA-enneaploid samples of *Senecio carniolicus* (using *Pisum sativum* 'Ctirad', 2C = 9.09 pg as a unit value). Note the marked discontinuity in fluorescence values between different DNA ploidy levels.