

**Supplementary material**

Table S1. Historical information. Species presence and absence in the historical data are summarized. Also, the table shows how the coarser resolution of Good’s patches from the 1930s (Good 1948) translates into our sectors by giving the number of instances for each value of HistShareBO/BN (number of sectors with which any individual sector shared Good’s data, see text for further details). Note, that HistShareBO/BN was always assigned “0” when the species was absent from a Good patch. The spatial distribution of Good patches is visualised by the non-missing data (i.e. non-grey points) in Fig. 2b.

Value for HistShare BO/BN		Instances			
		<i>B. oleracea</i>		<i>B. nigra</i>	
		Sectors	Good’s patches	Sectors	Good’s patches
0	Species absent	100	48	98	49
	Species present	6	6	4	4
1		4	2	8	4
2		9	3	3	1
3		0	0	0	0
4		10	2	10	2
5		0	0	6	1
6		0	0	0	0
7		8	1	8	1
Totals	≠ 0	31	8	35	9
	Species present	37	14	39	13
	All	137	62	137	62

Table S2. Descriptive statistics comparing the environmental conditions in the full data set and our 137 sector subset covered by historical records for continuous variables (a), for categorical variables (b) and separately for texture (c, including rank score for the amount of fine particles).

(a)

		mean	median	min	max	variance
Full data set	pH (score)		7.8	4.2	8.8	
	P (mg l <sup>-1</sup> )	8.7	5	2	138	181
	K (mg l <sup>-1</sup> )	396	353	79	1520	5.1×10 <sup>4</sup>
	Mg (mg l <sup>-1</sup> )	303	270	65	926	2.5×10 <sup>4</sup>
	Nitrogen (g/100 g)	0.69	0.68	0.08	1.54	6.1
	Elevation (m)	57.1	44	0	167	1.7×10 <sup>3</sup>
137 sector data set covering historical records	pH (score)		7.8	4.2	8.8	
	P (mg l <sup>-1</sup> )	8.3	5	2	114	151
	K (mg l <sup>-1</sup> )	358	328	79	1520	4.5×10 <sup>4</sup>
	Mg (mg l <sup>-1</sup> )	296	250	65	926	2.5×10 <sup>4</sup>
	Nitrogen (g/100 g)	0.65	0.66	0.08	1.50	6.1
	Elevation (m)	56.1	44	0	167	1.8×10 <sup>3</sup>

(b)

Abiotic variables			Vegetation types		
dataset	% sectors recorded			% sectors recorded	
	full set	137 sector		full set	137 sector
none	53%	54%	Brach1	51%	54%
South	21%	21%	Festu2	42%	38%
East	11%	12%	Shrub3	44%	52%
West	21%	19%	Arrhe4	9%	10%
North	2%	4%	CirGa5	10%	2%
			Wood6	5%	6%
			Agrop7	5%	1%

(c)

Texture description	Rank score	Full set	137 sector
Loamy sand (LS)	1	1.5%	1.5%
Sandy loam (SL)	2	0.5%	0%
Sandy silt loam (SZL)	3	6%	8%
Silt loam (ZL)	4	75%	77%
Silty clay loam (ZCL)	5	17%	12%
Silty clay (ZC)	6	1%	2%

Table S3. Correlation among abiotic data. The direction of correlation (+/-), as well as its significance is indicated (p<0.05: \*; p<0.01: \*\*; p<0.001: \*\*\*). Blank cells indicate no significant correlation.

	pH	P	K	Mg	Nitrogen
P					
K	+**	+***			
Mg			+***		
Nitrogen*100	+**				
Elevation			-**	-**	+**

Table S4. Overview of correlations among vegetation data (a) and between vegetation and abiotic data (b) performed on the larger 203 sector data set. For details see caption Table 2 in main manuscript.

(a)

	Brach1	Festu2	Shrub3	Arrhe4	CirGa5	Wood6	Agrop7
Occurrences	51%	42%	44%	9%	10%	5%	5%
Brach1	#	−***		−**	−**	−**	
Festu2	−***	#			+**	−*	−*
Shrub3			#	+*	−*		#
Arrhe4	−**		+*	#	#	#	
CirGa5	−**	+**	−*	#	#	#	+**
Wood6	−**	−*		#	#	#	#
Agrop7		−*	#		+*	#	#
concordants C	63%	58%	64%	67%	85%	66%	50%
discordants	10%	11%	18%	11%	5%	9%	6%
Ties	28%	30%	18%	22%	10%	25%	44%
Somer's D	0.53	0.47	0.45	0.56	0.80	0.58	0.44
GKG	0.73	0.67	0.55	0.72	0.88	0.77	0.78

(b)

	Brach1	Festu2	Shrub3	Arrhe4	CiGa5	Wood6	Agrop7
Occurrences	51%	42%	44%	9%	10%	5%	5%
P	−***					+**	
Mg	−***	+*			−*	+*	
N	+**		−*	−*			
K			−*		+***	−*	+**
pH	+*		−***				
South			+***			#	#
East		+**				#	#
North					#	#	#
West						#	#
None		+***		−*		#	#
elevation			−**				
concordance C	88%	67%	80%	70%	79%	69%	79%
discordants	12%	32%	19%	29%	20%	29%	19%
ties	~0%	1%	~0%	1%	1%	2%	2%
Somer's D	0.75	0.35	0.61	0.41	0.58	0.40	0.61
GKG	0.76	0.35	0.61	0.41	0.59	0.41	0.62

Table S5. Correlations among *Brassica* data for the different monitoring years.  $\chi^2$ -test is based on our 200 m sectors and the value for  $\chi^2$  is given in the table along with significance (DF=1; all correlations identified as positive, p<0.05: \*; p<0.01: \*\*; p<0.001: \*\*\*).

		1930s	2003	2005	2006
<i>B. oleracea</i>	2003	40***			
	2005	41***	110***		
	2006	34***	114***	120***	
	2007	31***	102***	108***	140***
<i>B. nigra</i>	2003	10**			
	2005	4*	106***		
	2006	9**	134***	105***	
	2007	14***	108***	93***	103***