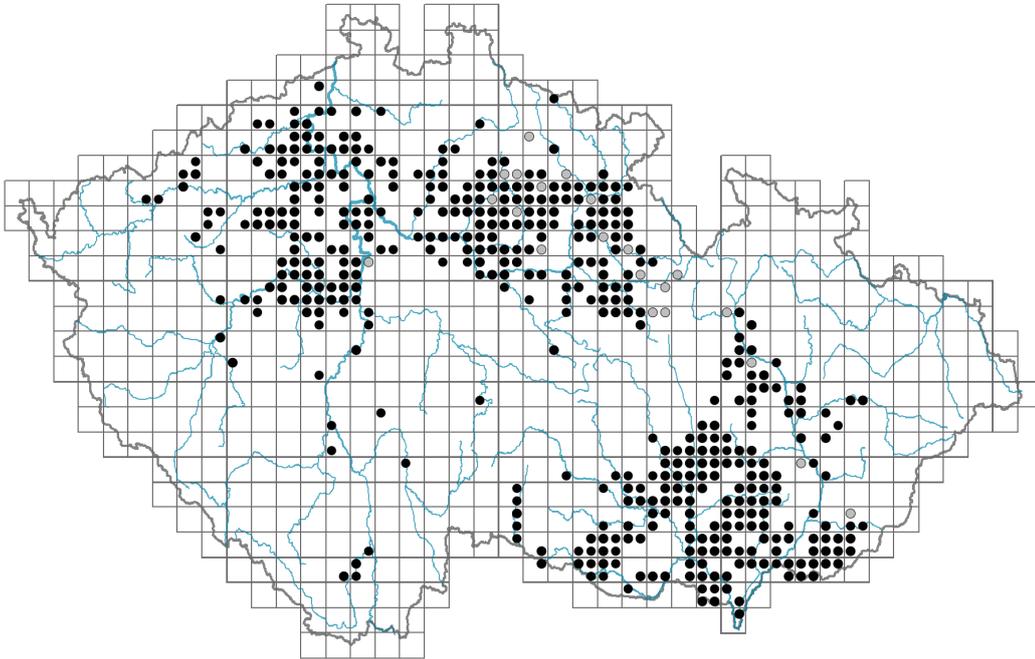


# *Viola mirabilis*

## Distribution



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]: **0.1-0.3**

Growth form: **clonal herb**

Life form: **hemicryptophyte**

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

Life strategy (Pierce method based on leaf traits): **CR**

Life strategy (Pierce method, C-score): **47.5 %**

Life strategy (Pierce method, S-score): **0.4 %**

Life strategy (Pierce method, R-score): **52.1 %**

## Leaf

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

Leaf arrangement (phyllotaxis): **alternate, rosulate**

Leaf shape: **simple - entire**

Stipules: **present**

Petiole: **present**

Leaf life span: **summer green**

Leaf anatomy: **mesomorphic**

## Flower

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

Flowering phase: **3 Prunus avium-Ranunculus auricomus (end of early spring)**

Flower colour: **violet**

Flower symmetry: **zygomorphic**

Perianth type: **calyx and corolla**

Perianth fusion: **free**

Calyx fusion: **aposepalous**

Inflorescence type: **flores solitarii**

Dicliny: **synoecious**

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

### Fruit, seed and dispersal

Fruit type: **dry fruit - capsule**

Fruit colour: **brown**

Reproduction type: **mostly vegetatively, rarely by seed/spores**

Dispersal unit (diaspore): **seed**

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

Myrmecochory: **myrmecochorous**

### Belowground organs and clonality

Shoot metamorphosis: **rhizome**

Root metamorphosis: **root shoot**

Storage organ: **rhizome**

Type of clonal growth organ: **epigeogenous rhizome**

Freely dispersible organs of clonal growth: **absent**

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

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

Primary root: **absent**

Persistence of the clonal growth organ [year]: **4**

Number of clonal offspring: **0.5**

Lateral spreading distance by clonal growth [m]: **0.01**

Clonal index: **2**

Position of root buds: **lateral roots**

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): **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): **19**

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

Size of the belowground bud bank (root buds included): **39**

Depth of the belowground bud bank (root buds included) [cm]: **8**



## Trophic mode

Parasitism and mycoheterotrophy: **autotrophic**

Carnivory: **non-carnivorous**

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

## Karyology

Chromosome number (2n): **20**

Ploidy level (x): **4**

2C genome size [Mbp]: **1120.67**

1Cx monoploid genome size [Mbp]: **280.17**

Genomic GC content: **40.9 %**

## Taxon origin

Origin in the Czech Republic: **native**

## Ecological indicator values

Ellenberg-type indicator values

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

Temperature indicator value: **6 - transition between values 5 and 7**

Moisture indicator value: **5 - indicator of fresh soils, focus on soils of average moisture, missing on wet and on soils that frequently dry out**

Reaction indicator value: **8 - transition between values 7 and 9, occurring mostly in calcium-rich conditions**

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

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

Indicator values for disturbance

Whole-community disturbance frequency indicator value: **-1.95**

Herb layer disturbance frequency indicator value: **-0.75**

Whole-community disturbance severity indicator value: **0.22**

Herb layer disturbance severity indicator value: **0.05**

Whole-community structure based disturbance indicator value: **0.05**

Herb layer structure-based disturbance indicator value: **0.14**

## Habitat and sociology

Occurrence in habitats

1 Vegetation of cliffs, screes and walls

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

8 Dry grasslands

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

11 Heathlands and scrub

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

11N Low xeric scrub: **1 - rare occurrence**



11R Scrub and pioneer woodland of forests clearings: **1 - rare occurrence**

12 Forests

12B Alluvial forests: **1 - rare occurrence**

12C Oak-hornbeam forests: **2 - optimum**

12D Ravine forests: **2 - optimum**

12F Limestone beech forests: **2 - optimum**

12H Peri-Alpidic basiphilous thermophilous oak forests: **2 - optimum**

12I Sub-continental thermophilous oak forests: **2 - optimum**

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

13 Anthropogenic vegetation

13F Herbaceous vegetation of forests clearings and Rubus scrub: **1 - rare occurrence**

Affinity to the forest environment

Affinity to the forest environment in Thermophyticum: **1.1 - taxon occurring mainly in the closed forest**

Affinity to the forest environment in Mesophyticum and Oreophyticum: **1.1 - taxon occurring mainly in the closed forest**

Diagnostic taxon

Diagnostic taxon of alliances: [LCA Quercion pubescenti-petraeae](#), [LCB Aceri tatarici-Quercion](#)

Diagnostic taxon of associations: [LBB04 Primulo veris-Carpinetum betuli](#), [LCA02 Lithospermo purpureo-caerulei-Quercetum pubescentis](#), [LCB01 Quercetum pubescenti-roboris](#)

Constant taxon

Constant taxon of associations: [LBB04 Primulo veris-Carpinetum betuli](#)

Ecological specialization indices

Ecological specialization index for all vegetation types: **5.7**

Ecological specialization index for non-forest vegetation: **4.3**

Ecological specialization index for forest vegetation: **5.8**

Colonization ability

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

Index of colonization potential (ICP): **7**

Optimum successional age [years]: **42**

## Distribution and frequency

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

Floristic region: **Europe, Asia**

Continental degree: **6**

Distribution range extension along the continentality gradient: **6**

Elevational belt in the Czech Republic: **lowlands, colline belt (montane belt)**

Occurrence frequency in the basic grid mapping cells and quadrants of the basic grid mapping cells: **252**

taxon.data.freq\_in\_quad: **510**

Commonness in vegetation plots from the Czech Republic

Occurrence frequency in vegetation plots: **0.4 %**

Occurrence frequency in vegetation plots with a cover above 5%: **9.7 %**

Occurrence frequency in vegetation plots with a cover above 25%: **0.7 %**

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

Mean percentage cover in vegetation plots: **3.3 %**

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: **13**

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

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

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

### **Threats and protection**

Red List 2017 (national categories): **C4a - near threatened taxon**

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

Legal protection: **not protected by law**