

## ON-LINE SUPPLEMENTARY MATERIAL

Stančić Z., Fiket Ž.: Pollination patterns of flora and vegetation in northern Croatia with reference to *Apis mellifera*. Acta Bot Croat, DOI: 10.37427/botcro-2022-030.

**On-line Suppl. Mat.** Data collected during studying pollination patterns of flora and vegetation in the Bedekovčina area (Excel table).

<https://hrcak.srce.hr/supplement/436>

**On-line Suppl. Tab. 1.** Habitat groups associated with habitat types according to the National Habitat Classification (NKS) of the Republic of Croatia (Anonymous, 2018) and phytosociological affiliation according to Mucina et al. (2016).

Habitat abbreviation	Habitat group	NKS (Anonymous, 2018) code/s	Code/s and syntaxon/syntaxa name/s according to Mucina et al. (2016)
Forest veg.	forest unaffected by flooding	E.3., E.4., E.9.	FAG <i>Carpino-Fageteta sylvaticae</i> Jakucs ex Passarge 1968 QUE <i>Querceteta robori-petraeae</i> Br.-Bl. et Tx. ex Oberd.1957 ROB <i>Robinietaea</i> Jurko ex Hadač et Sofron1980
Scrub veg.	scrubland unaffected by flooding	D.1.	RHA <i>Crataego-Pruneteta</i> Tx. 1962
Flood F&S veg.	floodplain forest and scrubland	E.1., E.2.	PUR <i>Saliceteta purpureae</i> Moor 1958 ALN <i>Alneteta glutinosae</i> Br.-Bl. et Tx. ex Westhoff et al. 1946 FRA <i>Franguletea</i> Doing ex Westhoff in Westhoff et Den Held 1969
F-edge veg.	forest-edge vegetation	I.1.5., C.5.1.	EPI <i>Epilobieteta angustifolii</i> Tx. et Preising ex von Rochow 1951 GER <i>Trifolio-Geranietaea sanguinei</i> T. Müller 1962
Grass veg.	wet and mesic grassland	C.2.	MOL <i>Molinio-Arrhenatheretea</i> Tx. 1937
Dry grass veg.	dry grassland	C.3.	FES <i>Festuco-Brometea</i> Br.-Bl. et Tx. ex Soó 1947
Aqu veg.	aquatic freshwater vegetation	A.3.	LEM <i>Lemneteta</i> O. de Bolòs et Masclans 1955 POT <i>Potamogetonetea</i> Klika in Klika et Novák 1941
Marsh veg.	marsh vegetation	A.4.	PHR <i>Phragmito-Magnocaricetea</i> Klika in Klika et Novák 1941
Ruderal veg.	ruderal vegetation	I.1.3., I.1.4., I.1.7.	POL <i>Polygono-Poetea annuae</i> Rivas-Mart. 1975 ART <i>Artemisieteta vulgaris</i> Lohmeyer et al. in Tx. Ex von Rochow1951 BID <i>Bidentetea</i> Tx. et al. ex von Rochow1951 SIS <i>Sisymbrietea</i> Gutte et Hilbig 1975
Weed veg.	weed vegetation	I.1.6.	PAR <i>Papaveretea rhoeadis</i> S. Brullo et al. 2001 CHE <i>Chenopodieteta</i> Br.-Bl. in Br.-Bl. et al. 1952 DIG <i>Digitario sanguinalis-Eragrostietaea minoris</i> Mucina, Lososová et Šilc 2016
Wall veg.	vegetation of walls	B.1.	ASP <i>Asplenietaea trichomanis</i> (Br.-Bl. In Meier et Br.-Bl. 1934) Oberd. 1977

**On-line Suppl. Tab. 2.** Representation of plant families in the flora of Bedekovčina.

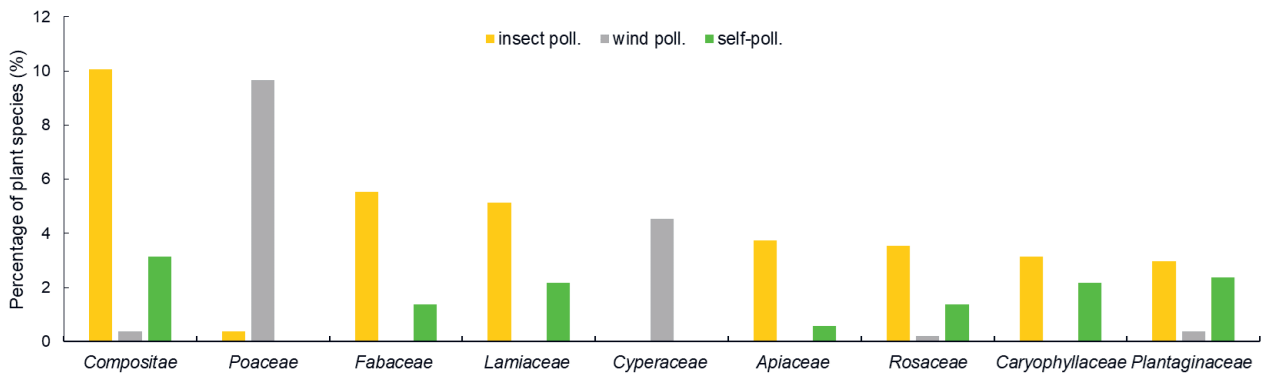
No.	Family	Number of species	No.	Family	Number of species
1	<i>Compositae</i>	54	51	<i>Corylaceae</i>	2
2	<i>Poaceae</i>	51	52	<i>Crassulaceae</i>	2
3	<i>Fabaceae</i>	28	53	<i>Cucurbitaceae</i>	2
4	<i>Lamiaceae</i>	26	54	<i>Dryopteridaceae</i>	2
5	<i>Cyperaceae</i>	23	55	<i>Ericaceae</i>	2
6	<i>Apiaceae</i>	19	56	<i>Gentianaceae</i>	2
7	<i>Rosaceae</i>	18	57	<i>Iridaceae</i>	2
8	<i>Caryophyllaceae</i>	17	58	<i>Moraceae</i>	2
9	<i>Plantaginaceae</i>	17	59	<i>Oleaceae</i>	2
10	<i>Brassicaceae</i>	16	60	<i>Orchidaceae</i>	2
11	<i>Ranunculaceae</i>	16	61	<i>Solanaceae</i>	2
12	<i>Juncaceae</i>	11	62	<i>Vitaceae</i>	2
13	<i>Polygonaceae</i>	11	63	<i>Anacardiaceae</i>	1
14	<i>Euphorbiaceae</i>	8	64	<i>Araceae</i>	1
15	<i>Rubiaceae</i>	8	65	<i>Araliaceae</i>	1
16	<i>Salicaceae</i>	8	66	<i>Athyriaceae</i>	1
17	<i>Boraginaceae</i>	7	67	<i>Berberidaceae</i>	1
18	<i>Primulaceae</i>	7	68	<i>Butomaceae</i>	1
19	<i>Geraniaceae</i>	6	69	<i>Cannabaceae</i>	1
20	<i>Amaryllidaceae</i>	5	70	<i>Celastraceae</i>	1
21	<i>Liliaceae</i>	5	71	<i>Ceratophyllaceae</i>	1
22	<i>Onagraceae</i>	5	72	<i>Colchicaceae</i>	1
23	<i>Asparagaceae</i>	4	73	<i>Commelinaceae</i>	1
24	<i>Dipsacaceae</i>	4	74	<i>Dennstaedtiaceae</i>	1
25	<i>Fagaceae</i>	4	75	<i>Haloragaceae</i>	1
26	<i>Malvaceae</i>	4	76	<i>Juglandaceae</i>	1
27	<i>Oxalidaceae</i>	4	77	<i>Lentibulariaceae</i>	1
28	<i>Papaveraceae</i>	4	78	<i>Loranthaceae</i>	1
29	<i>Sapindaceae</i>	4	79	<i>Lythraceae</i>	1
30	<i>Scrophulariaceae</i>	4	80	<i>Melanthiaceae</i>	1
31	<i>Viburnaceae</i>	4	81	<i>Montiaceae</i>	1
32	<i>Violaceae</i>	4	82	<i>Phytolaccaceae</i>	1
33	<i>Apocynaceae</i>	3	83	<i>Pinaceae</i>	1
34	<i>Campanulaceae</i>	3	84	<i>Polygalaceae</i>	1
35	<i>Chenopodiaceae</i>	3	85	<i>Polypodiaceae</i>	1
36	<i>Equisetaceae</i>	3	86	<i>Portulacaceae</i>	1
37	<i>Lemnaceae</i>	3	87	<i>Potamogetonaceae</i>	1
38	<i>Orobanchaceae</i>	3	88	<i>Resedaceae</i>	1
39	<i>Typhaceae</i>	3	89	<i>Rhamnaceae</i>	1
40	<i>Valerianaceae</i>	3	90	<i>Saxifragaceae</i>	1
41	<i>Alismataceae</i>	2	91	<i>Simaroubaceae</i>	1
42	<i>Amaranthaceae</i>	2	92	<i>Staphyleaceae</i>	1
43	<i>Aristolochiaceae</i>	2	93	<i>Ulmaceae</i>	1
44	<i>Aspleniaceae</i>	2	94	<i>Urticaceae</i>	1
45	<i>Balsaminaceae</i>	2	95	<i>Verbenaceae</i>	1
46	<i>Betulaceae</i>	2			
47	<i>Caprifoliaceae</i>	2			
48	<i>Clusiaceae</i>	2			
49	<i>Convolvulaceae</i>	2			

**On-line Suppl. Tab. 3.** Percentages of plant species in the flora of Bedekovčina useful for *Apis mellifera*.

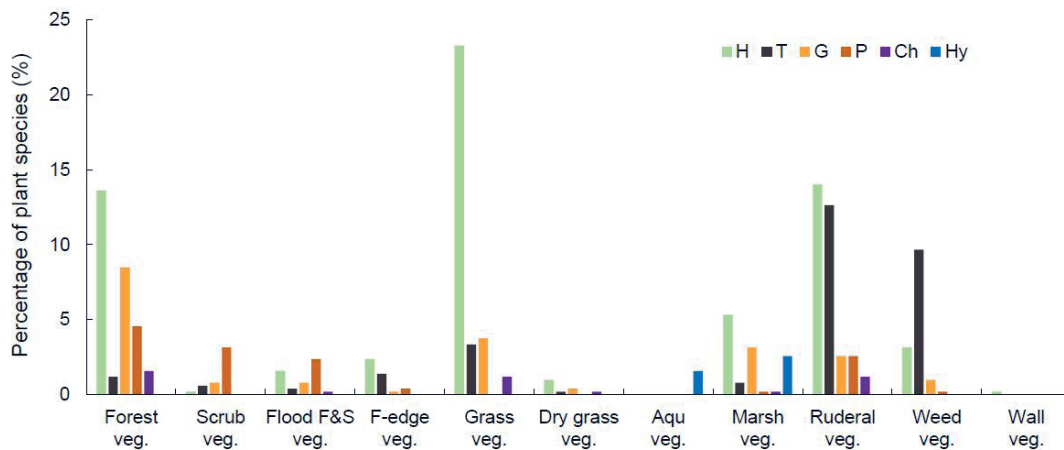
	Total number of plant species useful to <i>Apis mellifera</i>	Source of nectar	Source of pollen	Source of honeydew	Source of propolis
Number of species	276	240	259	21	7
as %	54	47	51	4	1



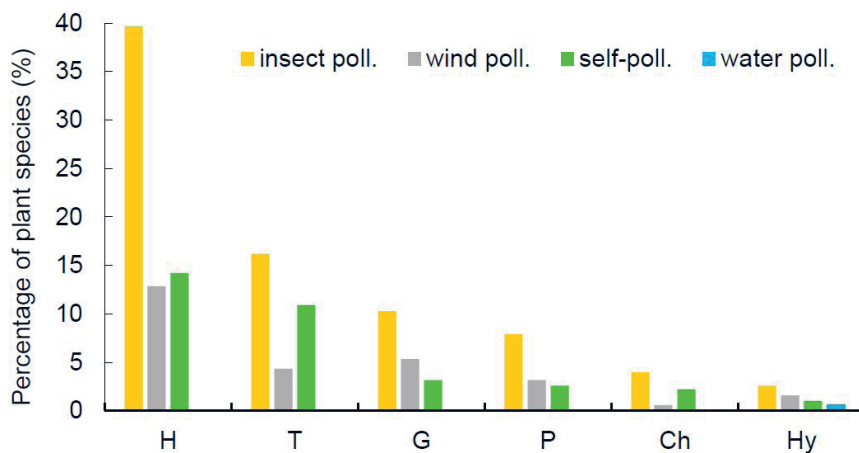
On-line Suppl. Fig. 1. Map of the position of the investigated area of Bedekovčina in the northern Croatia.



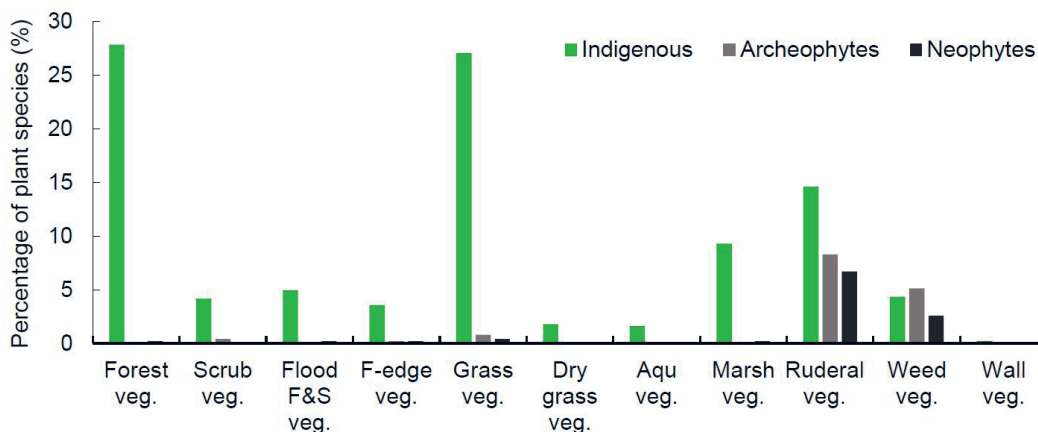
On-line Suppl. Fig. 2. Percentages of pollination modes by plant family. Only plant families with 17 or more plant species are shown.



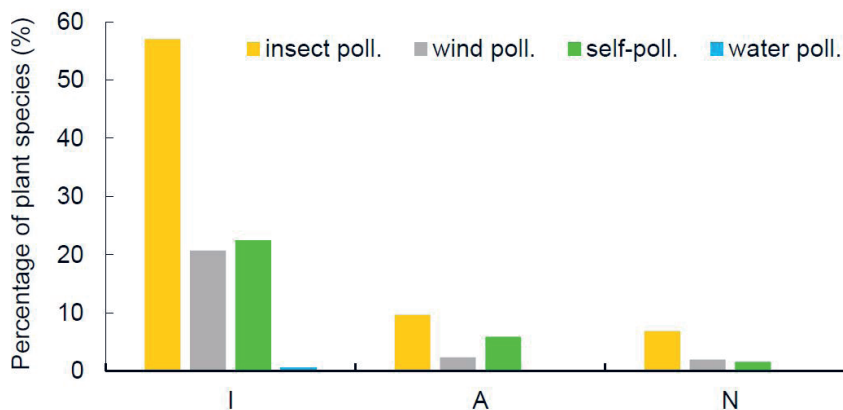
On-line Suppl. Fig. 3. Percentages of life forms by habitat group. Abbreviations: H – hemicryptophytes; T – therophytes; G – geophytes; P – phanerophytes; Ch – chamaephytes; Hy – hydrophytes. Abbreviations of habitat groups are explained in On-line Suppl. Tab. 1.



**On-line Suppl. Fig. 4.** Proportion of pollination modes as dependent on life form. Abbreviations: H – hemicryptophytes; T – therophytes; G – geophytes; P – phanerophytes; Ch – chamaephytes; Hy – hydrophytes.



**On-line Suppl. Fig. 5.** Distribution of plant species depending on their origin and habitat type. Abbreviations of habitat groups are explained in On-line Suppl. Tab. 1.



**On-line Suppl. Fig. 6.** Percentage contribution of pollination modes by origin. Abbreviations: I – indigenous plant species; A – archaeophytes; N – neophytes.