

Supplementary Information

A citizen science supported study on seasonal diversity and monoflorality of pollen collected by honey bees in Austria

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Supplementary Table S1: Occurrence of all 239 pollen types and their growth-form for 2014, 2015 and for both years combined in alphabetical order. Occurrence of positively tested pollen samples and its proportional frequency [%] is based on a sample size of n=804 in 2014, n=818 in 2015 and n=1622 for both years combined. The maximum contribution in a sample is based on ~500 analysed pollen grains per positively tested sample. Explanatory notes are found at the end of the table.

Supplementary Table S2: Abundance of all 239 pollen forms [%] identified in 2014, 2015 and for both years combined in alphabetical order. The relative abundance depends on the total number of analysed pollen grains: n=401603; n=409001; n=810604 for 2014, 2015 and for both years, respectively. Explanatory notes are found at the end of the table.

Supplementary Table S3: Number and frequency of partially (>50% comprised of one pollen type) and highly (>90%) monofloral pollen samples collected in Austria in 2014 and 2015 combined (n=1622 pollen samples). *Form cryptic groups, not further differentiable by light microscopy.

Table S1: Occurrence of all 239 pollen types and their growth-form for 2014, 2015 and for both years combined in alphabetical order. Occurrence of positively tested pollen samples and its proportional frequency [%] is based on a sample size of n=804 in 2014, n=818 in 2015 and n=1622 for both years combined. The maximum contribution in a sample is based on ~500 analysed pollen grains per positively tested sample. Explanatory notes are found at the end of the table.

		2014			2015			Both years		
Species	Growth-form	Occurrence of positively tested pollen samples	% of positively tested pollen samples	Maximum contribution of pollen type in a sample [%]	Occurrence of positively tested pollen samples	% of positively tested pollen samples	Maximum contribution of pollen type in a sample [%]	Occurrence of positively tested pollen samples	% of positively tested pollen samples	Maximum contribution of pollen type in a sample [%]
<i>Acer</i> spp.	Tree	256	31.8	87.2	183	22.4	91.2	439	27.1	91.2
<i>Achillea</i> -form ¹	Herb	271	33.7	63.4	187	22.9	51.6	458	28.2	63.4
<i>Aesculus hippocastanum</i>	Tree	129	16.0	77.0	105	12.8	45.8	234	14.4	77.0
<i>Aesculus x carnea</i>	Tree	31	3.9	31.2	18	2.2	45.4	49	3	45.4
<i>Ailanthus altissima</i>	Tree	17	2.1	3.0	22	2.7	24.6	39	2.4	24.6
<i>Ajuga</i> spp.	Herb	5	0.6	13.0	0	0.0	0.0	5	0.3	13.0
<i>Allium</i> spp.	Herb	77	9.6	3.2	78	9.5	6.0	155	9.6	6.0
<i>Alnus</i> spp.	Tree	8	1.0	0.6	8	1.0	0.4	16	1	0.6
<i>Ambrosia</i> spp.	Herb	5	0.6	40.0	8	1.0	9.4	13	0.8	40.0
<i>Amorpha fruticosa</i>	Shrub	103	12.8	28.4	85	10.4	54.6	188	11.6	54.6
<i>Anemone</i> spp., <i>Clematis</i> spp., <i>Pulsatilla</i> spp., <i>Ranunculus</i> spp.*	UGF**	2	0.2	12.4	418	51.1	65.0	420	25.9	65.0
Apiaceae	UGF**	296	36.8	70.8	247	30.2	88.8	543	33.5	88.8
<i>Arctium</i> spp.	Herb	53	6.6	16.4	52	6.4	6.8	105	6.5	16.4
<i>Artemisia</i> spp.	Herb	25	3.1	12.2	26	3.2	17.6	51	3.1	17.6
<i>Aruncus dioicus</i>	Herb	69	8.6	38.4	46	5.6	32.0	115	7.1	38.4
<i>Asparagus officinalis</i>	Herb	17	2.1	61.4	14	1.7	20.0	31	1.9	61.4
<i>Asperula</i> spp., <i>Cruciata</i> spp., <i>Galium</i> spp.*	Herb	19	2.4	12.4	7	0.9	0.8	26	1.6	12.4

Asteraceae	UGF**	408	50.7	83.6	407	49.8	82.4	815	50.2	83.6
<i>Atriplex</i> spp., <i>Bassia</i> spp., <i>Chenopodium</i> spp., <i>Suaeda</i> spp.*	UGF**	100	12.4	16.0	109	13.3	60.2	209	12.9	60.2
<i>Atropa bella-</i> <i>donna</i>	Herb	31	3.9	2.8	14	1.7	1.2	45	2.8	2.8
<i>Begonia</i> spp.	Herb	62	7.7	78.6	50	6.1	46.0	112	6.9	78.6
Berberidaceae	UGF**	51	6.3	4.8	60	7.3	8.8	111	6.8	8.8
<i>Betula</i> spp.	Tree	71	8.8	58.2	29	3.5	40.8	100	6.2	58.2
Boraginaceae	UGF**	1	0.1	1.6	2	0.2	0.2	3	0.2	1.6
<i>Borago</i> <i>officinalis</i>	Herb	6	0.7	1.2	1	0.1	8.6	7	0.4	8.6
<i>Brassica</i> spp.	Herb	95	11.8	79.0	80	9.8	82.2	175	10.8	82.2
Brassicaceae	UGF**	339	42.2	80.0	375	45.8	79.4	714	44	80.0
<i>Buddleja</i> spp., <i>Cyclamen</i> spp., <i>Primula</i> spp.*	UGF**	136	16.9	65.4	119	14.5	66.6	255	15.7	66.6
<i>Buxus</i> <i>sempervirens</i>	Shrub	28	3.5	19.6	56	6.8	22.2	84	5.2	22.2
<i>Calluna vulgaris</i>	Shrub	14	1.7	26.6	42	5.1	64.4	56	3.5	64.4
<i>Calystegia</i> spp.	Climber/ creeper	114	14.2	0.8	85	10.4	1.6	199	12.3	1.6
<i>Campanula</i> spp., <i>Jasione</i> spp., <i>Legousia</i> spp., <i>Phyteuma</i> spp.*	Herb	72	9.0	2.8	42	5.1	4.6	114	7	4.6
<i>Cannabis sativa</i>	Herb	1	0.1	0.2	11	1.3	70.6	12	0.7	70.6
<i>Carpinus</i> <i>betulus</i>	Tree	38	4.7	6.2	18	2.2	1.0	56	3.5	6.2
Caryophyllaceae	UGF**	194	24.1	5.4	133	16.3	10.0	327	20.2	10.0
<i>Castanea sativa</i>	Tree	51	6.3	92.8	55	6.7	91.6	106	6.5	92.8
<i>Catalpa</i> spp.	Tree	4	0.5	0.2	3	0.4	0.2	7	0.4	0.2
<i>Centaurea</i> <i>jacea</i> -form	Herb	211	26.2	46.8	150	18.3	26.2	361	22.3	46.8

<i>Centaurea scabiosa</i>	Herb	3	0.4	1.6	4	0.5	0.4	7	0.4	1.6
<i>Cercis siliquastrum</i>	Tree	4	0.5	7.8	0	0.0	0.0	4	0.2	7.8
<i>Cirsium</i> spp., <i>Carduus</i> spp., <i>Silybum</i> spp.*	Herb	317	39.4	35.0	320	39.1	48.6	637	39.3	48.6
<i>Cistus</i> spp.	Shrub	0	0.0	0.0	1	0.1	0.2	1	0.1	0.2
<i>Citrus</i> spp.	Tree	3	0.4	1.4	0	0.0	0.0	3	0.2	1.4
<i>Clinopodium vulgare</i>	Herb	0	0.0	0.0	1	0.1	0.2	1	0.1	0.2
<i>Colchicum autumnale</i>	Herb	23	2.9	1.2	13	1.6	2.8	36	2.2	2.8
<i>Colchicum</i> spp.	Herb	19	2.4	1.4	22	2.7	2.0	41	2.5	2.0
<i>Convolvulus</i> spp.	Herb	132	16.4	3.4	105	12.8	24.8	237	14.6	24.8
<i>Cornus sanguinea</i>	Shrub	155	19.3	20.6	127	15.5	37.6	282	17.4	37.6
<i>Corylus avellana</i>	Shrub	14	1.7	9.8	2	0.2	0.2	16	1	9.8
<i>Cotinus coggygria</i>	Shrub	9	1.1	46.8	4	0.5	54.6	13	0.8	54.6
<i>Cotoneaster</i> spp.	Shrub	3	0.4	30.8	0	0.0	0.0	3	0.2	30.8
<i>Crocus</i> spp.	Herb	25	3.1	3.0	13	1.6	1.4	38	2.3	3.0
<i>Cucurbita pepo</i>	Climber/ creeper	16	2.0	0.4	14	1.7	0.2	30	1.8	0.4
Cucurbitaceae	UGF**	4	0.5	0.8	13	1.6	1.0	17	1	1.0
<i>Cyanus montanus</i>	Herb	1	0.1	0.2	1	0.1	0.4	2	0.1	0.4
<i>Cyanus segetum</i>	Herb	98	12.2	60.0	78	9.5	18.0	176	10.9	60.0
<i>Cyanus triumfetti</i>	Herb	0	0.0	0.0	26	3.2	24.0	26	1.6	24.0
Cyperaceae	UGF**	79	9.8	4.2	72	8.8	4.4	151	9.3	4.4
<i>Datura</i> spp.	Herb	3	0.4	0.4	4	0.5	1.6	7	0.4	1.6
<i>Datura stramonium</i>	Herb	1	0.1	0.2	5	0.6	0.4	6	0.4	0.4
<i>Datura suaveolens</i>	Shrub	1	0.1	0.2	1	0.1	2.0	2	0.1	2.0

<i>Diervilla</i> spp.	Shrub	10	1.2	0.4	13	1.6	10.6	23	1.4	10.6
<i>Echinops sphaerocephalus</i>	Herb	30	3.7	6.4	13	1.6	1.2	43	2.7	6.4
<i>Echium</i> spp.	Herb	54	6.7	36.0	37	4.5	10.4	91	5.6	36.0
<i>Elaeagnus angustifolia</i>	Tree	8	1.0	1.0	22	2.7	10.0	30	1.8	10.0
<i>Epilobium angustifolium</i>	Herb	20	2.5	0.4	17	2.1	0.8	37	2.3	0.8
<i>Epilobium</i> spp.	Herb	15	1.9	1.0	26	3.2	2.0	41	2.5	2.0
<i>Erica arborea</i>	Shrub	1	0.1	0.2	0	0.0	0.0	1	0.1	0.2
<i>Erica carnea</i>	Shrub	19	2.4	4.0	17	2.1	5.2	36	2.2	5.2
Ericaceae	UGF**	10	1.2	0.4	42	5.1	11.6	52	3.2	11.6
<i>Euphorbia</i> spp.	Herb	3	0.4	3.2	4	0.5	6.0	7	0.4	6.0
<i>Fagopyrum esculentum</i>	Herb	105	13.1	83.0	154	18.8	80.4	259	16	83.0
<i>Fagus sylvatica</i>	Tree	72	9.0	28.6	28	3.4	1.2	100	6.2	28.6
<i>Filipendula</i> spp.	Herb	89	11.1	79.6	71	8.7	75.0	160	9.9	79.6
<i>Fragaria ananassa</i>	Herb	13	1.6	19.8	14	1.7	19.0	27	1.7	19.8
<i>Fragaria</i> spp.	Herb	0	0.0	0.0	3	0.4	6.6	3	0.2	6.6
<i>Fragaria vesca</i>	Herb	60	7.5	14.6	27	3.3	11.0	87	5.4	14.6
<i>Frangula alnus</i>	Shrub	18	2.2	1.0	27	3.3	7.4	45	2.8	7.4
<i>Fraxinus excelsior</i>	Tree	17	2.1	3.6	39	4.8	29.6	56	3.5	29.6
<i>Fraxinus ornus</i>	Tree	0	0.0	0.0	14	1.7	21.4	14	0.9	21.4
<i>Genista</i> spp.	Herb	3	0.4	1.2	0	0.0	0.0	3	0.2	1.2
<i>Geranium</i> spp.	Herb	210	26.1	6.4	159	19.4	1.6	369	22.7	6.4
<i>Geum</i> spp.	Herb	1	0.1	5.2	0	0.0	0.0	1	0.1	5.2
<i>Gleditsia triacanthos</i>	Tree	36	4.5	79.6	62	7.6	46.4	98	6	79.6
<i>Hedera helix</i>	Climber/ creeper	104	12.9	99.8	75	9.2	99.8	179	11	99.8
<i>Helianthemum</i> spp.	Herb	128	15.9	8.2	114	13.9	33.8	242	14.9	33.8
<i>Helianthus</i> spp.	Herb	95	11.8	36.8	80	9.8	44.4	175	10.8	44.4

<i>Helleborus niger</i>	Herb	6	0.7	5.0	0	0.0	0.0	6	0.4	5.0
<i>Helleborus</i> spp.	Herb	0	0.0	0.0	10	1.2	5.2	10	0.6	5.2
<i>Heracleum</i> spp.	Herb	106	13.2	79.6	83	10.1	27.8	189	11.7	79.6
<i>Hibiscus</i> spp.	Shrub	3	0.4	0.2	2	0.2	0.2	5	0.3	0.2
<i>Hippocrepis</i> spp.	Herb	1	0.1	4.8	5	0.6	49.4	6	0.4	49.4
<i>Humulus lupulus</i>	Climber/ creeper	0	0.0	0.0	2	0.2	7.0	2	0.1	7.0
Hyacinthaceae	UGF**	4	0.5	0.4	20	2.4	0.6	24	1.5	0.6
<i>Hydrangea</i> spp.	Herb	12	1.5	42.8	26	3.2	85.2	38	2.3	85.2
<i>Hypericum</i> spp.	Herb	31	3.9	72.2	39	4.8	92.4	70	4.3	92.4
<i>Ilex aquifolium</i>	Tree	16	2.0	11.8	19	2.3	4.0	35	2.2	11.8
<i>Impatiens</i> spp.	Herb	178	22.1	98.2	151	18.5	93.6	329	20.3	98.2
Iridaceae	UGF**	1	0.1	0.2	1	0.1	0.2	2	0.1	0.2
<i>Juglans</i> spp.	Tree	77	9.6	9.2	64	7.8	13.2	141	8.7	13.2
<i>Juncus</i> spp., <i>Luzula</i> spp.*	Herb	77	9.6	31.8	57	7.0	43.8	134	8.3	43.8
<i>Juniperus communis</i>	Shrub	4	0.5	2.6	2	0.2	1.2	6	0.4	2.6
<i>Knautia</i> spp.	Herb	183	22.8	9.6	114	13.9	1.2	297	18.3	9.6
Lamiaceae	UGF**	1	0.1	2.0	0	0.0	0.0	1	0.1	2.0
Lamiaceae- form ² (6 Kst.)	Herb	156	19.4	4.4	142	17.4	10.0	298	18.4	10.0
Lamiaceae- form ³ (3 Kst.)	Herb	79	9.8	46.4	48	5.9	17.2	127	7.8	46.4
<i>Lantana camara</i>	Shrub	0	0.0	0.0	2	0.2	0.2	2	0.1	0.2
<i>Lathyrus</i> spp.	Herb	4	0.5	1.4	3	0.4	3.2	7	0.4	3.2
<i>Leucojum vernum</i>	Herb	2	0.2	3.0	0	0.0	0.0	2	0.1	3.0
<i>Ligustrum vulgare</i>	Shrub	98	12.2	48.6	105	12.8	73.8	203	12.5	73.8
<i>Lilium</i> spp.	Herb	94	11.7	4.8	75	9.2	6.8	169	10.4	6.8
<i>Linum</i> spp.	Herb	6	0.7	0.6	3	0.4	0.2	9	0.6	0.6
<i>Liriodendron tulipifera</i>	Tree	50	6.2	16.4	36	4.4	43.6	86	5.3	43.6
<i>Lonicera</i> spp.	Shrub	116	14.4	5.4	78	9.5	11.2	194	12	11.2

<i>Loranthus europaeus</i>	Climber/ creeper	12	1.5	63.4	10	1.2	10.2	22	1.4	63.4
<i>Lotus</i> spp.	Herb	90	11.2	23.0	63	7.7	22.8	153	9.4	23.0
<i>Lunaria rediviva</i>	Herb	0	0.0	0.0	3	0.4	10.4	3	0.2	10.4
<i>Lupinus</i> spp.	Herb	3	0.4	6.6	0	0.0	0.0	3	0.2	6.6
<i>Lysimachia</i> spp.	Herb	0	0.0	0.0	79	9.7	15.8	79	4.9	15.8
<i>Lythrum salicaria</i>	Herb	27	3.4	12.8	47	5.7	86.0	74	4.6	86.0
<i>Macleaya cordata</i>	Herb	0	0.0	0.0	1	0.1	1.4	1	0.1	1.4
<i>Malus</i> spp., <i>Pyrus</i> spp., <i>Crataegus</i> spp.*	Tree	246	30.6	71.4	199	24.3	79.0	445	27.4	79.0
<i>Malva</i> -form ⁴	Herb	44	5.5	0.6	32	3.9	0.4	76	4.7	0.6
<i>Medicago</i> spp.	Herb	0	0.0	0.0	5	0.6	54.2	5	0.3	54.2
<i>Melampyrum</i> spp.	Herb	22	2.7	78.4	35	4.3	90.0	57	3.5	90.0
<i>Mercurialis</i> spp.	Herb	4	0.5	9.6	0	0.0	0.0	4	0.2	9.6
<i>Muscari</i> spp.	Herb	22	2.7	6.8	18	2.2	1.8	40	2.5	6.8
<i>Myosotis</i> spp.	Herb	27	3.4	6.0	21	2.6	21.2	48	3	21.2
<i>Narcissus</i> spp.	Herb	3	0.4	1.8	0	0.0	0.0	3	0.2	1.8
not swollen	UGF**	36	4.5	73.8	23	2.8	40.6	59	3.6	73.8
<i>Nymphaea</i> spp.	Herb	4	0.5	1.0	2	0.2	0.2	6	0.4	1.0
<i>Ocimum basilicum</i>	Herb	26	3.2	1.0	44	5.4	0.6	70	4.3	1.0
<i>Oenothera tetragona</i>	Herb	63	7.8	1.6	60	7.3	0.4	123	7.6	1.6
<i>Onobrychis</i> spp.	Herb	50	6.2	27.8	22	2.7	26.4	72	4.4	27.8
<i>Ononis spinosa</i>	Herb	4	0.5	5.6	0	0.0	0.0	4	0.2	5.6
<i>Onopordum</i> spp.	Herb	1	0.1	0.2	1	0.1	0.2	2	0.1	0.2
<i>Ornithogalum</i> spp.	Herb	3	0.4	6.4	0	0.0	0.0	3	0.2	6.4
<i>Pachysandra terminalis</i>	Herb	3	0.4	0.2	3	0.4	0.4	6	0.4	0.4
<i>Paeonia</i> spp.	Shrub	5	0.6	0.2	0	0.0	0.0	5	0.3	0.2

<i>Papaver rhoeas</i>	Herb	45	5.6	79.2	16	2.0	57.2	61	3.8	79.2
<i>Papaver somniferum</i>	Herb	5	0.6	79.6	6	0.7	43.6	11	0.7	79.6
<i>Papaver</i> spp.	Herb	4	0.5	31.0	6	0.7	56.2	10	0.6	56.2
<i>Parthenocissus</i> spp.	Climber/ creeper	185	23.0	74.0	214	26.2	86.0	399	24.6	86.0
<i>Passiflora</i> spp.	Herb	0	0.0	0.0	3	0.4	0.2	3	0.2	0.2
<i>Persicaria bistorta</i>	Herb	18	2.2	4.4	17	2.1	0.6	35	2.2	4.4
<i>Persicaria maculosa</i>	Herb	1	0.1	0.2	23	2.8	1.6	24	1.5	1.6
<i>Petasites</i> spp.	Herb	23	2.9	14.4	19	2.3	3.4	42	2.6	14.4
<i>Petunia</i> spp.	Shrub	49	6.1	38.8	70	8.6	59.4	119	7.3	59.4
<i>Phacelia tanacetifolia</i>	Herb	52	6.5	64.6	74	9.0	87.4	126	7.8	87.4
<i>Phlox</i> spp.	Herb	5	0.6	0.4	1	0.1	0.2	6	0.4	0.4
<i>Physocarpus monogynus</i>	Shrub	5	0.6	44.0	14	1.7	88.4	19	1.2	88.4
<i>Picea abies</i> , <i>Abies alba</i>	Tree	128	15.9	0.6	142	17.4	1.0	270	16.6	1.0
<i>Pinus</i> spp.	Tree	142	17.7	65.4	156	19.1	4.2	298	18.4	65.4
<i>Plantago</i> spp.	Herb	541	67.3	72.8	567	69.3	99.0	1108	68.3	99.0
<i>Platanus acerifolia</i>	Tree	0	0.0	0.0	11	1.3	4.0	11	0.7	4.0
Poaceae	UGF**	328	40.8	32.0	329	40.2	59.0	657	40.5	59.0
<i>Polemonium caeruleum</i>	Herb	5	0.6	0.6	6	0.7	0.2	11	0.7	0.6
<i>Populus</i> spp.	Tree	0	0.0	0.0	3	0.4	2.8	3	0.2	2.8
<i>Potentilla</i> spp.	Herb	101	12.6	79.6	65	7.9	28.2	166	10.2	79.6
<i>Primula acaulis</i> , <i>P. elatior</i> , <i>P. veris</i>	Herb	0	0.0	0.0	5	0.6	0.8	5	0.3	0.8
<i>Prunus avium</i>	Tree	22	2.7	70.4	0	0.0	0.0	22	1.4	70.4
<i>Prunus domestica</i>	Tree	12	1.5	8.4	51	6.2	5.8	63	3.9	8.4
<i>Prunus padus</i>	Tree	33	4.1	17.4	9	1.1	64.4	42	2.6	64.4

<i>Prunus persica</i>	Tree	1	0.1	0.8	0	0.0	0.0	1	0.1	0.8
<i>Prunus</i> spp.	Tree	87	10.8	71.2	131	16.0	83.4	218	13.4	83.4
<i>Pterocarya fraxinifolia</i>	Tree	3	0.4	1.2	3	0.4	7.2	6	0.4	7.2
<i>Pulmonaria</i> spp.	Herb	0	0.0	0.0	1	0.1	0.4	1	0.1	0.4
<i>Quercus</i> spp.	Tree	78	9.7	45.0	27	3.3	22.2	105	6.5	45.0
<i>Ranunculus</i> spp.	Herb	495	61.6	86.8	0	0.0	0.0	495	30.5	86.8
<i>Rhamnus</i> spp.	Shrub	35	4.4	35.0	26	3.2	32.8	61	3.8	35.0
<i>Rhododendron</i> spp., <i>Vaccinium</i> spp.*	Shrub	50	6.2	18.2	18	2.2	12.2	68	4.2	18.2
<i>Ribes</i> spp.	Shrub	7	0.9	2.8	0	0.0	0.0	7	0.4	2.8
<i>Robinia pseudacacia</i>	Tree	15	1.9	28.2	36	4.4	88.2	51	3.1	88.2
Rosaceae	UGF**	155	19.3	38.4	102	12.5	39.2	257	15.8	39.2
Rubiaceae	UGF**	0	0.0	0.0	5	0.6	8.2	5	0.3	8.2
<i>Rubus</i> spp.	Shrub	207	25.7	99.0	217	26.5	93.8	424	26.1	99.0
<i>Rumex</i> spp.	Herb	109	13.6	26.8	86	10.5	9.6	195	12	26.8
<i>Salix</i> spp.	Tree	202	25.1	92.2	151	18.5	99.8	353	21.8	99.8
<i>Salvia glutinosa</i>	Herb	75	9.3	88.6	65	7.9	91.6	140	8.6	91.6
<i>Salvia officinalis</i>	Herb	2	0.2	0.8	0	0.0	0.0	2	0.1	0.8
<i>Sambucus nigra</i>	Shrub	0	0.0	0.0	1	0.1	13.2	1	0.1	13.2
<i>Sambucus</i> spp., <i>Philadelphus coronarius</i> *	Shrub	8	1.0	72.8	8	1.0	14.4	16	1	72.8
<i>Sanguisorba officinalis</i>	Herb	0	0.0	0.0	1	0.1	0.2	1	0.1	0.2
<i>Scabiosa</i> spp.	Herb	36	4.5	1.0	19	2.3	0.6	55	3.4	1.0
<i>Scilla</i> spp.	Herb	1	0.1	0.4	3	0.4	3.2	4	0.2	3.2
<i>Sedum</i> spp.	Herb	0	0.0	0.0	1	0.1	0.2	1	0.1	0.2
<i>Sida hermaphrodita</i>	Herb	0	0.0	0.0	5	0.6	1.8	5	0.3	1.8
<i>Silphium perfoliatum</i>	Herb	6	0.7	1.6	0	0.0	0.0	6	0.4	1.6
<i>Sinapis</i> spp.	Herb	186	23.1	91.0	114	13.9	99.2	300	18.5	99.2

<i>Solanum</i> spp.	Herb	0	0.0	0.0	4	0.5	13.8	4	0.2	13.8
<i>Soldanella</i> spp.	Herb	0	0.0	0.0	3	0.4	25.6	3	0.2	25.6
<i>Sophora</i> spp., <i>Linaria</i> spp.*	UGF**	1	0.1	0.2	0	0.0	0.0	1	0.1	0.2
<i>Symphytum</i> spp.	Herb	13	1.6	1.4	6	0.7	0.8	19	1.2	1.4
<i>Syringa vulgaris</i>	Shrub	110	13.7	45.4	86	10.5	33.2	196	12.1	45.4
<i>Taraxacum</i> -form ⁵	Herb	606	75.4	79.8	598	73.1	76.0	1204	74.2	79.8
<i>Taxus baccata</i>	Tree	1	0.1	0.4	3	0.4	0.8	4	0.2	0.8
<i>Thuja</i> spp.	Tree	0	0.0	0.0	4	0.5	0.6	4	0.2	0.6
<i>Tilia</i> spp.	Tree	134	16.7	68.6	103	12.6	47.8	237	14.6	68.6
<i>Tragopogon</i> spp.	Herb	6	0.7	2.0	3	0.4	2.4	9	0.6	2.4
<i>Trifolium pratense</i> -form ⁶	Herb	304	37.8	94.2	299	36.6	65.6	603	37.2	94.2
<i>Trifolium repens</i> -form ⁷	Herb	502	62.4	87.4	499	61.0	93.6	1001	61.7	93.6
<i>Ulmus</i> spp.	Tree	0	0.0	0.0	1	0.1	14.8	1	0.1	14.8
unknown	UGF**	655	81.5	34.2	654	80.0	18.0	1309	80.7	34.2
unknown 223311	UGF**	0	0.0	0.0	9	1.1	32.4	9	0.6	32.4
unknown 223321	UGF**	0	0.0	0.0	1	0.1	0.2	1	0.1	0.2
unknown 223351	UGF**	3	0.4	11.6	2	0.2	27.4	5	0.3	27.4
unknown 223361	UGF**	34	4.2	50.8	30	3.7	36.0	64	3.9	50.8
unknown 333311	UGF**	2	0.2	58.2	5	0.6	26.2	7	0.4	58.2
unknown 333361	UGF**	11	1.4	34.0	29	3.5	61.6	40	2.5	61.6
unknown 334311	UGF**	6	0.7	14.2	0	0.0	0.0	6	0.4	14.2
unknown 443111	UGF**	4	0.5	20.6	0	0.0	0.0	4	0.2	20.6
unknown 443221	UGF**	7	0.9	75.2	0	0.0	0.0	7	0.4	75.2

unknown 443251	UGF**	0	0.0	0.0	4	0.5	41.2	4	0.2	41.2
unknown 443261	UGF**	2	0.2	3.2	4	0.5	85.0	6	0.4	85.0
unknown 443311	UGF**	0	0.0	0.0	12	1.5	32.6	12	0.7	32.6
unknown 443321	UGF**	7	0.9	15.4	3	0.4	16.2	10	0.6	16.2
unknown 443361	UGF**	9	1.1	47.4	7	0.9	13.0	16	1	47.4
unknown 553251	UGF**	0	0.0	0.0	4	0.5	13.0	4	0.2	13.0
unknown 553261	UGF**	16	2.0	24.6	0	0.0	0.0	16	1	24.6
unknown 553311	UGF**	1	0.1	48.8	0	0.0	0.0	1	0.1	48.8
unknown 553321	UGF**	0	0.0	0.0	1	0.1	10.6	1	0.1	10.6
unknown 553361	UGF**	2	0.2	20.2	7	0.9	10.0	9	0.6	20.2
unknown 663261	UGF**	3	0.4	39.6	0	0.0	0.0	3	0.2	39.6
unknown 663311	UGF**	0	0.0	0.0	1	0.1	15.0	1	0.1	15.0
unknown 663361	UGF**	2	0.2	4.4	2	0.2	16.4	4	0.2	16.4
unknown 773361	UGF**	1	0.1	6.0	0	0.0	0.0	1	0.1	6.0
unknown 776131	UGF**	1	0.1	5.8	0	0.0	0.0	1	0.1	5.8
<i>Urtica</i> spp., <i>Parietaria</i> spp.	Herb	13	1.6	12.6	3	0.4	0.6	16	1	12.6
<i>Valeriana</i> spp.	Herb	0	0.0	0.0	8	1.0	5.0	8	0.5	5.0
<i>Verbascum</i> spp.	Herb	0	0.0	0.0	5	0.6	28.6	5	0.3	28.6
<i>Veronica</i> spp.	Herb	3	0.4	4.2	0	0.0	0.0	3	0.2	4.2
<i>Viburnum</i> spp.	Shrub	69	8.6	49.0	60	7.3	16.6	129	8	49.0
<i>Vicia</i> spp.	Herb	107	13.3	84.2	59	7.2	98.8	166	10.2	98.8
<i>Vinca</i> spp.	Herb	0	0.0	0.0	1	0.1	0.2	1	0.1	0.2

<i>Viola tricolor</i>	Herb	97	12.1	3.0	68	8.3	1.2	165	10.2	3.0
<i>Viscum album</i>	Climber/ creeper	4	0.5	0.6	14	1.7	3.4	18	1.1	3.4
<i>Vitis vinifera</i>	Climber/ creeper	2	0.2	2.2	9	1.1	68.8	11	0.7	68.8
<i>Weigela</i> spp.	Shrub	39	4.9	1.8	25	3.1	1.2	64	3.9	1.8
<i>Zea mays</i> , <i>Triticum aestivum</i>	Herb	102	12.7	56.0	93	11.4	42.8	195	12	56.0

¹ *Achillea* spp., *Anthemis* spp., *Argyranthemum* spp., *Chrysanthemum* spp., *Leucanthemopsis* spp., *Leucanthemum* spp., *Tanacetum* spp., *Tripleurospermum* spp.

² *Acinos* spp., *Agastache* spp., *Clinopodium* spp., *Dracocephalum* spp., *Glechoma* spp., *Lavandula* spp., *Melissa* spp., *Mentha* spp., *Monarda* spp., *Nepeta* spp., *Ocimum* spp., *Origanum* spp., *Prunella* spp., *Rosmarinus* spp., *Salvia* spp., *Satureja* spp., *Thymus* spp.

³ *Ajuga* spp., *Ballota* spp., *Betonica* spp., *Caryopteris* spp., *Galeobdolon* spp., *Galeopsis* spp., *Lamium* spp., *Leonorus* spp., *Marrubium* spp., *Melittis* spp., *Moluccella* spp., *Nepeta* spp., *Phlomis* spp., *Prasium* spp., *Scutellaria* spp., *Sideitis* spp., *Stachys* spp., *Teucrium* spp., *Vitex* spp.

⁴ *Althaea* spp., *Dinacrusa hirsuta*, *Lavatera* spp., *Malva* spp.

⁵ *Cicerbita* spp., *Cichorium* spp., *Crepis* spp., *Hieracium* spp., *Hypochaeris* spp., *Lactuca* spp., *Lapsana* spp., *Leontodon* spp., *Picris* spp., *Prenanthes* spp., *Reichardia* spp., *Scorzonera* spp., *Scorzoneroideis* spp., *Sonchus* spp., *Taraxacum* spp., *Urospermum* spp., *Willemetia* spp.

⁶ *T. pratense*, *T. hybridum*, *T. alexandrinum*, *T. incarnatum*

⁷ *T. repens*, *T. montanum*, *T. nigrescens*

* Not further differentiable by light microscopy

** Unknown growth-form

Table S2: Abundance of all 239 pollen forms [%] identified in 2014, 2015 and for both years combined in alphabetical order. The relative abundance depends on the total number of analysed pollen grains: n=401603; n=409001; n=810604 for 2014, 2015 and for both years, respectively. Explanatory notes are found at the end of the table.

Species	Abundance 2014 [%]	Abundance 2015 [%]	Abundance both years [%]
<i>Acer</i> spp.	5.1	2.7	3.9
<i>Achillea</i> -form ¹	0.8	0.7	0.8
<i>Aesculus hippocastanum</i>	1.5	0.7	1.1
<i>Aesculus x carnea</i>	0.2	0.1	0.1
<i>Ailanthus altissima</i>	0.0	0.1	0.1
<i>Ajuga</i> spp.	0.0	0.0	0.0
<i>Allium</i> spp.	0.1	0.1	0.1
<i>Alnus</i> spp.	0.0	0.0	0.0
<i>Ambrosia</i> spp.	0.1	0.0	0.1
<i>Amorpha fruticosa</i>	0.2	0.3	0.3
<i>Anemone</i> spp., <i>Clematis</i> spp., <i>Pulsatilla</i> spp., <i>Ranunculus</i> spp.*	0.0	2.0	1.0
Apiaceae	1.4	2.6	2.0
<i>Arctium</i> spp.	0.1	0.0	0.1
<i>Artemisia</i> spp.	0.1	0.1	0.1
<i>Aruncus dioicus</i>	0.5	0.2	0.3
<i>Asparagus officinalis</i>	0.4	0.1	0.2
<i>Asperula</i> spp., <i>Cruciata</i> spp., <i>Galium</i> spp.*	0.0	0.0	0.0
Asteraceae	3.3	3.3	3.3
<i>Atriplex</i> spp., <i>Bassia</i> spp., <i>Chenopodium</i> spp., <i>Suaeda</i> spp.*	0.1	0.6	0.4
<i>Atropa bella-donna</i>	0.0	0.0	0.0
<i>Begonia</i> spp.	0.7	0.2	0.5
Berberidaceae	0.1	0.1	0.1

<i>Betula</i> spp.	0.3	0.1	0.2
Boraginaceae	0.0	0.0	0.0
<i>Borago officinalis</i>	0.0	0.0	0.0
<i>Brassica</i> spp.	2.3	2.2	2.2
Brassicaceae	2.4	3.4	2.9
<i>Buddleja</i> spp., <i>Cyclamen</i> spp., <i>Primula</i> spp.*	1.2	1.1	1.1
<i>Buxus sempervirens</i>	0.1	0.2	0.2
<i>Calluna vulgaris</i>	0.1	0.3	0.2
<i>Calystegia</i> spp.	0.0	0.0	0.0
<i>Campanula</i> spp., <i>Jasione</i> spp., <i>Legousia</i> spp., <i>Phyteuma</i> spp.*	0.1	0.0	0.0
<i>Cannabis sativa</i>	0.0	0.2	0.1
<i>Carpinus betulus</i>	0.1	0.0	0.0
Caryophyllaceae	0.1	0.1	0.1
<i>Castanea sativa</i>	1.4	1.2	1.3
<i>Catalpa</i> spp.	0.0	0.0	0.0
<i>Centaurea jacea</i> -form	0.8	0.3	0.6
<i>Centaurea scabiosa</i>	0.0	0.0	0.0
<i>Cercis siliquastrum</i>	0.0	0.0	0.0
<i>Cirsium</i> spp., <i>Carduus</i> spp., <i>Silybum</i> spp.*	0.5	0.7	0.6
<i>Cistus</i> spp.	0.0	0.0	0.0
<i>Citrus</i> spp.	0.0	0.0	0.0
<i>Clinopodium vulgare</i>	0.0	0.0	0.0
<i>Colchicum autumnale</i>	0.0	0.0	0.0
<i>Colchicum</i> spp.	0.0	0.0	0.0
<i>Convolvulus</i> spp.	0.1	0.1	0.1
<i>Cornus sanguinea</i>	0.2	0.5	0.3

<i>Corylus avellana</i>	0.0	0.0	0.0
<i>Cotinus coggygria</i>	0.2	0.1	0.1
<i>Cotoneaster</i> spp.	0.1	0.0	0.0
<i>Crocus</i> spp.	0.0	0.0	0.0
<i>Cucurbita pepo</i>	0.0	0.0	0.0
Cucurbitaceae	0.0	0.0	0.0
<i>Cyanus montanus</i>	0.0	0.0	0.0
<i>Cyanus segetum</i>	0.6	0.1	0.4
<i>Cyanus triumfetti</i>	0.0	0.1	0.0
Cyperaceae	0.1	0.1	0.1
<i>Datura</i> spp.	0.0	0.0	0.0
<i>Datura stramonium</i>	0.0	0.0	0.0
<i>Datura suaveolens</i>	0.0	0.0	0.0
<i>Diervilla</i> spp.	0.0	0.0	0.0
<i>Echinops sphaerocephalus</i>	0.0	0.0	0.0
<i>Echium</i> spp.	0.2	0.1	0.1
<i>Elaeagnus angustifolia</i>	0.0	0.0	0.0
<i>Epilobium angustifolium</i>	0.0	0.0	0.0
<i>Epilobium</i> spp.	0.0	0.0	0.0
<i>Erica arborea</i>	0.0	0.0	0.0
<i>Erica carnea</i>	0.0	0.0	0.0
Ericaceae	0.0	0.1	0.0
<i>Euphorbia</i> spp.	0.0	0.0	0.0
<i>Fagopyrum esculentum</i>	1.0	1.8	1.4
<i>Fagus sylvatica</i>	0.3	0.0	0.2
<i>Filipendula</i> spp.	1.0	0.7	0.9
<i>Fragaria ananassa</i>	0.1	0.1	0.1
<i>Fragaria</i> spp.	0.0	0.0	0.0
<i>Fragaria vesca</i>	0.1	0.0	0.1

<i>Frangula alnus</i>	0.0	0.0	0.0
<i>Fraxinus excelsior</i>	0.0	0.2	0.1
<i>Fraxinus ornus</i>	0.0	0.1	0.1
<i>Genista</i> spp.	0.0	0.0	0.0
<i>Geranium</i> spp.	0.1	0.1	0.1
<i>Geum</i> spp.	0.0	0.0	0.0
<i>Gleditsia triacanthos</i>	0.6	0.4	0.5
<i>Hedera helix</i>	4.3	2.5	3.4
<i>Helianthemum</i> spp.	0.1	0.2	0.2
<i>Helianthus</i> spp.	0.2	0.2	0.2
<i>Helleborus niger</i>	0.0	0.0	0.0
<i>Helleborus</i> spp.	0.0	0.0	0.0
<i>Heracleum</i> spp.	0.4	0.3	0.3
<i>Hibiscus</i> spp.	0.0	0.0	0.0
<i>Hippocrepis</i> spp.	0.0	0.1	0.1
<i>Humulus lupulus</i>	0.0	0.0	0.0
Hyacinthaceae	0.0	0.0	0.0
<i>Hydrangea</i> spp.	0.1	0.3	0.2
<i>Hypericum</i> spp.	0.6	1.2	0.9
<i>Ilex aquifolium</i>	0.0	0.0	0.0
<i>Impatiens</i> spp.	2.1	1.9	2.0
Iridaceae	0.0	0.0	0.0
<i>Juglans</i> spp.	0.1	0.1	0.1
<i>Juncus</i> spp., <i>Luzula</i> spp.*	0.2	0.2	0.2
<i>Juniperus communis</i>	0.0	0.0	0.0
<i>Knautia</i> spp.	0.1	0.0	0.1
Lamiaceae	0.0	0.0	0.0
Lamiaceae-form ² (6 Kst.)	0.1	0.1	0.1
Lamiaceae-form ³ (3 Kst.)	0.6	0.1	0.3

<i>Lantana camara</i>	0.0	0.0	0.0
<i>Lathyrus</i> spp.	0.0	0.0	0.0
<i>Leucojum vernum</i>	0.0	0.0	0.0
<i>Ligustrum vulgare</i>	0.5	1.0	0.7
<i>Lilium</i> spp.	0.0	0.1	0.0
<i>Linum</i> spp.	0.0	0.0	0.0
<i>Liriodendron tulipifera</i>	0.1	0.1	0.1
<i>Lonicera</i> spp.	0.1	0.1	0.1
<i>Loranthus europaeus</i>	0.2	0.1	0.1
<i>Lotus</i> spp.	0.2	0.1	0.2
<i>Lunaria rediviva</i>	0.0	0.0	0.0
<i>Lupinus</i> spp.	0.0	0.0	0.0
<i>Lysimachia</i> spp.	0.0	0.2	0.1
<i>Lythrum salicaria</i>	0.0	0.3	0.2
<i>Macleaya cordata</i>	0.0	0.0	0.0
<i>Malus</i> spp., <i>Pyrus</i> spp., <i>Crataegus</i> spp.*	4.3	5.0	4.7
<i>Malva</i> -form ⁴	0.0	0.0	0.0
<i>Medicago</i> spp.	0.0	0.1	0.1
<i>Melampyrum</i> spp.	0.7	0.6	0.7
<i>Mercurialis</i> spp.	0.0	0.0	0.0
<i>Muscari</i> spp.	0.0	0.0	0.0
<i>Myosotis</i> spp.	0.0	0.1	0.1
<i>Narcissus</i> spp.	0.0	0.0	0.0
not swollen	1.2	0.4	0.8
<i>Nymphaea</i> spp.	0.0	0.0	0.0
<i>Ocimum basilicum</i>	0.0	0.0	0.0
<i>Oenothera tetragona</i>	0.0	0.0	0.0
<i>Onobrychis</i> spp.	0.2	0.1	0.2

<i>Ononis spinosa</i>	0.0	0.0	0.0
<i>Onopordum</i> spp.	0.0	0.0	0.0
<i>Ornithogalum</i> spp.	0.0	0.0	0.0
<i>Pachysandra terminalis</i>	0.0	0.0	0.0
<i>Paeonia</i> spp.	0.0	0.0	0.0
<i>Papaver rhoeas</i>	0.6	0.3	0.4
<i>Papaver somniferum</i>	0.2	0.2	0.2
<i>Papaver</i> spp.	0.0	0.1	0.1
<i>Parthenocissus</i> spp.	1.6	2.6	2.1
<i>Passiflora</i> spp.	0.0	0.0	0.0
<i>Persicaria bistorta</i>	0.0	0.0	0.0
<i>Persicaria maculosa</i>	0.0	0.0	0.0
<i>Petasites</i> spp.	0.1	0.0	0.1
<i>Petunia</i> spp.	0.2	0.6	0.4
<i>Phacelia tanacetifolia</i>	0.9	1.8	1.4
<i>Phlox</i> spp.	0.0	0.0	0.0
<i>Physocarpus monogynus</i>	0.1	0.4	0.2
<i>Picea abies</i> , <i>Abies alba</i>	0.0	0.0	0.0
<i>Pinus</i> spp.	0.2	0.1	0.1
<i>Plantago</i> spp.	6.2	10.0	8.1
<i>Platanus acerifolia</i>	0.0	0.0	0.0
Poaceae	0.6	0.8	0.7
<i>Polemonium caeruleum</i>	0.0	0.0	0.0
<i>Populus</i> spp.	0.0	0.0	0.0
<i>Potentilla</i> spp.	0.7	0.2	0.4
<i>Primula acaulis</i> , <i>P. elatior</i> , <i>P. veris</i>	0.0	0.0	0.0
<i>Prunus avium</i>	0.7	0.0	0.4
<i>Prunus domestica</i>	0.0	0.1	0.1
<i>Prunus padus</i>	0.2	0.3	0.2

<i>Prunus persica</i>	0.0	0.0	0.0
<i>Prunus</i> spp.	1.8	2.1	1.9
<i>Pterocarya fraxinifolia</i>	0.0	0.0	0.0
<i>Pulmonaria</i> spp.	0.0	0.0	0.0
<i>Quercus</i> spp.	1.0	0.1	0.5
<i>Ranunculus</i> spp.	3.3	0.0	1.6
<i>Rhamnus</i> spp.	0.2	0.2	0.2
<i>Rhododendron</i> spp., <i>Vaccinium</i> spp.*	0.2	0.1	0.1
<i>Ribes</i> spp.	0.0	0.0	0.0
<i>Robinia pseudacacia</i>	0.1	0.3	0.2
Rosaceae	0.8	0.6	0.7
Rubiaceae	0.0	0.0	0.0
<i>Rubus</i> spp.	2.6	2.6	2.6
<i>Rumex</i> spp.	0.2	0.1	0.1
<i>Salix</i> spp.	5.4	6.0	5.7
<i>Salvia glutinosa</i>	2.0	1.6	1.8
<i>Salvia officinalis</i>	0.0	0.0	0.0
<i>Sambucus nigra</i>	0.0	0.0	0.0
<i>Sambucus</i> spp., <i>Philadelphus coronarius</i> *	0.2	0.0	0.1
<i>Sanguisorba officinalis</i>	0.0	0.0	0.0
<i>Scabiosa</i> spp.	0.0	0.0	0.0
<i>Scilla</i> spp.	0.0	0.0	0.0
<i>Sedum</i> spp.	0.0	0.0	0.0
<i>Sida hermaphrodita</i>	0.0	0.0	0.0
<i>Silphium perfoliatum</i>	0.0	0.0	0.0
<i>Sinapis</i> spp.	3.4	3.2	3.3
<i>Solanum</i> spp.	0.0	0.0	0.0

<i>Soldanella</i> spp.	0.0	0.1	0.0
<i>Sophora</i> spp., <i>Linaria</i> spp.*	0.0	0.0	0.0
<i>Symphytum</i> spp.	0.0	0.0	0.0
<i>Syringa vulgaris</i>	0.3	0.3	0.3
<i>Taraxacum</i> -form ⁵	4.7	3.1	3.9
<i>Taxus baccata</i>	0.0	0.0	0.0
<i>Thuja</i> spp.	0.0	0.0	0.0
<i>Tilia</i> spp.	0.5	0.1	0.3
<i>Tragopogon</i> spp.	0.0	0.0	0.0
<i>Trifolium pratense</i> -form ⁶	3.1	2.1	2.6
<i>Trifolium repens</i> -form ⁷	7.1	10.5	8.8
<i>Ulmus</i> spp.	0.0	0.0	0.0
unknown	1.9	1.4	1.7
unknown 223311	0.0	0.1	0.1
unknown 223321	0.0	0.0	0.0
unknown 223351	0.0	0.0	0.0
unknown 223361	0.4	0.2	0.3
unknown 333311	0.1	0.1	0.1
unknown 333361	0.1	0.5	0.3
unknown 334311	0.0	0.0	0.0
unknown 443111	0.1	0.0	0.0
unknown 443221	0.2	0.0	0.1
unknown 443251	0.0	0.1	0.1
unknown 443261	0.0	0.1	0.1
unknown 443311	0.0	0.1	0.1
unknown 443321	0.0	0.0	0.0
unknown 443361	0.1	0.0	0.1
unknown 553251	0.0	0.0	0.0
unknown 553261	0.1	0.0	0.1

unknown 553311	0.1	0.0	0.0
unknown 553321	0.0	0.0	0.0
unknown 553361	0.0	0.0	0.0
unknown 663261	0.1	0.0	0.0
unknown 663311	0.0	0.0	0.0
unknown 663361	0.0	0.0	0.0
unknown 773361	0.0	0.0	0.0
unknown 776131	0.0	0.0	0.0
<i>Urtica</i> spp., <i>Parietaria</i> spp.	0.0	0.0	0.0
<i>Valeriana</i> spp.	0.0	0.0	0.0
<i>Verbascum</i> spp.	0.0	0.1	0.0
<i>Veronica</i> spp.	0.0	0.0	0.0
<i>Viburnum</i> spp.	0.3	0.1	0.2
<i>Vicia</i> spp.	1.6	1.4	1.5
<i>Vinca</i> spp.	0.0	0.0	0.0
<i>Viola tricolor</i>	0.0	0.0	0.0
<i>Viscum album</i>	0.0	0.0	0.0
<i>Vitis vinifera</i>	0.0	0.2	0.1
<i>Weigela</i> spp.	0.0	0.0	0.0
<i>Zea mays</i> , <i>Triticum aestivum</i>	0.3	0.2	0.3

¹ *Achillea* spp., *Anthemis* spp., *Argyranthemum* spp., *Chrysanthemum* spp., *Leucanthemopsis* spp., *Leucanthemum* spp., *Tanacetum* spp., *Tripleurospermum* spp.

² *Acinos* spp., *Agastache* spp., *Clinopodium* spp., *Dracocephalum* spp., *Glechoma* spp., *Lavandula* spp., *Melissa* spp., *Mentha* spp., *Monarda* spp., *Nepeta* spp., *Ocimum* spp., *Origanum* spp., *Prunella* spp., *Rosmarinus* spp., *Salvia* spp., *Satureja* spp., *Thymus* spp.

³ *Ajuga* spp., *Ballota* spp., *Betonica* spp., *Caryopteris* spp., *Galeobdolon* spp., *Galeopsis* spp., *Lamium* spp., *Leonorus* spp., *Marrubium* spp., *Melittis* spp., *Moluccella* spp., *Nepeta* spp., *Phlomis* spp., *Prasium* spp., *Scutellaria* spp., *Sideitis* spp., *Stachys* spp., *Teucrium* spp., *Vitex* spp.

⁴ *Althaea* spp., *Dinacrusa hirsuta*, *Lavatera* spp., *Malva* spp.

⁵ *Cicerbita* spp., *Cichorium* spp., *Crepis* spp., *Hieracium* spp., *Hypochaeris* spp., *Lactuca* spp., *Lapsana* spp., *Leontodon* spp., *Picris* spp., *Prenanthes* spp., *Reichardia* spp., *Scorzonera* spp., *Scorzoneroideis* spp., *Sonchus* spp., *Taraxacum* spp., *Urospermum* spp., *Willemetia* spp.

⁶ *T. pratense*, *T. hybridum*, *T. alexandrinum*, *T. incarnatum*

⁷ *T. repens*, *T. montanum*, *T. nigrescens*

* Not further differentiable by light microscopy

Table S3: Number and frequency of partially (>50% comprised of one pollen type) and highly (>90%) monofloral pollen samples collected in Austria in 2014 and 2015 combined (n=1622 pollen samples). *Form cryptic groups, not further differentiable by light microscopy.

>50%			>90%		
Pollen Type(s)	Amount of samples	Frequency [%]	Pollen Type(s)	Amount of samples	Frequency [%]
<i>Trifolium repens</i> -form ¹	86	5.30	<i>Hedera helix</i>	18	1.11
<i>Salix</i> spp.	85	5.24	<i>Salix</i> spp.	10	0.62
<i>Plantago</i> spp.	72	4.44	<i>Trifolium repens</i> -form ¹	7	0.43
<i>Hedera helix</i>	53	3.27	<i>Impatiens</i> spp.	6	0.37
<i>Malus</i> spp., <i>Pyrus</i> spp., <i>Crataegus</i> spp.*	46	2.84	<i>Plantago</i> spp.	6	0.37
<i>Sinapis</i> spp.	41	2.53	<i>Sinapis</i> spp.	6	0.37
<i>Acer</i> spp.	35	2.16	<i>Vicia</i> spp.	5	0.31
<i>Salvia glutinosa</i>	29	1.79	<i>Castanea sativa</i>	3	0.18
Asteraceae	23	1.42	<i>Rubus</i> spp.	2	0.12
<i>Brassica</i> spp.	23	1.42	<i>Trifolium pratense</i> -form ²	2	0.12
<i>Impatiens</i> spp.	21	1.3	<i>Acer</i> spp.	1	0.1
<i>Parthenocissus</i> spp.	21	1.3	<i>Hypericum</i> spp.	1	0.1
<i>Phacelia tanacetifolia</i>	21	1.3	<i>Salvia glutinosa</i>	1	0.1
<i>Trifolium pratense</i> -form ²	19	1.2			
Brassicaceae	18	1.1			
<i>Vicia</i> spp.	18	1.1			
<i>Castanea sativa</i>	17	1.0			
<i>Prunus</i> spp.	15	0.9			
<i>Taraxacum</i> -form ³	14	0.9			
<i>Fagopyrum esculentum</i>	13	0.8			
<i>Hypericum</i> spp.	12	0.7			
<i>Rubus</i> spp.	10	0.6			
<i>Melampyrum</i> spp.	9	0.6			
Apiaceae	8	0.5			
<i>Buddleja</i> spp., <i>Cyclamen</i> spp., <i>Primula</i> spp.*	7	0.4			
<i>Ranunculus</i> spp.	7	0.4			
<i>Filipendula</i> spp.	6	0.4			

<i>Ligustrum vulgare</i>	6	0.4
not swollen	6	0.4
<i>Prunus avium</i>	5	0.3
<i>Asparagus officinalis</i>	4	0.2
<i>Begonia</i> spp.	4	0.2
<i>Aesculus hippocastanum</i>	3	0.2
<i>Atriplex</i> spp., <i>Bassia</i> spp., <i>Chenopodium</i> spp., <i>Suaeda</i> spp.*	3	0.2
<i>Gleditsia triacanthos</i>	3	0.2
<i>Lythrum salicaria</i>	3	0.2
<i>Papaver rhoeas</i>	3	0.2
Poaceae	3	0.2
unknown 333361	3	0.2
<i>Achillea</i> -form ⁴	2	0.1
<i>Anemone</i> spp., <i>Clematis</i> spp., <i>Pulsatilla</i> spp., <i>Ranunculus</i> spp.*	2	0.1
<i>Calluna vulgaris</i>	2	0.1
<i>Cannabis sativa</i>	2	0.1
<i>Papaver somniferum</i>	2	0.1
<i>Physocarpus monogynus</i>	2	0.1
<i>Potentilla</i> spp.	2	0.1
<i>Robinia pseudacacia</i>	2	0.1
<i>Amorpha fruticosa</i>	1	0.1
<i>Betula</i> spp.	1	0.1
<i>Cotinus coggygria</i>	1	0.1
<i>Cyanus segetum</i>	1	0.1
<i>Heracleum</i> spp.	1	0.1
<i>Hydrangea</i> spp.	1	0.1
<i>Loranthus europaeus</i>	1	0.1
<i>Medicago</i> spp.	1	0.1
<i>Papaver</i> spp.	1	0.1
<i>Petunia</i> spp.	1	0.1
<i>Pinus</i> spp.	1	0.1

<i>Prunus padus</i>	1	0.1
<i>Sambucus</i> spp., <i>Philadelphus coronarius</i> *	1	0.1
<i>Tilia</i> spp.	1	0.1
unknown 223361	1	0.1
unknown 333311	1	0.1
unknown 443221	1	0.1
unknown 443261	1	0.1
<i>Vitis vinifera</i>	1	0.1
<i>Zea mays</i> , <i>Triticum aestivum</i>	1	0.1

¹ *T. repens*, *T. montanum*, *T. nigrescens*

² *T. pratense*, *T. hybridum*, *T. alexandrinum*, *T. incarnatum*

³ *Cicerbita* spp., *Cichorium* spp., *Crepis* spp., *Hieracium* spp., *Hypochaeris* spp., *Lactuca* spp., *Lapsana* spp., *Leontodon* spp., *Picris* spp., *Prenanthes* spp., *Reichardia* spp., *Scorzonera* spp., *Scorzoneroides* spp., *Sonchus* spp., *Taraxacum* spp., *Urospermum* spp., *Willemetia* spp.

⁴ *Achillea* spp., *Anthemis* spp., *Argyranthemum* spp., *Chrysanthemum* spp., *Leucanthemopsis* spp., *Leucanthemum* spp., *Tanacetum* spp., *Tripleurospermum* spp.

* Not further differentiable by light microscopy