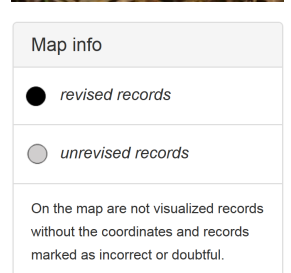
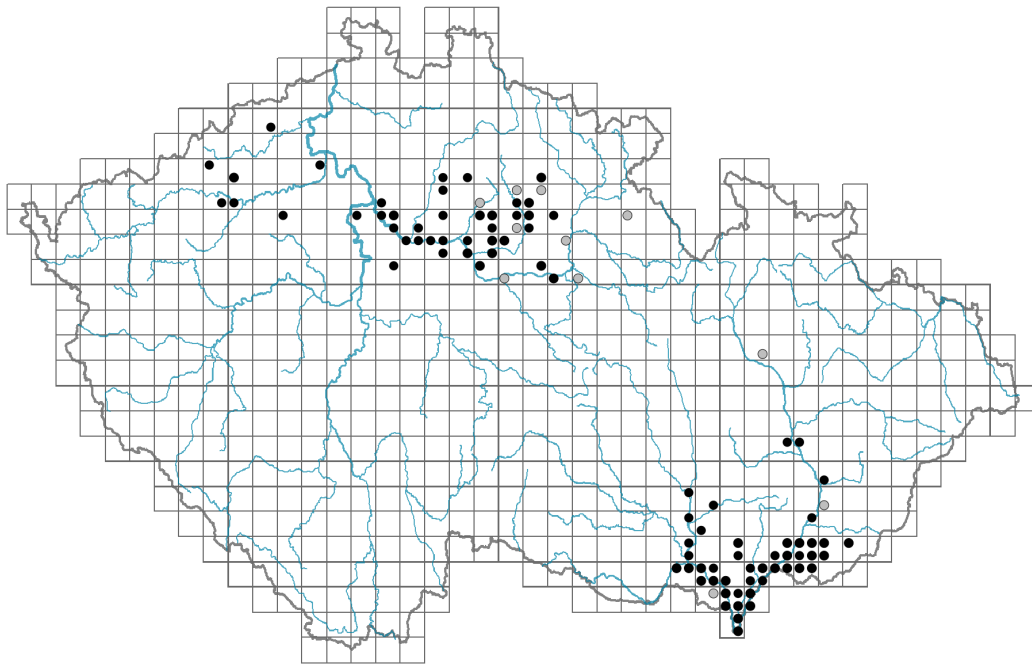


# *Viola pumila*

## Distribution



## Habitus and growth type

Height [m]: **0.05-0.3**

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

Life form: **hemicryptophyte**

Life strategy: **CSR - competitor/stress-tolerator/ruderal**

## Leaf

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

Leaf arrangement (phyllotaxis): **alternate**

Leaf shape: **simple - entire**

Stipules: **present**

Petiole: **present**

## Flower

Flowering period [month]: **May-June**

Flower colour: **violet, blue-violet**

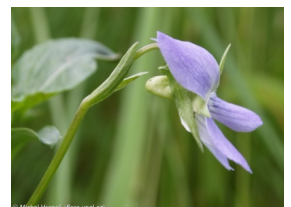
Flower symmetry: **zygomorphic**

Perianth type: **calyx and corolla**

Perianth fusion: **free**

Calyx fusion: **aposepalous**

Inflorescence type: **flores solitarii**



Dicliny: **synoecious**

Generative reproduction type: **mixed mating**

Pollination syndrome: **insect-pollination, cleistogamy**

### **Fruit, seed and dispersal**

Fruit type: **dry fruit - capsule**

Fruit colour: **brown**

Reproduction type: **only by seed/spores**

Dispersal unit (diaspore): **seed**

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

Myrmecochory: **myrmecochorous**

### **Belowground organs and clonality**

Shoot metamorphosis: **pleiocorm**

Storage organ: **pleiocorm**

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

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

Primary root: **present**

Position of root buds: **primary root**

Role of root buds in life-history of a plant: **additive**

#### **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): **5**

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): **10**

Depth of the belowground bud bank (root buds excluded) [cm]: **3**

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): **5**

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): **10**

Depth of the belowground bud bank (root buds included) [cm]: **3**

### **Trophic mode**

Parasitism and mycoheterotrophy: **autotrophic**

Carnivory: **non-carnivorous**

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

### **Karyology**

Chromosome number (2n): **40**

Ploidy level (x): **8**

2C genome size [Mbp]: **2309.8**

1Cx monoploid genome size [Mbp]: **288.73**

Genomic GC content: **40.5 %**



## Taxon origin

Origin in the Czech Republic: **native**

## Ecological indicator values

Ellenberg-type indicator values

Light indicator value: 7 - **half-light plant, mostly occurring at full light, but also in the shade up to about 30% of diffuse radiation incident in an open area**

Temperature indicator value: 7 - **heat indicator, occurring in relatively warm lowlands**

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: 5 - **occurring at moderately nutrient-rich sites, and less frequently at poor and rich sites**

Salinity indicator value: 1 - **salt tolerant, mostly on low-salt to salt-free soils, but occasionally on slightly salty soils**

Indicator values for disturbance

Whole-community disturbance frequency indicator value: **-0.06**

Herb layer disturbance frequency indicator value: **-0.06**

Whole-community disturbance severity indicator value: **0.29**

Herb layer disturbance severity indicator value: **0.32**

Whole-community structure based disturbance indicator value: **0.57**

Herb layer structure-based disturbance indicator value: **0.7**

## Habitat and sociology

Occurrence in habitats

5 Vegetation of springs and mires

5D Calcareous fens: **2 - optimum**

6 Meadows and mesic pastures

6D Alluvial meadows of lowland rivers: **2 - optimum**

6F Intermittently wet Molinia meadows: **2 - optimum**

11 Heathlands and scrub

11L Tall mesic and xeric shrub: **1 - rare occurrence**

12 Forests

12B Alluvial forests: **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 associations: [TDE04 \*Cnidio dubii-Deschampsietum cespitosae\*](#)

Constant taxon

Constant taxon of associations: [TDE04 \*Cnidio dubii-Deschampsietum cespitosae\*](#)

## Ecological specialization indices

Ecological specialization index for all vegetation types: **6.5**

Ecological specialization index for non-forest vegetation: **6.5**

## Colonization ability

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

## Distribution and frequency

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

Floristic region: **Europe, Western Asia**

Continental degree: **7**

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

Elevational belt in the Czech Republic: **lowlands, colline belt**

Occurrence frequency in the basic grid mapping cells and quadrants of the basic grid mapping cells: **64**

taxon.data.freq\_in\_quad: **99**

## 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%: **3.6 %**

Occurrence frequency in vegetation plots with a cover above 25%: **0 %**

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

Mean percentage cover in vegetation plots: **2.1 %**

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

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

Number of narrow habitats in which the taxon occurs: **5**

Number of narrow habitats in which the taxon has its optimum: **3**

Number of broad habitats in which the taxon occurs: **4**

Number of broad habitats in which the taxon has its optimum: **2**

## Threats and protection

Red List 2017 (national categories): **C2t - endangered taxon, declining**

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

Legal protection: **endangered taxon**