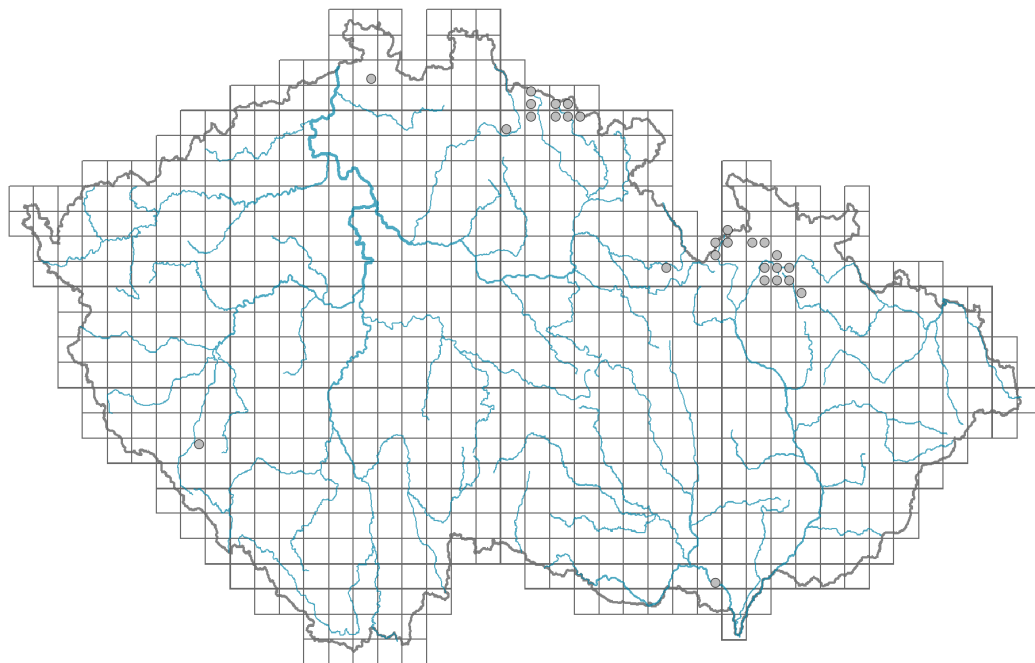


# *Delphinium elatum*

## Distribution



© Marek Mejštřík

### Map info

● revised records

○ unrevised records

On the map are not visualized records without the coordinates and records marked as incorrect or doubtful.



© Ondřej Pěnčík

## Habitus and growth type

Height [m]: **0.5-2**

Growth form: **polycarpic perennial non-clonal herb**

Life form: **hemicryptophyte**

Life strategy: **C - competitor**

## Leaf

Leaf presence and metamorphosis: **leaves present, not modified**

Leaf arrangement (phyllotaxis): **alternate**

Leaf shape: **simple - palmately divided**

Stipules: **absent**

Petiole: **present**

Leaf life span: **summer green**

Leaf anatomy: **mesomorphic**

## Flower

Flowering period [month]: **July-August**

Flower colour: **white, blue**

Flower symmetry: **zygomorphic**

Perianth type: **homochlamydeous**

Perianth fusion: **free**

Inflorescence type: **racemus**

Dicliny: **synoecious**

Generative reproduction type: **alogamy self-incompatibility**

Pollination syndrome: **insect-pollination**

## Fruit, seed and dispersal

Fruit type: **dry fruit - cluster of follicles**

Fruit colour: **brown**

Reproduction type: **by seed/spores and vegetatively**

Dispersal unit (diaspore): **seed**

Dispersal strategy: **Allium (mainly autochory)**

Myrmecochory: **probably myrmecochorous**

## Belowground organs and clonality

Shoot metamorphosis: **rhizome-like pleiocorm**

Storage organ: **rhizome-like pleiocorm**

Shoot life span (cyclicity): **monocyclic shoots prevailing**

Branching type of stem-derived organs of clonal growth: **sympodial**

Primary root: **present**

Bud bank

Number of buds per shoot at the soil surface (root buds excluded): **5**

Number of buds per shoot at a depth of 0–10 cm (root buds excluded): **15**

Number of buds per shoot at a depth greater than 10 cm (root buds excluded): **0**

Size of the belowground bud bank (root buds excluded): **20**

Depth of the belowground bud bank (root buds excluded) [cm]: **4**

Number of buds per shoot at the soil surface (root buds included): **5**

Number of buds per shoot at a depth of 0–10 cm (root buds included): **15**

Number of buds per shoot at a depth greater than 10 cm (root buds included): **0**

Size of the belowground bud bank (root buds included): **20**

Depth of the belowground bud bank (root buds included) [cm]: **4**

## Trophic mode

Parasitism and mycoheterotrophy: **autotrophic**

Carnivory: **non-carnivorous**

Symbiotic nitrogen fixation: **no nitrogen-fixing symbionts**

## Karyology

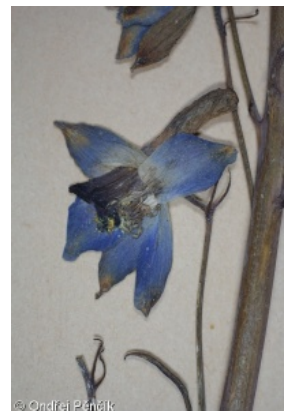
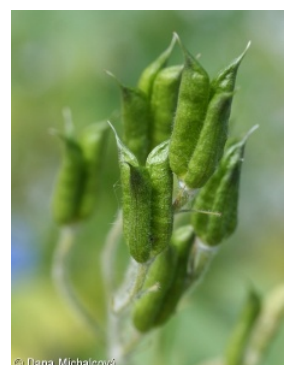
Chromosome number (2n): **32**

Ploidy level (x): **4**

2C genome size [Mbp]: **7468.04**

1Cx monoploid genome size [Mbp]: **1867.01**

Genomic GC content: **43.2 %**



## Taxon origin

Origin in the Czech Republic: **native**

## Ecological indicator values

Ellenberg-type indicator values

Light indicator value: **6 - transition between values 5 and 7; rarely at less than 20% of diffuse radiation incident in an open area**

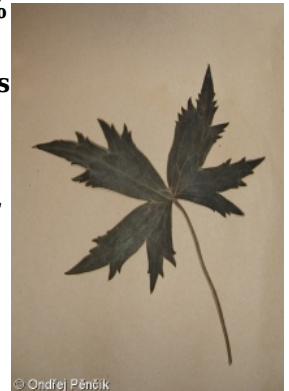
Temperature indicator value: **3 - cool indicator, occurring mainly in subalpine areas**

Moisture indicator value: **7 - humidity indicator, focus on well moistened, but not wet soils**

Reaction indicator value: **7 - indicator of slightly acidic to slightly basic conditions, never occurring in very acidic conditions**

Nutrient indicator value: **7 - occurring at nutrient-rich sites more often than at average sites and only exceptionally at poor sites**

Salinity indicator value: **0 - not salt tolerant, glycophyte**



## Habitat and sociology

Occurrence in habitats

2 Alpine and subalpine grasslands

2B Subalpine tall-forb and tall-grass vegetation: **2 - optimum**

4 Wetland and riverine herbaceous vegetation

4K Petasites fringes of montane brooks: **1 - rare occurrence**

5 Vegetation of springs and mires

5C Alpine and subalpine soft-water springs: **1 - rare occurrence**

11 Heathlands and scrub

11H Subalpine deciduous scrub: **1 - rare occurrence**

12 Forests

12E Herb-rich beech forests: **1 - rare occurrence**

12S Basiphilous spruce forests: **1 - rare occurrence**

13 Anthropogenic vegetation

13E Perennial nitrophilous herbaceous vegetation of mesic sites: **1 - rare occurrence**

Affinity to the forest environment

Affinity to the forest environment in Thermophyticum: **0 - taxon that does not spontaneously occur in Czech forests**

Affinity to the forest environment in Mesophyticum and Oreophyticum: **0 - taxon that does not spontaneously occur in Czech forests**

Diagnostic taxon

Diagnostic taxon of classes: [AD Mulgedio-Aconitetea](#)

Diagnostic taxon of alliances: [ADB Calamagrostion arundinaceae](#), [ADD Adenostylon alliariae](#)

Diagnostic taxon of associations: [ADB01 Bupleuro longifoliae-Calamagrostietum arundinaceae](#), [ADD04 Laserpitio archangelicae-Dactylidetum glomeratae](#)

Constant taxon

Constant taxon of associations: [ADD04 Laserpitio archangelicae-Dactylidetum glomeratae](#)

## Colonization ability

Index of colonization success (ICS): **1**

## Distribution and frequency

Floristic zone: **boreal, northern temperate, southern temperate, submeridional**

Floristic region: **Europe, Siberia**

Continentality degree: **7**

Distribution range extension along the continentality gradient: **5**

Elevational belt in the Czech Republic: **montane belt, subalpine belt**

Occurrence frequency in the basic grid mapping cells and quadrants of the basic grid mapping cells: **19**

taxon.data.freq\_in\_quad: **28**

### Commonness in vegetation plots from the Czech Republic

Occurrence frequency in vegetation plots: **0.1 %**

Occurrence frequency in vegetation plots with a cover above 5%: **37.5 %**

Occurrence frequency in vegetation plots with a cover above 25%: **6.3 %**

Occurrence frequency in vegetation plots with a cover above 50%: **0 %**

Mean percentage cover in vegetation plots: **8 %**

Maximum percentage cover in vegetation plots: **38 %**

### Number of habitats with taxon occurrence in the Czech Republic

Number of narrow habitats in which the taxon occurs: **7**

Number of narrow habitats in which the taxon has its optimum: **1**

Number of broad habitats in which the taxon occurs: **6**

Number of broad habitats in which the taxon has its optimum: **1**

## Threats and protection

Red List 2017 (national categories): **C2r - endangered taxon, rare**

Red List 2017 (IUCN categories): **EN - endangered**

Legal protection: **endangered taxon**