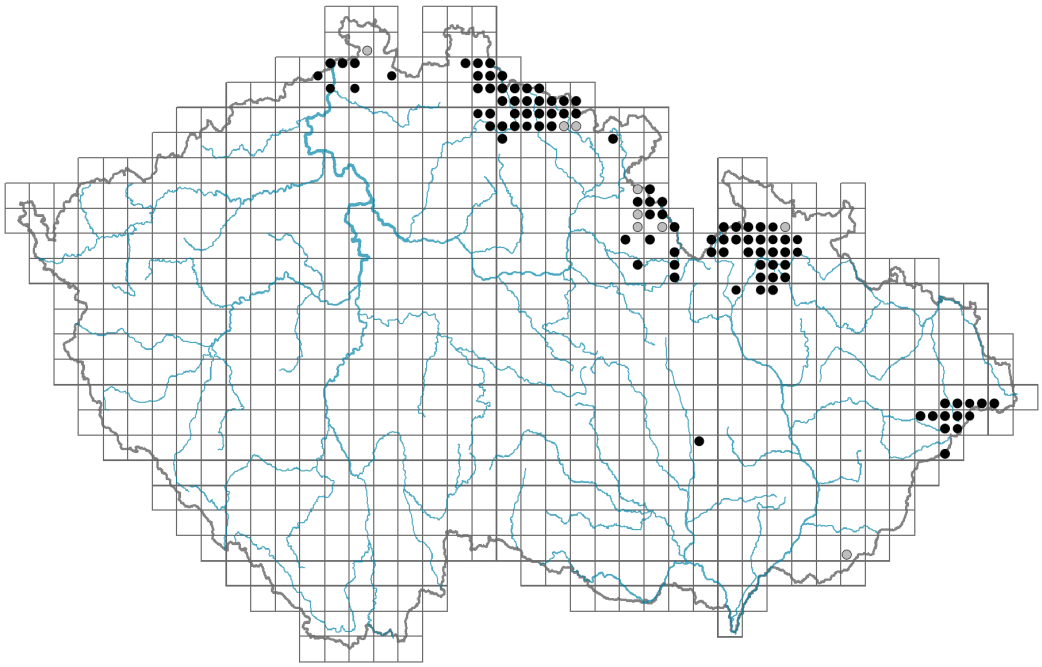
Viola biflora

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]: **0.1–0.2**
Growth form: **clonal herb**
Life form: **hemicryptophyte**
Life strategy: **CSR – competitor/stress-tolerator/ruderal**
Life strategy (Pierce method based on leaf traits): **R**
Life strategy (Pierce method, C-score): **8.6 %**
Life strategy (Pierce method, S-score): **0 %**
Life strategy (Pierce method, R-score): **91.4 %**

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: **hygromorphic**

Flower

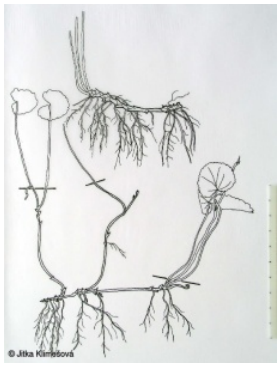
Flowering period [month]: **May–August**

Flowering phase: **3 Prunus avium-Ranunculus auricomus (end of early spring)**
Flower colour: **yellow**
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, cleistogamy**
Pollinator spectrum: **hoverflies, flies s. l., meat flies s. l., other Diptera (other Hymenoptera)**

Fruit, seed and dispersal

Fruit type: **dry fruit – capsule**
Fruit colour: **green, brown**
Reproduction type: **by seed/spores and vegetatively**
Dispersal unit (diaspore): **seed**
Dispersal strategy: **Allium (mainly autochory)**
Myrmecochory: **myrmecochorous**

Belowground organs and clonality



Shoot metamorphosis: **rhizome**
Storage organ: **rhizome**
Type of clonal growth organ: **epigeogenous rhizome**
Freely dispersible organs of clonal growth: **absent**
Shoot life span (cyclicity): **monocyclic shoots prevailing**
Branching type of stem-derived organs of clonal growth: **monopodial**
Primary root: **absent**
Persistence of the clonal growth organ [year]: **2.5**
Number of clonal offspring: **0.9**
Lateral spreading distance by clonal growth [m]: **0.1**
Clonal index: **4**

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): **12**
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): **17**
Depth of the belowground bud bank (root buds exluded) [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): **12**
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): **17**
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): **12**
Ploidy level (x): **2**
2C genome size [Mbp]: **981.46**
1Cx monoploid genome size [Mbp]: **490.73**
Genomic GC content: **43.3 %**

Taxon origin

Origin in the Czech Republic: **native**

Ecological indicator values

Ellenberg-type indicator values

Light indicator value: **4x – transition between values 3 and 5 (generalist)**
Temperature indicator value: **3 – cool indicator, occurring mainly in subalpine areas**
Moisture indicator value: **8 – transition between values 7 and 9**
Reaction indicator value: **6 – transition between values 5 and 7**
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: **-1.01**
Herb layer disturbance frequency indicator value: **-0.68**
Whole-community disturbance severity indicator value: **0.19**
Herb layer disturbance severity indicator value: **0.23**
Whole-community structure based disturbance indicator value: **0.49**
Herb layer structure-based disturbance indicator value: **0.53**

Habitat and sociology

Occurrence in habitats

1 Vegetation of cliffs, screes and walls

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

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: **2 – optimum**

5 Vegetation of springs and mires

5B Lowland to montane soft-water springs: **1 – rare occurrence**
5C Alpine and subalpine soft-water springs: **2 – optimum**

11 Heathlands and scrub

11H Subalpine deciduous scrub: **2 – optimum**

12 Forests

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

12R Acidophilous spruce forests: **1 – rare occurrence**

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

Affinity to the forest environment

Affinity to the forest environment in Mesophyticum and Oreophyticum: **2.1 – taxon occurring both in the forest and open vegetation**

Diagnostic taxon

Diagnostic taxon of classes: **AC *Elyno-Seslerietea***, **AD *Mulgedio-Aconitetea***, **RA *Montio-Cardaminetea***

Diagnostic taxon of alliances: **ACA *Agrostion alpinae***, **ADB *Calamagrostion arundinaceae***, **ADD *Adenostylion alliariae***, **RAD *Swertio perennis-Dichodontion palustris***

Diagnostic taxon of associations: **ACA01 *Saxifrago oppositifoliae-Festucetum versicoloris***, **ADA03 *Violo sudeticae-Deschampsietum cespitosae***, **ADB01 *Bupleuro longifoliae-Calamagrostietum arundinaceae***, **ADC01 *Salici silesiacae-Betuletum carpaticae***, **ADD01 *Ranunculo platanifolii-Adenostyletum alliariae***, **ADD02 *Salicetum lapponum***, **ADD04 *Laserpitio archangelicae-Dactylidetum glomeratae***, **RAD01 *Crepido paludosae-Philonotidetum seriatae***, **RAD02 *Swertietum perennis***, **RAD03 *Cardaminetum opicii***, **RBC04 *Bartsio alpinae-Caricetum nigrae***

Constant taxon

Constant taxon of alliances: **RAD *Swertio perennis-Dichodontion palustris***

Constant taxon of associations: **ACA01 *Saxifrago oppositifoliae-Festucetum versicoloris***, **ADD01 *Ranunculo platanifolii-Adenostyletum alliariae***, **ADD02 *Salicetum lapponum***, **KCA02 *Adenostylo alliariae-Pinetum mugo***, **RAD01 *Crepido paludosae-Philonotidetum seriatae***, **RAD02 *Swertietum perennis***, **RAD03 *Cardaminetum opicii***

Dominant taxon

Dominant taxon of associations: **RAD03 *Cardaminetum opicii***

Ecological specialization indices

Ecological specialization index for all vegetation types: **5**

Ecological specialization index for non-forest vegetation: **5.1**

Ecological specialization index for forest vegetation: **5.9**

Distribution and frequency

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

Floristic region: **Europe, Asia, Western America**

Continentality degree: **6**

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

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

Occurrence frequency in the basic grid mapping cells and quadrants of the basic grid mapping cells: 57

taxon.data.freq_in_quad: 110

Commonness in vegetation plots from the Czech Republic

Occurrence frequency in vegetation plots: **0.3 %**
Occurrence frequency in vegetation plots with a cover above 5%: **13.6 %**
Occurrence frequency in vegetation plots with a cover above 25%: **1.1 %**
Occurrence frequency in vegetation plots with a cover above 50%: **0 %**
Mean percentage cover in vegetation plots: **4 %**
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: **9**
Number of narrow habitats in which the taxon has its optimum: **5**
Number of broad habitats in which the taxon occurs: **6**
Number of broad habitats in which the taxon has its optimum: **5**

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**