

Table S1. Geographical coordinates phytosociological releves.

Number	National Park	Forest Stand	Number Phytosociological Photos	Latitude	Longitude
1	KNP	Czerwińskie Góry	1.	52.3388	20.3957
		Czerwińskie Góry	2.	52.3433	20.3945
		Czerwińskie Góry	3.	52.3394	20.4071
		Czerwińskie Góry	4.	52.3442	20.4102
Wilków		5.	52.3560	20.5456	
Wilków		6.	52.3576	20.5416	
Wilków		7.	52.3635	20.5442	
Wilków		8.	52.3677	20.5431	
Granica		9.	52.2903	20.4723	
Granica		10.	52.2874	20.4681	
Granica		11.	52.2913	20.4676	
Granica		12.	52.2907	20.4630	
Sieraków		13.	52.3358	20.7756	
Sieraków		14.	52.3369	20.7781	
Sieraków		15.	52.3366	20.7733	
Sieraków		16.	52.3354	20.7789	
5	Gacno	17.	53.79492	17.56533	
	Gacno	18.	53.79247	17.56562	
	Gacno	19.	53.78946	17.56669	
	Gacno	20.	53.78699	17.5678	
6	Płesno	21.	53.81643	17.55527	
	Płesno	22.	53.81611	17.5603	
	Płesno	23.	53.81644	17.54976	
	Płesno	24.	53.81442	17.55642	
7	Mielnica	25.	53.80356	17.52121	
	Mielnica	26.	53.80545	17.52057	
	Mielnica	27.	53.80682	17.52184	
	Mielnica	28.	53.80799	17.52008	
8	Kocioł	29.	53.81754	17.57947	
	Kocioł	30.	53.81648	17.58472	
	Kocioł	31.	53.81819	17.58984	
	Kocioł	32.	53.8225	17.587	

Table S2. Phytosociological relevés. Name of study plots: M (Mielnica-BT NP.), Ga (Gacno-BT NP.), K (Kocioł-BT NP.), P (Płesno BT NP.), P (Płesno-BT NP.), C (Sieraków-K NP.), Gr (Granica-K NP.), W (Wilków-K. NP.), CG (Czerwińskie Góry-K NP.), numbers denote the ordinal number within the a single study plots.

[illegible]

<i>Anemone nemorosa</i> L.	0.1																																
<i>Betula pendula</i> Roth	0.1											0.1	0.1	0.1	0.1										0.1	0.1							
<i>Bidens frondosa</i> L.																							5	0.1									
<i>Calamagrostis arundinacea</i> (L.) Roth	0.1	5	5											0.1														5					
<i>Calamagrostis epigejos</i> (L.) Roth											0.1															0.1	5						
<i>Calluna vulgaris</i> (L.) Hull	0.1	0.1			0.1	5	0.1	0.1	0.1	0.1	0.1	0.1	37.5		17.5																		
<i>Campanula rotundifolia</i> L.	0.1																																
<i>Carex ericetorum</i> Pollich.											0.1																						
<i>Carpinus betulus</i> L.											0.1															0.1							
<i>Convallaria majalis</i> L.	0.1	0.1	0.1											0.1	5	17.5	0.1	5	5	17.5	0.1	17.5	0.1				17.5	5	17.5	5			
<i>Corylus avellana</i> L.																					17.5	5	0.1										
<i>Deschampsia caespitosa</i> (L.) P.Beauv.																					0.1												
<i>Avenella flexuosa</i> (L.) Drejer	17.5	5	17.5	17.5	17.5	5	5	5	0.1	0.1	17.5	5	0.1	5	37.5	17.5											0.1						

<i>Dryopteris carthusiana</i> (Vill.) H.P.Fuchs	0.1		0.1	5								0.1		0.1	5	0.1	0.1	0.1		0.1	0.1	0.1		5	0.1	0.1		
<i>Euonymus verrucosus</i> Scop.																												
<i>Fagus sylvatica</i> L.	0.1																											
<i>Fallopia convolvulus</i> (L.) Á. Löve				5																								
<i>Festuca ovina</i> L.												0.1	0.1	5							5	5	0.1	5		0.1		0.1
<i>Fragaria vesca</i> L.	0.1																											
<i>Frangula alnus</i> Mill.	0.1	0.1	0.1					0.1		0.1		0.1	17.5	0.1	0.1	17.5	0.1	0.1	5	0.1	0.1	17.5	17.5	5		5		
<i>Galeopsis bifida</i> Boenn.									0.1				0.1		0.1							5	0.1	5		5		
<i>Galium album</i> Mill.				0.1																								
<i>Galium verum</i> L.				0.1																								
<i>Geranium robertianum</i> L.																										0.1		
<i>Juniperus communis</i> L.	0.1	0.1	0.1	0.1	0.1		0.1	0.1										0.1				5	0.1			0.1		
<i>Lathyrus linifolius</i> (Reichard) Bässler				0.1																								
<i>Luzula lutea</i> DC.									0.1													0.1						
<i>Luzula pilosa</i> Willd.	0.1		0.1	0.1					0.1						0.1	0.1	0.1	5				5	5		0.1			

[illegible]

Quercus petraea (Matt.) Liebl.	0.1		0.1																														0.1																																
Quercus robur L.	0.1	0.1	0.1		0.1		0.1				0.1				0.1		5.0	5.0	0.1			0.1		0.1		0.1			0.1	0.1	5.0																																		
Quercus rubra L.	0.1																																																																
Rubus idaeus L.	5.0		5.0																														0.1	0.1	0.1																													0.1	0.1
Rubus saxatilis L.	0.1																																																																
Rumex acetosa L.																													0.1																																				
Rumex acetosella L.																													0.1	0.1	0.1																														5.0				
Sambucus nigra L.																															0.1																																		
Sorbus aucuparia L.	0.1	0.1		0.1																														0.1	0.1	0.1			0.1	0.1	0.1	0.1	0.1			0.1			0.1			0.1													
Stellaria graminea L.	0.1		0.1																																																														
Lysimachia europaea (L.) U.Manns & Anderb.	0.1	0.1		0.1																														0.1	0.1	5.0		0.1	5.0	5.0	5.0	5.0	0.1	0.1	0.1	17.5	5.0	5.0	5.0																
Urtica dioica L.	0.1																																																																
Vaccinium myrtillus L.	37.5	37.5	37.5	37.5	37.5	62.5	62.5	17.5	62.5	62.5	37.5	62.5	5.0	37.5	0.1	37.5	62.5	37.5	37.5	87.5	5.0	87.5	62.5	37.5	62.5	87.5	62.5	17.5	62.5	17.5	62.5	62.5																																	
Vaccinium vitis-idaea L.	5.0	5.0	0.1	0.1	5.0	5.0	5.0	0.1	5.0	5.0	0.1	5.0	17.5		5.0	5.0	5.0	5.0	17.5	17.5			0.1	0.0	5.0	5.0	17.5	5.0	0.1	0.1	5.0																																		
Vicia cracca L.	0.1																																																																
Viola reichenbachiana Jordan ex Bor.	0.1																																																																

D	<i>Brachythecium starkii</i> W.P.Schimper	0.1																												
	<i>Cladonia arbuscula</i> (Wallr.) Flot.	0.1																												
	<i>Cladonia furcata</i> (Huds.) Schrad.	0.1																												
	<i>Cladonia rangiferina</i> (L.) Weber ex F.H.Wigg.	0.1		0.1				0.1	0.1		0.1	0.1																		
	<i>Dicranum polysetum</i> Swartz	5	37.5		5	17.5	17.5	37.5	0.1	5	5	5	17.5	17.5	17.5	5	0.1	0.1	0.1	0.1		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	<i>Dicranum scoparium</i> Hedw.	0.1	0.1	0.1		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1														
	<i>Herzogiella seligeri</i> Iwatsuki															5	0.1													
	<i>Hylocomium splendens</i> W.P.Schimper	5	5		17.5	37.5	37.5	17.5	62.5	37.5	17.5	17.5		5																
	<i>Hypnum cupressiforme</i> Hedw.	5	5		0.1	5	0.1	5	0.1	17.5	5	5	0.1	0.1																
	<i>Leucobryum glaucum</i> Ångström	0.1											5	0.1	0.1		5													
<i>Orthodicranum montanum</i> (Hedw.) Loeske	0.1																													

<i>Oxyrrhynchium hians</i> (Hedw.) Loeske	5.0																														
<i>Plagiomnium affine d</i> (Blandow ex Funck) T.J.Kop.	5.0 5.0																														
<i>Plagiothecium curvifolium</i> Schlieph. ex Limpr.	0.1 0.1																														
<i>Pleurozium schreberi</i> Mitten	62.5	62.5	37.5	37.5	62.5	37.5	37.5	37.5	37.5	37.5	62.5	62.5	62.5	62.5	37.5	17.5	87.5	62.5	62.5	0.1		17.5	87.5	37.5	37.5	62.5	87.5	62.5	37.5	87.5	62.5
<i>Pohlia nutans</i> Lindberg	0.1 0.1																														
<i>Polytrichastrum formosum</i> G.L.Smith	0.1 5.0 0.1 0.1																														
<i>Polytrichum juniperinum</i> Hedw.	0.1																														
<i>Pseudoscleropodiu m purum</i> Fleischer	5.0	0.1	62.5	17.5		5.0								0.1	37.5					0.1											

Forest areas: Bory Tucholskie National Park: M – Mielnica; P – Plesno; Ga – Gacno; K – Kocioł; Kampinos National Park: CG – Czerwińskie Góry; Gr – Granica; W – Wilków; S – Sieraków; 1-4 – number of Phytosociological relevé; A – tree layer; B – skrub layer; C – herb layer; D – moss and lichen layer.

Table S3. Null alleles analyses by Micro-Checker v2.2.3. (van Oosterhout i in. 2004[1]).

Locus	Null	Oosterhout	Chakraborty	Brookfield 1	Brookfield 2
	Present				
3107	yes	0.2603	0.3603	0.234	0.2723
4363	yes	0.1429	0.1758	0.1245	0.1245
11.4	no	0.0143	0.0187	0.0171	0.0171
11.6	yes	0.2128	0.2676	0.2005	0.2005
7.14	yes	0.1474	0.1734	0.1429	0.1429

Reference:

1. Van Oosterhout C. Hutchinson W.F.. Wills D.P.M.. Shipley P. MICRO-CHECKER – software for identifying and correcting g enotyping errors in microsatellite data. **2004**; Molecular Ecology Notes 4: 535-538.