Table S1: Indication of inclusion in diversity analysis and main pollination syndrome for pollen taxa in Baldeggersee and Hallwilersee. Included?= indication of inclusion in diversity analysis; MPS=main pollination syndrome; BDS= taxon present in Baldeggersee core (X = yes, blank = no); HWS=taxon present in Hallwilersee core (X = yes, blank = no).

Taxon name	Group	Included?	MPS	BDS	HWS	Notes
Abies	TRSH	Yes	Wind	X	X	*Abies alba* in HWS
Acer	TRSH	Yes	Wind	X	X	
Achillea- type	UPHE	Yes	Insect/Self	X	X	
Aesculus	TRSH	No; Planted		X	X	*Aesculus hippocastaneum* in HWS
Aethusa- type	UPHE	Yes	Insect/Self	X		
Agrimonia- type	UPHE	Yes	Insect/Self		X	
Alchemilla- type	UPHE	Yes	Insect/Self	X	X	
Alisma	AQVP	No; Aquatic		X	X	
Allium- type	UPHE	Yes	Insect/Self	X	X	
Alnus glutinosa- type	TRSH	Yes	Wind	X	X	
Alnus viridis	TRSH	Yes	Wind	X	X	
Amaranthaceae- type	UPHE	Yes	Wind	X	X	
Ambrosia	UPHE	Yes	Wind	X	X	
Anemone nemorosa- type	UPHE	Yes	Insect/Self	X	X	
Anemone sect. Hepatica	UPHE	Yes	Insect/Self	X		
Anemone sect. Pulsatilla	UPHE	Yes	Insect/Self	X		
Angelica palustris	UPHE	Yes	Insect/Self	X		
Anthericum	UPHE	Yes	Insect/Self	X		
Anthriscus sylvestris- type	UPHE	Yes	Insect/Self	X	X	
Apiaceae	UPHE	Yes	Insect/Self	X	X	
Apium	UPHE	Yes	Insect/Self	X		
Arenaria	UPHE	Yes	Insect/Self	X		
Armeria	UPHE	Yes	Insect/Self	X		
Artemisia	UPHE	Yes	Wind	X	X	
Aruncus- type	UPHE	Yes	Insect/Self	X		
Aspiromitus punctatus	UPBR	No; Spore		X		
Asplenium- type	VACR	No; Spore		X	X	
Aster- type	UPHE	Yes	Insect/Self	X	X	
Astrantia- type	UPHE	Yes	Insect/Self	X		
Athyrium filix-femina	VACR	No; Spore		X	X	
Bellis	UPHE	Yes	Insect/Self	X	X	
Betula	TRSH	Yes	Wind	X	X	
Bistorta officinalis	UPHE	Yes	Insect/Self		X	
Botrychium	VACR	No; Spore		X	X	
Brassicaceae	UPHE	Yes	Insect/Self	X	X	
Bupleurum- type	UPHE	Yes	Insect/Self		X	
Buxus sempervirens	TRSH	Yes	Insect/Self	X	X	
Calluna vulgaris	TRSH	Yes	Insect/Self	X	X	
Calystegia	UPHE	Yes	Insect/Self		X	
Caltha-type	UPHE	Yes	Insect/Self	X	X	
Campanula	UPHE	Yes	Insect/Self	X	X	
Cannabis sativa	UPHE	No; Planted		X	X	Possibly hemp retting
Carlina	UPHE	Yes	Insect/Self		X	

Carpinus betulus	TRSH	Yes	Wind	X	X	
Carum carvi	UPHE	Yes	Insect/Self		X	
Castanea sativa	TRSH	Yes	Wind	X	X	
Cedrus	TRSH	No; Planted/Long-distance		X	X	
Centaurea cyanus	UPHE	Yes	Insect/Self	X	X	
Centaurea nigra- type	UPHE	Yes	Insect/Self	X	X	
Centaurea scabiosa	UPHE	Yes	Insect/Self	X		
Centaurium	UPHE	Yes	Insect/Self	X	X	
Cerastium arvense- type	UPHE	Yes	Insect/Self	X		
Cerastium cerastoides- type	UPHE	Yes	Insect/Self		X	
Chaerophyllum hirsutum-type	UPHE	Yes	Insect/Self	X	X	
Chrysosplenium	UPHE	Yes	Insect/Self	X		
Cichorioideae	UPHE	Yes	Insect/Self	X	X	
Cirsium- type	UPHE	Yes	Insect/Self	X	X	*Cirsium* in HWS
Cladium mariscus	AQVP	No; Aquatic		X	X	
Colchicum- type	UPHE	Yes	Insect/Self	X		
Cornus sanguinea	TRSH	Yes	Insect/Self	X	X	
Corylus avellana	TRSH	Yes	Wind	X	X	
Crataegus- type	TRSH	Yes	Insect/Self	X	X	
Crocus	UPHE	Yes	Insect/Self		X	
Cuscuta	UPHE	Yes	Insect/Self	X	X	
Cyperaceae	UPHE	Yes	Wind	X	X	
Cytisus scoparius	TRSH	Yes	Insect/Self	X	X	
Daphne- type	TRSH	Yes	Insect/Self		X	
Daucus carota	UPHE	Yes	Insect/Self	X	X	
Digitalis- type	UPHE	Yes	Insect/Self		X	
Dipsacus	UPHE	Yes	Insect/Self		X	
Dryopteris dilatata- type	VACR	No; Spore		X	X	
Dryopteris filix-mas- type	VACR	No; Spore		X	X	
Echium	UPHE	Yes	Insect/Self	X	X	
Ephedra distachya- type	TRSH	No; Planted/Long-distance		X		
Ephedra fragilis- type	TRSH	No; Planted/Long-distance			X	
Epilobium	UPHE	Yes	Insect/Self	X		
Equisetum	VACR	No; Spore		X	X	
Ericaceae	TRSH	Yes	Insect/Self	X	X	
Erigeron	UPHE	Yes	Insect/Self	X		
Eryngium	UPHE	Yes	Insect/Self	X		
Eucalyptus	TRSH	No; Planted/Long-distance		X		
Euonymus	TRSH	Yes	Insect/Self		X	
Eupatorium	UPHE	Yes	Insect/Self	X	X	
Euphorbia	UPHE	Yes	Insect/Self	X	X	
Faboideae	UPHE	Yes	Insect/Self	X	X	Fabaceae in HWS
Fagopyrum	UPHE	Yes	Insect/Self	X		
Fagus	TRSH	Yes	Wind	X	X	*Fagus sylvatica* in HWS
Fallopia convolvulus- type	UPHE	Yes	Insect/Self	X	X	
Filipendula	UPHE	No; Aquatic		X	X	

Frangula alnus	TRSH	Yes	Insect/Self	X	X	
Fraxinus excelsior	TRSH	Yes	Wind	X	X	
Fraxinus ornus	TRSH	Yes	Wind	X	X	
Galeopsis	UPHE	Yes	Insect/Self	X	X	
Galium- type	UPHE	Yes	Insect/Self		X	
Genista- type	TRSH	Yes	Insect/Self	X	X	
Gentiana pneumonanthe-type	UPHE	Yes	Insect/Self	X	X	
Geranium	UPHE	Yes	Insect/Self	X	X	
Geum- type	UPHE	Yes	Insect/Self		X	
Gnaphalium- type	UPHE	Yes	Insect/Self	X	X	
Gymnocarpium	VACR	No; Spore			X	
Hedera helix	TRSH	Yes	Insect/Self	X	X	
Helianthemum	UPHE	Yes	Insect/Self	X	X	
Helianthus	UPHE	Yes	Insect/Self	X		
Heracleum	UPHE	Yes	Insect/Self	X	X	
Herniaria- type	UPHE	Yes	Insect/Self		X	
Hippocrepis- type	UPHE	Yes	Insect/Self	X	X	
Hippophae rhamnoides	TRSH	Yes	Wind	X	X	
Humulus lupulus	UPHE	Yes	Wind	X	X	
Huperzia selago	VACR	No; Spore			X	
Hypericum perforatum- type	UPHE	Yes	Insect/Self	X	X	
Ilex aquifolium	TRSH	Yes	Wind	X	X	
Impatiens	UPHE	Yes	Insect/Self	X	X	
Jasione	UPHE	Yes	Insect/Self	X	X	
Juglans	TRSH	Yes	Wind	X	X	*Juglans regia* in HWS
Juniperus	TRSH	Yes	Wind	X	X	
Knautia	UPHE	Yes	Insect/Self	X		
Lamiaceae	UPHE	Yes	Insect/Self	X	X	
Larix	TRSH	No; Planted		X	X	
Laserpitium latifolium- type	UPHE	Yes	Insect/Self	X	X	
Ligusticum mutellina	UPHE	Yes	Insect/Self	X	X	
Ligustrum	TRSH	Yes	Insect/Self	X	X	
Liliaceae- type	UPHE	Yes	Insect/Self	X	X	
Lonicera periclymenum	TRSH	Yes	Insect/Self		X	
Lonicera xylosteum- type	TRSH	Yes	Insect/Self	X	X	
Lotus- type	UPHE	Yes	Insect/Self	X	X	
Luzula	UPHE	Yes	Wind		X	
Lysimachia vulgaris- type	UPHE	Yes	Insect/Self	X		
Lythrum	UPHE	Yes	Insect/Self	X	X	
Medicago falcata- type	UPHE	Yes	Insect/Self		X	
Melampyrum	UPHE	Yes	Insect/Self	X	X	
Mentha- type	UPHE	Yes	Insect/Self	X	X	
Menyanthes trifoliata	AQVP	No; Aquatic		X		
Mercurialis annua	UPHE	Yes	Wind	X	X	
Mercurialis perennis- type	UPHE	Yes	Wind	X	X	
Micranthes stellaris- type	UPHE	Yes	Insect/Self	X		

Taxon	Group	Native	Pollination			Notes
Minuartia rubra- type	UPHE	Yes	Insect/Self		X	
Minuartia verna- type	UPHE	Yes	Insect/Self	X		
Moehringia- type	UPHE	Yes	Insect/Self		X	
Muscara	UPHE	Yes	Insect/Self		X	
Myriophyllum alterniflorum	AQVP	No; Aquatic		X		
Myriophyllum spicatum	AQVP	No; Aquatic		X	X	
Myriophyllum verticillatum	AQVP	No; Aquatic		X		
Nuphar	AQVP	No; Aquatic		X	X	
Nymphaea	AQVP	No; Aquatic		X	X	
Odontites- type	UPHE	Yes	Insect/Self		X	
Olea	TRSH	No; Planted/Long-distance		X	X	
Onobrychis	UPHE	Yes	Insect/Self	X	X	
Ononis- type	UPHE	Yes	Insect/Self	X		
Ophioglossum vulgatum	VACR	No; Spore		X	X	
Orlaya grandiflora	UPHE	Yes	Insect/Self	X	X	
Ornithogalum- type	UPHE	Yes	Insect/Self	X		
Ornithopus	UPHE	Yes	Insect/Self	X		
Ostrya- type	TRSH	Yes	Wind	X	X	
Oxalis	UPHE	Yes	Insect/Self		X	
Papaver rhoeas- type	UPHE	Yes	Insect/Self	X	X	
Parnassia palustris	UPHE	Yes	Insect/Self			
Pastinaca sativa	UPHE	Yes	Insect/Self			
Persicaria maculosa- type	UPHE	Yes	Insect/Self	X		
Petasites	UPHE	Yes	Insect/Self	X	X	
Peucedanum- type	UPHE	Yes	Insect/Self	X	X	
Phyteuma	UPHE	Yes	Insect/Self	X	X	
Picea	TRSH	Yes	Wind	X	X	*Picea abies* in HWS
Pimpinella major- type	UPHE	Yes	Insect/Self	X	X	
Pinus cembra	TRSH	No; Planted		X	X	
Pinus subg. Pinus	TRSH	Yes	Wind	X	X	
Pistacia	TRSH	No; Planted/Long-distance		X		
Plantago alpina- type	UPHE	Yes	Wind	X	X	
Plantago coronopus	UPHE	Yes	Wind	X		
Plantago lanceolata- type	UPHE	Yes	Wind	X	X	
Plantago major	UPHE	Yes	Wind	X	X	
Plantago media	UPHE	Yes	Insect/Self	X	X	
Platanus	TRSH	No; Planted		X	X	
Poaceae	UPHE	Yes	Wind	X	X	
Poaceae (Cerealia)	UPHE	No; Planted		X	X	
Polygonatum	UPHE	Yes	Insect/Self	X		
Polygonum aviculare	UPHE	Yes	Insect/Self	X	X	
Polypodiophyta (monolete)	VACR	No; Spore		X	X	Polypodiales (monolete) in HWS
Polypodium	VACR	No; Spore		X	X	
Polystichum- type	VACR	No; Spore		X		
Populus	TRSH	Yes	Wind	X	X	
Potamogeton- type	AQVP	No; Aquatic		X	X	

Potentilla- type	UPHE	Yes	Insect/Self	X	X	
Primulaceae	UPHE	Yes	Insect/Self	X		
Primula vernis- type	UPHE	Yes	Insect/Self		X	
Prunella- type	UPHE	Yes	Insect/Self		X	
Prunus- type	TRSH	Yes	Insect/Self	X	X	
Pteridium aquilinum	VACR	No; Spore		X	X	
Pulmonaria- type	UPHE	Yes	Insect/Self		X	
Quercus	TRSH	Yes	Wind	X	X	
Ranunculus acris- type	UPHE	Yes	Insect/Self	X	X	
Ranunculus arvensis	UPHE	Yes	Insect/Self		X	
Ranunculus sect. Batrachium	AQVP	No; Aquatic		X	X	
Reseda	UPHE	Yes	Insect/Self	X		
Rhamnus	TRSH	Yes	Insect/Self	X	X	
Rheum officinale	UPHE	Yes	Insect/Self	X		
Rhinanthus	UPHE	Yes	Insect/Self	X	X	
Rhododendron	TRSH	No; Planted/Long-distance		X		
Ribes	TRSH	Yes	Insect/Self	X		
Rosa	UPHE	Yes	Insect/Self		X	
Rosaceae	UPHE	Yes	Insect/Self	X	X	
Rubiaceae	TRSH	Yes	Insect/Self	X		
Rubus	TRSH	Insect	Insect/Self	X	X	
Rumex acetosa- type	UPHE	Yes	Wind	X	X	
Rumex acetosella	UPHE	Yes	Wind	X	X	
Rumex alpinus	UPHE	Yes	Wind	X	X	
Rumex aquaticus- type	UPHE	Yes	Wind	X		
Rumex obtusifolius- type	UPHE	Yes	Wind	X	X	
Salix	TRSH	Yes	Wind	X	X	
Sambucus ebulus	TRSH	Yes	Insect/Self	X		
Sambucus nigra	TRSH	Yes	Insect/Self	X	X	
Sambucus racemosa	TRSH	Yes	Insect/Self	X	X	
Sanguisorba minor- type	UPHE	Yes	Wind	X	X	
Sanguisorba officinalis	UPHE	Yes	Insect/Self	X	X	
Saponaria	UPHE	Yes	Insect/Self		X	
Saxifraga granulata- type	UPHE	Yes	Insect/Self	X	X	
Saxifraga oppositifolia- type	UPHE	Yes	Insect/Self	X	X	
Scleranthus annuus	UPHE	Yes	Insect/Self	X	X	*Scleranthus* in HWS
Scrophulariaceae	UPHE	Yes	Insect/Self	X	X	*Scrophularia*- type in HWS
Scutellaria- type	UPHE	Yes	Insect/Self		X	
Secale	UPHE	No; Planted		X	X	
Sedum	UPHE	Yes	Insect/Self	X	X	
Selaginella selaginoides	VACR	No; Spore		X	X	
Senecio	UPHE	Yes	Insect/Self	X	X	
Seseli- type	UPHE	Yes	Insect/Self	X		
Silaum silaus	UPHE	Yes	Insect/Self	X		
Silene dioica- type	UPHE	Yes	Insect/Self	X	X	
Silene flos-cuculi	UPHE	Yes	Insect/Self	X	X	

Silene vulgaris- type	UPHE	Yes	Insect/Self	X	X	
Silenoideae- type	UPHE	Yes	Insect/Self	X		
Sium latifolium- type	UPHE	Yes	Insect/Self	X		
Solanum dulcamara	UPHE	Yes	Insect/Self	X	X	
Solanum nigrum- type	UPHE	Yes	Insect/Self	X		
Solidago	UPHE	Yes	Insect/Self	X	X	
Sorbus- type	TRSH	Yes	Insect/Self	X	X	
Sparganium angustifolium-type	AQVP	No; Aquatic		X	X	
Spergula- type	UPHE	Yes	Insect/Self	X	X	
Sphagnum	AQBR	No; Aquatic		X	X	
Stachys- type	UPHE	Yes	Insect/Self		X	
Succisa	UPHE	Yes	Insect/Self	X	X	
Symphytum	UPHE	Yes	Insect/Self	X	X	
Syringa	TRSH	No; Planted		X		Sometimes naturalizes
Taxus baccata	TRSH	Yes	Wind	X	X	
Teucrium	UPHE	Yes	Insect/Self	X	X	
Thalictrum	UPHE	Yes	Wind	X	X	
Thelypteris palustris	VACR	No; Spore				
Tilia	TRSH	Yes	Wind	X	X	
Torilis arvensis	UPHE	Yes	Insect/Self	X	X	
Torilis japonica	UPHE	Yes	Insect/Self	X		
Torilis nodosa	UPHE	Yes	Insect/Self		X	
Tribulus terrestris	UPHE	Yes	Insect/Self		X	
Trifolium pratense- type	UPHE	Yes	Insect/Self	X	X	
Trifolium repens- type	UPHE	Yes	Insect/Self	X	X	
Trollius europaeus	UPHE	Yes	Insect/Self	X	X	
Tussilago farfara	UPHE	Yes	Insect/Self		X	
Typha angustifolia	AQVP	No; Aquatic			X	
Typha latifolia- type	AQVP	No; Aquatic		X	X	
Ulmus	TRSH	Yes	Wind	X	X	
Urtica	UPHE	Yes	Wind	X	X	
Vaccinium	TRSH	Yes	Insect/Self	X	X	
Valeriana dioica- type	UPHE	Yes	Insect/Self	X	X	
Valeriana officinalis- type	UPHE	Yes	Insect/Self	X		
Valeriana tripteris- type	UPHE	Yes	Insect/Self	X		
Valerianella	UPHE	Yes	Insect/Self	X		
Veronica	UPHE	Yes	Insect/Self	X	X	
Viburnum	TRSH	Yes	Insect/Self	X	X	
Viburnum lantana	TRSH	Yes	Insect/Self	X		
Viburnum opulus	TRSH	Yes	Insect/Self	X		
Vicia- type	UPHE	Yes	Insect/Self	X	X	
Viola	UPHE	Yes	Insect/Self	X	X	
Viscum	TRSH	Yes	Insect/Self	X	X	
Vitis	TRSH	Yes	Insect/Self	X	X	
Xanthium	UPHE	Yes	Wind	X	X	
Zea mays	UPHE	No; Planted		X	X	

Table S2: Ellenberg indicator values used for calculation of pollen- Ellenberg N. Values where obtained from FLORAVEG (floraveg.eu; Chytrý, 2024), unless stated otherwise.

Taxon name	Species list	Ellenberg N	Notes
Aethusa-type	Aethusa cynapium	6,7	
Ambrosia	Ambrosia artemisiifolia	6,2	Most likely species in region
Humulus lupulus	Humulus lupulus	7,9	
Mercurialis annua	Mercurialis annua	7	
Mercurialis perennis-type	Mercurialis perennis	6,6	Most likely species in region
Plantago alpina-type	Plantago alpina, P. arenaria	3	Most likely species in region
Plantago coronopus	Plantago coronopus	3,9	
Plantago lanceolata-type	Plantago lanceolata	4,8	Most likely species in region
Plantago major	Plantago major	5,9	
Plantago media	Plantago media	2,9	
Rumex acetosella	Rumex acetosella	2	
Rumex alpinus	Rumex alpinus	8,8	
Sanguisorba minor-type	Sanguisorba minor	2,5	Only species in region
Sanguisorba officinalis	Sanguisorba officinalis	4	
Urtica	Urtica dioica, U. urens	8,2	Two most likely species in region
Anemone sect. Hepatica	Hepatica nobilis	4	
Angelica palustris	Angelica palustris	7,5	
Anthericum	Anthericum ramosum, A. liliago	2,9	
Anthriscus sylvestris-type	Anthriscus nitida, A.sylvestris	7,45	
Apium	Apium graveolens, A. repens, A. nodiflorum	7	Values obtained from FloraWeb
Bellis	Bellis perennis	4	
Centaurea cyanus	Centaurea cyanus	5	
Centaurea scabiosa	Centaurea scabiosa	3,4	
Centaurium	Centaurium pulchellum, C. erythraea	3,7	Value for *C. pulchellum* obtained from FloraWeb
Chaerophyllum hirsutum-type	Chaerophyllum hirsutum, C. temulentum	7,2	
Chrysosplenium	Chrysosplenium alterniflorum, C. oppositifolium	5,2	
Colchicum-type	Colchicum atumnale	3,8	Most likely species in region
Daucus carota	Daucus carota	3	
Echium	Echium vulgare	4,1	Most likely species in region
Eryngium	Eryngium campestre, E. giganteum, E.alpinum	3,9	Ellenberg N not found for *E. giganteum*
Eupatorium	Eupatorium cannabium	7	
Fallopia convolvulus-type	Fallopia convolvulus, F. dumetorum	6,1	
Heracleum	Heracleum austriacum, H.mantegazzianum, H.sphondylium	6,4	
Jasione	Jasione montana	1,8	Most likely species in region
Ligusticum mutellina	Ligusticum mutellina	3,5	
Lysimachia vulgaris-type	Lysimachia punctata, L. nummularia, L. vulgaris	5,2	
Lythrum	Lythrum hyssopifolia, L.portula, L.salicaria	4,2	Value for *L. hyssopifolia* obtained from FloraWeb
Orlaya grandiflora	Orlaya grandiflora	3,8	
Ornithopus	Ornithopus perpusillus	2,3	
Pimpinella major-type	Pimpinella major	6,1	
Polygonatum	Polygonatum verticillatum, P. multiflorum, P. odoratum	4,3	
Reseda	Reseda lutea, R. luteola, R. phyteuma	5,25	Ellenberg N not found for *R. phyteuma*

Scleranthus annuus	*Scleranthus annuus*	4	
Silaum silaus	*Silaum silaus*	3,1	
Silene flos-cuculi	*Silene flos-cuculi*		
Sium latifolium-type	*Sium latifolium, Berula erecta*	6,6	
Solanum dulcamara	*Solanum dulcamara*	7,5	
Succisa	*Succisa pratensis*	2	Only species in region
Torilis arvensis	*Torilis arvensis*	5,4	
Torilis japonica	*Torilis japonica*	7,4	
Trollius europaeus	*Trollius europaeus*	5	Value obtained from Floraweb
Valeriana dioica-type	*Valeriana dioica*	2,4	
Valeriana tripteris-type	*Valeriana tripteris, V. montana*	2,05	