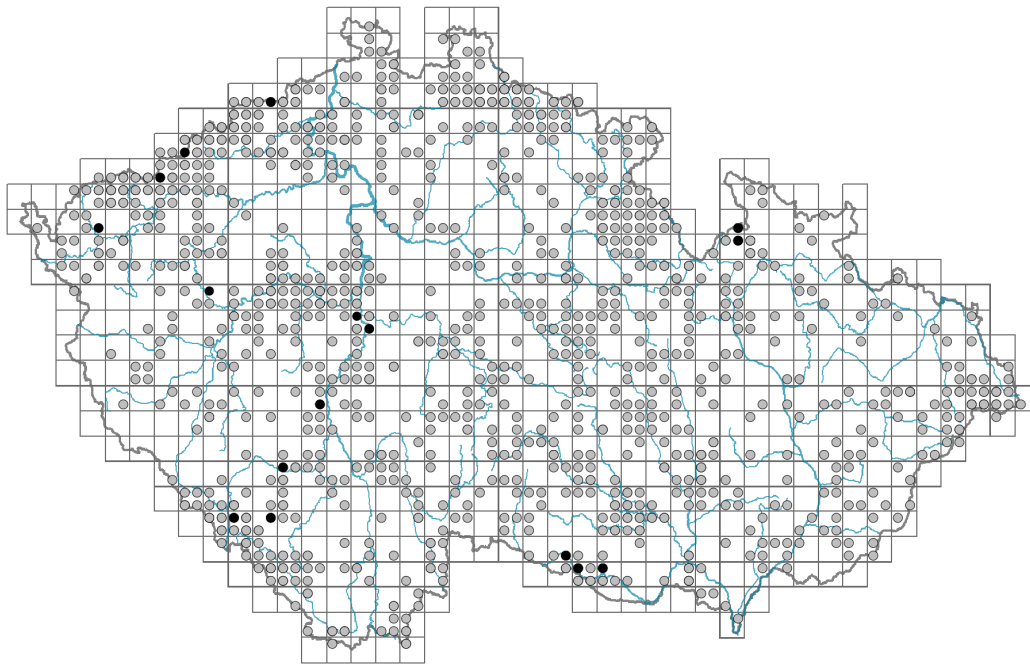


# *Viola tricolor*

## Distribution



© Pavel Veselý

### Map info

● revised records

○ unrevised records

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

## Habitus and growth type

Height [m]: **0.1-0.45**Growth form: **annual herb**Life form: **hemicryptophyte, therophyte**Life strategy: **R - ruderal**Life strategy (Pierce method based on leaf traits): **R/CR**Life strategy (Pierce method, C-score): **25.6 %**Life strategy (Pierce method, S-score): **2.5 %**Life strategy (Pierce method, R-score): **71.9 %**

## Leaf

Leaf presence and metamorphosis: **leaves present, not modified**Leaf arrangement (phyllotaxis): **alternate**Leaf shape: **simple - entire**Stipules: **present**Petiole: **present**Leaf life span: **evergreen**Leaf anatomy: **mesomorphic, hygromorphic**

## Flower

Flowering period [month]: **April-September**

© Pavel Veselý



© Pavel Veselý



© Marie Konečná

Flowering phase: **4 Fagus sylvatica-Galeobdolon (start of mid-spring)**  
 Flower colour: **yellow-white, yellow, 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, selfing**

### 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**

#### 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): **26**  
 Ploidy level (x): **6**



2C genome size [Mbp]: **3463.31**

1Cx monoploid genome size [Mbp]: **577.22**

## 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: **5 - moderate heat indicator, occurring from lowland to montane belt, mainly in submontane-temperate areas**

Moisture indicator value: **4 - transition between values 3 and 5**

Reaction indicator value: **4 - transition between values 3 and 5**

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

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

Indicator values for disturbance

Whole-community disturbance frequency indicator value: **-0.81**

Herb layer disturbance frequency indicator value: **-0.45**

Whole-community disturbance severity indicator value: **0.63**

Herb layer disturbance severity indicator value: **0.64**

Whole-community structure based disturbance indicator value: **0.59**

Herb layer structure-based disturbance indicator value: **0.67**

## Habitat and sociology

Occurrence in habitats

1 Vegetation of cliffs, screes and walls

1B Siliceous cliffs and block fields: **2 - optimum**

1D Mobile calcareous screes: **1 - rare occurrence**

4 Wetland and riverine herbaceous vegetation

4D Riverine reed vegetation: **1 - rare occurrence**

4H Vegetation of low annual hygrophilous herbs: **1 - rare occurrence**

6 Meadows and mesic pastures

6A Mesic Arrhenatherum meadows: **1 - rare occurrence**

6B Montane mesic meadows: **2 - optimum**

6C Pastures and park grasslands: **1 - rare occurrence**

8 Dry grasslands

8A Hercynian dry grasslands on rock outcrops: **2 - optimum**

8B Submediterranean dry grasslands on rock outcrops: **2 - optimum**

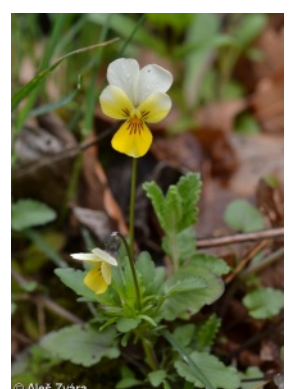
8C Narrow-leaved sub-continental steppes: **1 - rare occurrence**

8E Acidophilous dry grasslands: **1 - rare occurrence**

8F Thermophilous forest fringe vegetation: **1 - rare occurrence**

9 Sand grasslands and rock-outcrop vegetation

9B Open vegetation of acidic sands: **1 - rare occurrence**



9E Acidophilous vegetation of spring therophytes and succulents: **1 - rare occurrence**

11 Heathlands and scrub

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

11N Low xeric scrub: **2 - optimum**

12 Forests

12H Peri-Alpidic basiphilous thermophilous oak forests: **1 - rare occurrence**

12J Acidophilous thermophilous oak forests: **1 - rare occurrence**

12K Acidophilous oak forests: **1 - rare occurrence**

12T Robinia pseudacacia plantations: **1 - rare occurrence**

13 Anthropogenic vegetation

13A Annual vegetation of ruderal habitats: **1 - rare occurrence**

13B Annual vegetation of arable land: **2 - optimum**

13D Perennial thermophilous ruderal vegetation: **1 - rare occurrence**

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

13F Herbaceous vegetation of forests clearings and Rubus scrub: **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**

Ecological specialization indices

Ecological specialization index for all vegetation types: **3.6**

Ecological specialization index for non-forest vegetation: **3.7**

Ecological specialization index for forest vegetation: **4.2**

Colonization ability

Index of colonization success (ICS): **4**

Index of colonization potential (ICP): **4**

Optimum successional age [years]: **3.5**

## Distribution and frequency

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

Floristic region: **Europe**

Elevational belt in the Czech Republic: **lowlands, colline belt, submontane belt, montane belt, subalpine belt**

Occurrence frequency in the basic grid mapping cells and quadrants of the basic grid mapping cells: 468

taxon.data.freq\_in\_quad: 901

Commonness in vegetation plots from the Czech Republic

Occurrence frequency in vegetation plots: **0.6 %**

Occurrence frequency in vegetation plots with a cover above 5%: **7.2 %**

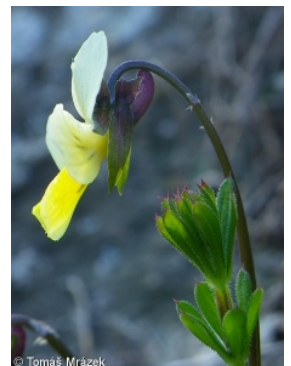
Occurrence frequency in vegetation plots with a cover above 25%: **0 %**

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

Mean percentage cover in vegetation plots: **2.8 %**

Maximum percentage cover in vegetation plots: **18 %**

Number of habitats with taxon occurrence in the Czech Republic



Number of narrow habitats in which the taxon occurs: **25**

Number of narrow habitats in which the taxon has its optimum: **6**

Number of broad habitats in which the taxon occurs: **8**

Number of broad habitats in which the taxon has its optimum: **5**

### Threats and protection

Red List 2017 (national categories): **C3 - vulnerable taxon**

Red List 2017 (IUCN categories): **LC - least concern**

Legal protection: **not protected by law**

