

For plot

bipartite

networks

Bombus spp

Species plants	B.veteran	B.campestris	B.rupestris	B.vestalis	B.muscorum	B.praetorum	B.argillaceus	B.sylvestris	B.bohemicus	B.sylvarum	B.humilis	B.soroeensis	B.subterraneus	B.hypnorum	B.hortorum	B.ruderarum	B.pascuorum	B.lapidarium	Blu/Bte	
Rhinanthus vernus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	51	92
Echium vulgare	0	0	0	0	0	1	0	0	1	1	0	2	0	3	0	5	0	0	53	64
Cirsium arvense	1	0	3	1	0	2	0	0	0	1	0	1	0	4	0	1	9	0	42	63
Trifolium pratense	0	0	0	0	0	0	0	0	0	1	0	4	3	1	0	25	2	0	34	48
Spirea L.	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	14	0	29	67
Tilia L.	0	0	0	0	0	0	0	0	0	0	0	1	0	7	0	4	2	0	31	52
Trifolium repens	0	0	0	1	0	0	0	1	0	0	0	2	6	5	0	10	9	0	23	37
Centaurea jacea	0	0	0	0	0	2	0	2	0	2	0	0	0	0	0	7	3	0	35	40
Aesculus hippocastanum	0	0	0	0	0	0	2	0	0	0	0	0	1	4	5	0	2	12	12	43
Vicia L.	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	14	4	0	14	29
Solidago canadensis	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	3	23	34	34
Symphytum officinale	0	0	0	0	2	0	0	1	0	3	0	1	0	0	0	4	0	0	14	31
Eryngium planum	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	17	33
Lamium L.	0	0	0	0	0	0	6	0	0	0	0	2	2	14	3	0	2	12	7	7
Betonica officinalis	0	1	0	0	0	0	0	0	1	0	0	0	0	1	3	0	3	9	25	25
Hosta L.	0	0	0	0	0	0	0	0	0	0	0	0	0	12	2	0	13	3	13	13
Securigeria varia	0	0	0	0	0	2	0	0	0	0	0	3	0	2	0	0	6	13	16	16
Dahlia L.	1	3	1	2	0	0	0	0	1	0	0	3	0	5	0	0	4	4	4	17
Malus L.	0	0	0	0	0	4	2	0	0	0	0	0	0	4	4	0	5	7	12	12
Cephalaria gigantea	0	0	0	0	0	0	0	0	1	0	0	4	0	0	0	0	2	13	17	17
Inula britannica	0	0	0	2	0	0	0	1	0	2	0	0	0	0	0	0	0	13	19	19
Knautia arvensis	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3	3	7	23	23
Gypsophila L.	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	3	4	25	25
Asclepias syriaca	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	30	30
Pulmonaria L.	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	7	12	9	9
Cytisus Desf.	0	0	0	0	0	0	0	0	0	0	21	0	0	1	0	0	2	3	2	2
Taraxacum officinale	0	0	1	0	0	0	0	0	1	0	0	0	0	2	0	0	3	7	12	12
Melilotus alba	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	2	2	3	15	15
Origanum vulgare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	1	13	13
Salix L.	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	6	5	9	9
Arctium lappa	0	0	0	0	0	0	0	0	1	0	0	0	1	2	1	0	8	3	4	4
Robinia pseudoacacia	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	3	2	13	13
Veronica L.	0	0	0	1	0	0	0	1	1	7	0	0	0	3	0	0	2	5	0	0
Tagetes L.	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	2	5	7	7
Crepis setosa	0	0	0	0	0	0	0	1	0	0	0	2	0	1	0	0	10	2	2	2
Malva L.	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	3	2	8	8
Rudbeckia hirta	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	5	7	7	7
Salvia L.	0	0	0	0	0	0	0	0	0	0	0	2	0	0	3	0	7	2	0	0
Prunus L.	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0	4	2	3	3
Cichorium intybus	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	3	4	4
Glechoma hederacea	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	2	3	2	2
Leonurus cardiaca	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	4	1	1
Corydalis DC.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	3	5	5
Lavatera L.	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	3	2	3	3
Lotus corniculatus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	2	3	2	2
Rosa L.	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	2	1	4	4
Filipendula ulmaria	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	5	3	3	3
Linaria vulgaris	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	4	4	4
Onopordium acris	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0	0	2	1	3	3
Stachys recta	0	0	0	0	0	0	0	0	1	0	0	0	0	5	0	0	0	3	0	0
Aegopodium podagraria	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	2	3	3
Prunella vulgaris	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	0	0	2	0	0
Amorpha fruticosa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5	5	5
Forsythia Vahl	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	1	1	2	2
Medicago sativa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	2	2	2
Melampyrum nemorosum	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	2	2	2
Scilla bifolia	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	3	2	0	0
Viola L.	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	1	3	0	0
Genista tinctoria	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	0	0	1	1
Lythrum salicaria	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0	1	1	1
Digitalis grandiflora	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0
Tussilago farfara	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0

Bumblebees species occurring in Kyiv

	Site Bot.gard	Site Theofaniy	Site Nykyi	Site Babin yar	Site KPI	Site Part.slava	Site Peremoha	Site Lysa hora	Site Sovky	Site Svyatoshin	Site Hydropark	Site Trukhaniv	Site Muromets	Site Zhukiv	Site Teremki	Site Vinogradai	Site Zabolotno	Site Druzhby Ni	Site Saperno-Sl	Site Zakrevskol	Site Mayakovskoho	
Bombus subterraneus (Linnaeus,1758)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bombus veteranus (Fabricius,1793)	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Bombus campestris (Panzer,1801)	1	1	0	0	0	0	0	2	0	1	0	0	0	1	0	0	0	0	0	0	0	0
Bombus rupestris (Fabricius,1793)	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0
Bombus vestalis (Geoffroy,1785)	1	1	0	0	0	0	0	1	0	0	0	1	1	1	0	0	0	0	0	0	0	0
Bombus muscorum Linnaeus, 1758	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bombus pratorum (Linnaeus,1761)	2	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bombus argillaceus (Scopoli, 1763)	3	2	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bombus sylvestris (Lepeletier,1832)	0	2	0	0	0	0	0	3	0	0	0	0	2	2	0	0	0	0	0	0	0	0
Bombus bohemicus (Seidl,1837)	1	0	0	0	0	0	0	2	0	0	2	0	2	2	0	0	0	0	0	0	0	0
Bombus sylvorum (Linnaeus,1761)	3	0	0	0	0	0	0	0	0	0	0	0	3	2	0	0	0	0	0	0	0	0
Bombus humilis Illiger, 1806	0	7	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bombus soroeensis (Fabricius,1777)	13	3	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0
Bombus hortorum (Linnaeus,1761)	5	5	0	0	0	5	0	2	0	0	0	0	6	5	0	0	0	0	0	0	0	0
Bombus hyperorum (Linnaeus,1758)	11	11	16	15	0	13	7	9	3	14	15	20	2	2	2	2	0	0	0	0	0	0
Bombus ruderarius (Müller, 1776)	31	15	0	0	0	0	0	5	0	0	0	0	10	10	0	0	0	0	0	0	0	0
Bombus pascuorum (Scopoli, 1763)	13	13	23	17	4	17	24	23	14	16	12	4	12	9	12	7	1	2	1	1	1	0
Bombus lapidarius (Linnaeus,1758)	81	30	32	37	14	31	33	77	32	36	41	33	38	42	14	21	1	4	1	3	2	2
Bombus (Bombus) lucorum [L., 1761]/B. terrestris (Linnaeus)	134	90	47	45	33	61	43	98	55	72	49	74	47	54	26	32	3	1	3	5	6	6
	302	181	120	114	51	127	107	234	104	141	119	134	126	132	54	62	5	7	5	9	8	8

Species diversity indicators of bumblebee groups on the model territories

Taxa_S	Bot.gard.	Feofaniya	Nyuki	Babin yar	KPI	Part_slava	Peremoha	Lysa hora	Sovky	Svyatoshin	Hydropark	Trukhaniv	Muromets	Zhukiv	Teremki	Vinogradar	Zabolotno	Druzhby N	Saperno-SI	Zakrevskol	Mayakovskoho		
Individuals	301	181	120	114	51	127	107	234	104	141	119	134	126	132	54	62	5	7	5	9	5	8	
Dominance	0.2869	0.2933	0.2793	0.3007	0.5002	0.3202	0.3112	0.2969	0.3933	0.3489	0.3146	0.3891	0.2494	0.2865	0.3498	0.3949	0.44	0.4286	0.44	0.4321	0.625	0.625	
Simpson 1	0.7131	0.7067	0.7207	0.6993	0.4998	0.6798	0.6888	0.7031	0.6067	0.6511	0.6854	0.6109	0.7506	0.7135	0.6502	0.6051	0.56	0.5714	0.56	0.5679	0.375	0.375	
Shannon H	1.623	1.69	1.373	1.283	0.8362	1.326	1.243	1.565	1.072	1.264	1.294	1.161	1.728	1.588	1.158	1.065	0.9503	0.9557	0.9503	0.9369	0.5623	0.5623	
Evenness	0.3622	0.4167	0.7895	0.9017	0.7692	0.7534	0.8663	0.3679	0.7302	0.5896	0.7292	0.5322	0.4692	0.4449	0.796	0.7253	0.8621	0.8668	0.8621	0.8507	0.8774	0.8774	
Brillouin	1.55	1.581	1.304	1.222	0.7644	1.259	1.181	1.48	1.013	1.198	1.226	1.096	1.593	1.469	1.059	0.9792	0.5991	0.6649	0.5991	0.6914	0.4165	0.4165	
Menhinick	0.8069	0.9663	0.4564	0.3746	0.4201	0.4437	0.3867	0.8498	0.3922	0.5053	0.4583	0.5183	1.069	0.9574	0.5443	0.508	1.342	1.134	1.342	1	0.7071	0.7071	
Margalef	2.278	2.308	0.8355	0.6334	0.5087	0.8257	0.642	2.2	0.6459	1.01	0.837	1.021	2.274	2.048	0.7521	0.7269	1.243	1.028	1.243	0.9102	0.4809	0.4809	
Equitabilit	0.6152	0.6588	0.8352	0.9253	0.7611	0.8241	0.8965	0.6101	0.7731	0.7052	0.8037	0.648	0.6955	0.6622	0.8355	0.7683	0.865	0.8699	0.865	0.8528	0.8113	0.8113	
Fisher alp	3.04	3.21	1.054	0.8068	0.6965	1.039	0.8198	2.968	0.8258	1.272	1.056	1.289	3.261	2.853	0.9976	0.955	3.167	1.989	3.167	1.576	0.8559	0.8559	
Berger-Par	0.4452	0.4972	0.3917	0.3947	0.6471	0.4803	0.4019	0.4188	0.5288	0.5106	0.4118	0.5522	0.373	0.4091	0.4815	0.5161	0.6	0.5714	0.6	0.5556	0.75	0.75	
Chao-1	15	14	5	4	3	5	4	13,25	4	6	5	6	12,2	11	4	4	4	3	4	3	4	2	2

