



Supplement B. Population variability coefficients (PV) of selected species meeting selection criteria (see Table 7) from 13 European sites where bird assemblage dynamics were studied. Explanations: 1 – Šrámková NNR, this study; 2 – Białowieża NP, plot CM; 3 – Białowieża NP, plot K; 4 – Białowieża NP, plot L; 5 – Białowieża NP, plot MS; 6 – Białowieża NP, plot NE; 7 – Białowieża NP, plot NW; 8 – Białowieża NP, plot W; 9 – Gaisatjakke and Valle Mts, 10 – Estenstad forest, 11 – Birdsong valley, 12 – Dalby Söderskog NP, 13 – Bookham Common. More details regarding the study sites and citations of studies are given in Table 7.

Species	1	2	3	4	5	6	7	8	9	10	11	12	13	Mean
<i>Acrocephalus palustris</i>											0.602			0.602
<i>Anthus trivialis</i>										0.270	0.606			0.438
<i>C. coccothraustes</i>		0.318	0.341	0.491	0.341			0.286						0.355
<i>Carduelis flammea</i>									0.591					0.591
<i>Carduelis spinus</i>										0.280				0.280
<i>Certhia familiaris</i>	0.250	0.219	0.181	0.214	0.218	0.242	0.205	0.209				0.533	0.424	0.270
<i>Columba oenas</i>	0.511											0.252		0.382
<i>Columba palumbus</i>	0.409	0.417	0.407					0.368				0.244	0.493	0.390
<i>Parus caeruleus</i>		0.356	0.302	0.322	0.330			0.294			0.451	0.302	0.256	0.327
<i>Dendrocopos major</i>			0.393	0.393	0.419			0.441				0.374	0.220	0.373
<i>Dendrocopos medius</i>					0.237			0.306						0.272
<i>Emberiza schoeniclus</i>									0.294					0.294
<i>Erithacus rubecula</i>	0.199	0.201	0.198	0.245	0.206	0.224	0.220	0.187		0.148	0.448	0.431	0.207	0.243
<i>Ficedula albicollis</i>	0.263	0.359	0.376	0.341	0.353			0.373						0.344
<i>Ficedula hypoleuca</i>				0.428					0.484		0.595	0.489		0.499
<i>Fringilla coelebs</i>	0.192	0.183	0.219	0.171	0.224	0.193	0.191	0.193		0.115	0.228	0.178	0.418	0.209
<i>Fringilla montifringilla</i>									0.355	0.535				0.445
<i>Garrulus glandarius</i>													0.276	0.276
<i>Hippolais icterina</i>											0.460			0.460
<i>Parus cristatus</i>						0.225	0.292							0.259
<i>Luscinia luscinia</i>											0.373	0.321		0.347
<i>Luscinia svecica</i>									0.548					0.548
<i>Muscicapa striata</i>			0.221	0.336				0.410						0.322
<i>Parus major</i>		0.297	0.238	0.229	0.329			0.282			0.327	0.285	0.287	0.284
<i>Parus ater</i>	0.256					0.397	0.381						0.432	0.367
<i>Phoenicurus phoenicurus</i>									0.428					0.428
<i>Phylloscopus collybita</i>	0.165	0.511	0.249	0.299		0.468	0.504	0.298		0.160			0.461	0.346
<i>Phylloscopus sibilatrix</i>	0.471	0.624	0.372	0.494	0.456	0.316	0.300	0.380						0.427
<i>Phylloscopus trochilus</i>									0.279	0.366	0.335	0.504	0.668	0.430
<i>Parus montanus</i>										0.136				0.136
<i>Parus palustris</i>		0.348	0.210	0.280	0.285			0.360			0.399	0.262	0.350	0.312
<i>Prunella modularis</i>	0.153	0.287	0.253	0.228		0.443	0.401	0.450	0.298	0.123	0.446	0.431	0.544	0.338
<i>Pyrrhula pyrrhula</i>													0.293	0.293
<i>Regulus regulus</i>	0.133	0.312	0.346	0.365		0.370	0.368	0.280		0.360				0.317
<i>Sitta europaea</i>	0.404	0.307	0.261	0.235	0.335			0.303			0.625	0.389	0.435	0.366
<i>Sturnus vulgaris</i>			0.370					0.562			0.664		0.650	0.562
<i>Sylvia atricapilla</i>	0.241	0.375	0.289	0.258	0.440		0.627	0.312			0.469	0.242	0.319	0.357
<i>Sylvia borin</i>			0.398								0.273	0.401	0.543	0.404
<i>Sylvia communis</i>											0.404			0.404
<i>Troglodytes troglodytes</i>	0.225	0.252	0.229	0.220	0.223			0.274			0.671	0.622	0.391	0.345
<i>Turdus iliacus</i>									0.461	0.159				0.310
<i>Turdus merula</i>	0.233	0.329	0.253	0.281	0.336	0.401		0.287		0.254	0.237	0.289	0.232	0.285
<i>Turdus philomelos</i>	0.269	0.266	0.244	0.299	0.282	0.317	0.273	0.209		0.205		0.374	0.383	0.284
<i>Turdus pilaris</i>									0.558			0.705		0.632

Supplement C. Observed and simulated values of three quantitative indices for estimating species associations derived from three null models. Density data matrices of three foraging guilds were used for testing. The computations were carried out in the package Turnover 1.0 (Ulrich 2010). One-tailed probability value at the threshold level  $\alpha = 0.05$  computed from the null model distribution are given in parenthesis behind the simulated index values. Description of indices and algorithms is in Ulrich & Gotelli (2010). In parenthesis, there are given abbreviations of indices and algorithms as it is in Turnover manual. The number of analysed species within each guild is given in parenthesis behind the guild name.

	CA <sub>ST</sub> (WCS)	AA <sub>ST</sub> (WTog)	MA (Chao)
<b>Flycatchers (3)</b>			
Observed	0.10	0.38	0.89
IT (rc)	0.12 (0.67)	0.16 (0.01)	0.61 (0.01)
IA (aa)	0.10 (0.96)	0.25 (0.12)	0.61 (0.01)
IR (ss)	0.05 (0.20)	0.06 (0.01)	0.25 (0.01)
<b>Foliage foragers (9)</b>			
Observed	0.08	0.52	0.96
IT (rc)	0.09 (0.59)	0.27 (0.01)	0.86 (0.01)
IA (aa)	0.08 (0.95)	0.29 (0.01)	0.86 (0.01)
IR (ss)	0.07 (0.70)	0.16 (0.01)	0.62 (0.01)
<b>Litter foragers (4)</b>			
Observed	0.04	0.57	0.96
IT (rc)	0.15 (0.01)	0.26 (0.01)	0.77 (0.01)
IA (aa)	0.13 (0.03)	0.34 (0.01)	0.75 (0.01)
IR (ss)	0.05 (1.00)	0.06 (0.01)	0.22 (0.01)