

Lázaro, A., Lundgren, R. and Totland, Ø. 2014. Pollen limitation, species' floral traits and pollinator visitation: different relationships in contrasting communities. – Oikos doi: 10.1111/oik.01525

Table A1. The plant species of each community included in this study, the flower unit (Fl. unit; F: flower; I: inflorescence) for the estimation of abundance, visitation rate and flower size, the evolutionary specialization (Ev. Speci; U: unspecialized; S: specialized), flower size in mm² (Fl. size) and ecological generalization (Ecol. G used for the analyses). The source used for plant species names is Gyldendals store nordiske Flora. 2007. Mossberg B and Stenberg L (eds). Gyldendal Norsk Forlag AS 2007. Oslo, Norway.

| Community | Species | Fl. Unit | Ev.Speci | Fl. size | Ecol. Gene | Community | Species | Fl. unit | Ev.Speci | Fl. size | Ecol. Gene |
|---------------------------|-------------------------------|----------|----------|----------|---------------------------|-----------|---|----------|----------|----------|------------|
| Ryghsetra | <i>Anthyllis vulneraria</i> | F | S | 131.17 | 2.94 | Finse | <i>Astragalus alpinus</i> | F | S | 430.90 | 2.93 |
| | <i>Aquilegia vulgaris</i> | F | U | 2350.14 | | | <i>Bartsia alpina</i> | F | S | 303.66 | 2.00 |
| | <i>Centaurea jacea</i> | I | U | 1165.72 | 1.23 | | <i>Campanula rotundifolia</i> | F | S | 345.70 | 1.00 |
| | <i>Fragaria vesca</i> | F | U | 135.79 | 3.45 | | <i>Cerastium alpinum</i> | F | U | 142.89 | 1.00 |
| | <i>Galium mollugo</i> | F | U | 45.93 | 1.81 | | <i>Coeloglossum viride</i> | F | S | 47.02 | |
| | <i>Geranium sylvaticum</i> | F | U | 534.60 | 3.80 | | <i>Dryas octopetala</i> | F | U | 360.11 | 1.06 |
| | <i>Geum rivale</i> | F | S | 226.02 | 1.10 | | <i>Erigeron uniflorus</i> | I | U | 35.13 | 1.24 |
| | <i>Gymnadenia conopsea</i> | F | S | 399.94 | | | <i>Euphrasia wettsteinii</i> | F | S | 50.50 | |
| | <i>Knautia arvensis</i> | I | U | 1238.63 | 2.48 | | <i>Gentiana nivalis</i> | F | U | 40.99 | |
| | <i>Lathyrus linifolius</i> | F | S | 470.19 | 1.88 | | <i>Gentianella campestris</i> var. <i>suecica</i> | F | U | 131.96 | 1.00 |
| | <i>Leucanthemum vulgare</i> | I | U | 1071.42 | 2.26 | | <i>Geranium sylvaticum</i> | F | U | 296.35 | 1.20 |
| | <i>Linum catharticum</i> | F | U | 16.74 | 2.67 | | <i>Leontodon autumnalis</i> | I | U | 347.48 | 1.29 |
| | <i>Lotus corniculatus</i> | F | S | 509.51 | 2.65 | | <i>Parnassia palustris</i> | F | U | 144.46 | 1.20 |
| | <i>Pilosella lactucella</i> | I | U | 136.85 | 1.36 | | <i>Pinguicula vulgaris</i> | F | S | 84.52 | 2.27 |
| | <i>Pilosella officinarum</i> | I | U | 353.81 | 1.59 | | <i>Potentilla crantzii</i> | F | U | 113.68 | 1.00 |
| | <i>Pilosella pubescens</i> | I | U | 160.78 | 1.18 | | <i>Pyrola minor</i> | F | S | 28.21 | |
| | <i>Polygala vulgaris</i> | F | S | 273.42 | 1.00 | | <i>Ranunculus acris</i> | F | U | 187.68 | 1.03 |
| | <i>Potentilla crantzii</i> | F | U | 100.00 | | | <i>Saussurea alpina</i> | I | U | 240.30 | 1.32 |
| | <i>Potentilla erecta</i> | F | U | 147.66 | 2.76 | | <i>Saxifraga aizodes</i> | F | U | 40.10 | |
| | <i>Potentilla thuringiaca</i> | F | U | 179.87 | 2.86 | | <i>Silene acaulis</i> | F | U | 81.16 | 1.70 |
| <i>Prunella vulgaris</i> | F | S | 32.94 | | <i>Tofieldia pusilla</i> | F | U | 33.94 | 1.00 | | |
| <i>Ranunculus acris</i> | F | U | 184.11 | 2.30 | <i>Veronica alpina</i> | F | U | 21.79 | 1.60 | | |
| <i>Trifolium pratense</i> | F | S | 67.39 | 1.98 | <i>Veronica fruticans</i> | F | U | 24.02 | | | |
| <i>Vicia cracca</i> | F | S | 226.07 | 1.00 | <i>Viscaria alpina</i> | F | U | 92.86 | 2.00 | | |

Table A2. Generalized linear models comparing total seed set for control branches in the same individuals where supplementary hand-pollination occurred (C) and external controls in other individuals (EC) for all the study species for which branches instead of the whole individuals were used for the hand-pollination experiments.

| Community | Species | n | F | p | Community | Species | n | F | p |
|-----------|-----------------------------|----|-------|-------|-----------|----------------------------|----|-------|-------|
| Ryghsetra | <i>Anthyllis vulneraria</i> | 30 | 0.015 | 0.904 | Finse | <i>Coeloglossum viride</i> | 24 | 2.023 | 0.168 |
| | <i>Aquilegia vulgaris</i> | 30 | 2.037 | 0.164 | | <i>Dryas octopetala</i> | 24 | 0.614 | 0.441 |
| | <i>Galium mollugo</i> | 54 | 0.027 | 0.870 | | <i>Saxifraga aizodes</i> | 30 | 2.004 | 0.168 |
| | <i>Gymnadenia conopsea</i> | 30 | 0.031 | 0.861 | | <i>Silene acaulis</i> | 32 | 2.439 | 0.129 |
| | <i>Lotus corniculatus</i> | 28 | 0.656 | 0.425 | | | | | |
| | <i>Potentilla crantzii</i> | 28 | 0.000 | 0.988 | | | | | |
| | <i>Potentilla erecta</i> | 26 | 0.926 | 0.345 | | | | | |
| | <i>Prunella vulgaris</i> | 30 | 3.201 | 0.084 | | | | | |
| | <i>Trifolium pratense</i> | 18 | 0.016 | 0.902 | | | | | |
| | <i>Vicia cracca</i> | 20 | 2.135 | 0.160 | | | | | |

Table A3. AIC values obtained for the five models explaining pollen limitation (PL) at Ryghsetra. Evol. Spec.: evolutionary specialization. PG: Pollination generalization.

DPD: Degree of pollinator dependence.

| | Model | AIC |
|-----------------------|---|-------|
| (A) Ryghsetra | PL = Evol. Spec.*Flowering onset + Flower size | 6.38 |
| 24 species | PL = Flower size + No. of flowers | 6.43 |
| | PL = Flower size | 6.61 |
| | PL = No. of flowers | 7.48 |
| | PL = Evol. Spec.*Flowering length + DPD | 11.77 |
| (B) Ryghsetra | PL = Evol. Spec.*PG + Evol. Spec.* Flower size + Evol. Spec.* Flowering onset | 1.17 |
| 20 species | PL = Evol. Spec.* No. of flowers | 1.57 |
| (incl. Visitation and | PL = Evol. Spec.*PG | 2.37 |
| Generalization level) | PL = Evol. Spec.* Flower size | 2.97 |
| | PL = Evol. Spec.* Flowering onset | 6.76 |

Table A4. AIC values obtained for the five models explaining pollen limitation (PL) at Finse. Evol. Spec.: evolutionary specialization. DPD: Degree of pollinator dependence.

| | Model | AIC |
|-----------------------|--|--------|
| (A) Finse | $\log\text{PL} = \text{DPD} + \text{Flowering length} + \text{Ovules/flower}$ | -55.01 |
| 24 species | $\log\text{PL} = \text{DPD} + \text{Flowering length}$ | -53.31 |
| | $\log\text{PL} = \text{DPD} + \text{Flowering length} + \text{Ovules/flower} + \text{Flower size}$ | -53.15 |
| | $\log\text{PL} = \text{DPD} + \text{Flowering onset}$ | -46.03 |
| | $\log\text{PL} = \text{Flowering length} + \text{No. of flowers}$ | -43.02 |
| | | |
| (B) Finse | $\log\text{PL} = \text{Evol. Spec.} + \text{Visit rate} + \text{DPD} + \text{Flowering length} + \text{Ovules/flower}$ | -24.93 |
| 18 species | $\log\text{PL} = \text{Evol. Spec.} + \text{Visit rate} + \text{DPD} + \text{Flowering length}$ | -20.84 |
| (incl. Visitation and | $\log\text{PL} = \text{Evol. Spec.} + \text{Visit rate} + \text{DPD} + \text{Ovules/flower}$ | -17.19 |
| Generalization level) | $\log\text{PL} = \text{Visit rate} + \text{DPD} + \text{Flowering length} + \text{Ovules/flower}$ | -17.00 |
| | $\log\text{PL} = \text{Evol. Spec.} + \text{Visit rate} + \text{DPD}$ | -15.29 |