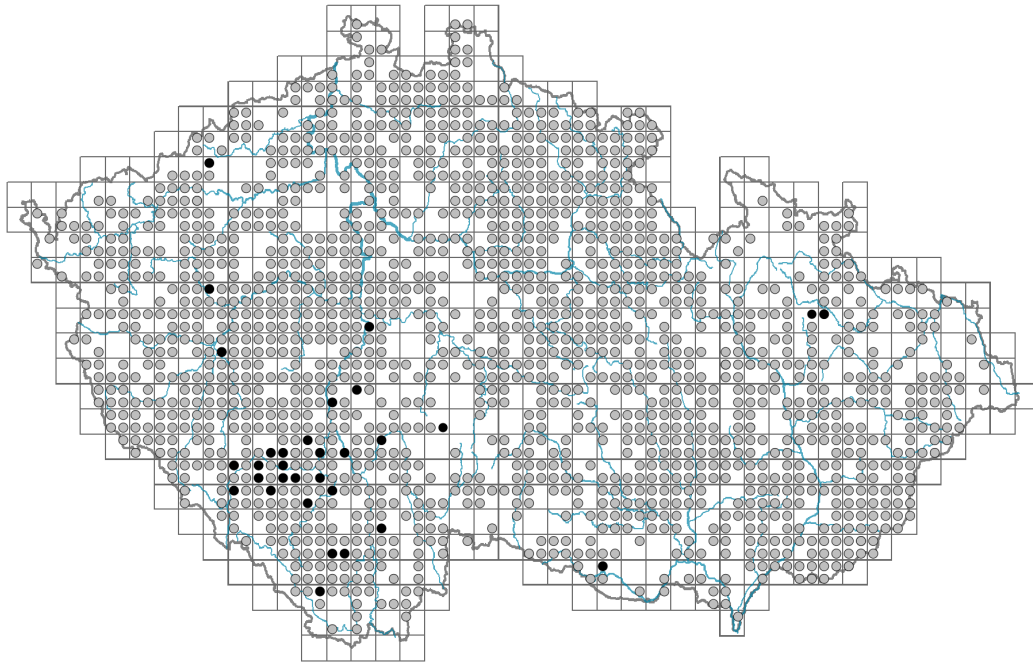


# *Viola riviniana*

## 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]: **0.1-0.35**

Growth form: **clonal herb**

Life form: **hemicryptophyte**

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

Life strategy (Pierce method based on leaf traits): **SR/CSR**

Life strategy (Pierce method, C-score): **16 %**

Life strategy (Pierce method, S-score): **47.6 %**

Life strategy (Pierce method, R-score): **36.4 %**

## Leaf

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

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

Leaf shape: **simple - entire**

Stipules: **present**

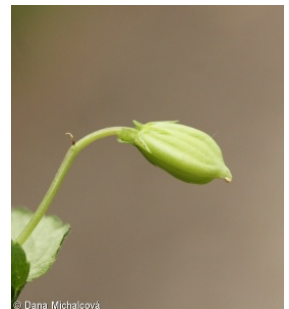
Petiole: **present**

Leaf life span: **summer green**

Leaf anatomy: **mesomorphic, hygromorphic**

## Flower

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



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

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

Flower symmetry: **zygomorphic**

Perianth type: **calyx and corolla**

Perianth fusion: **free**

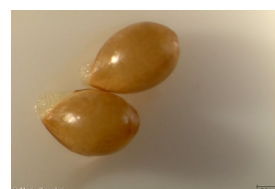
Calyx fusion: **aposepalous**

Inflorescence type: **flores solitarii**

Dicliny: **synoecious**

Generative reproduction type: **facultative autogamy**

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



## Fruit, seed and dispersal

Fruit type: **dry fruit - capsule**

Fruit colour: **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]: **3.5**

Number of clonal offspring: **0.5**

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

Clonal index: **2**

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):

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

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

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

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

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

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

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

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

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): **40**

Ploidy level (x): **8**

2C genome size [Mbp]: **2151.76**

1Cx monoploid genome size [Mbp]: **268.97**

Genomic GC content: **40.5 %**

## 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: **6x - transition between values 5 and 7 (generalist)**

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: **6 - transition between values 5 and 7**

Nutrient indicator value: **6x - transition between values 5 and 7 (generalist)**

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

Indicator values for disturbance

Whole-community disturbance frequency indicator value: **-1.91**

Herb layer disturbance frequency indicator value: **-0.73**

Whole-community disturbance severity indicator value: **0.27**

Herb layer disturbance severity indicator value: **0.12**

Whole-community structure based disturbance indicator value: **0.1**

Herb layer structure-based disturbance indicator value: **0.18**

## Habitat and sociology

Occurrence in habitats

1 Vegetation of cliffs, screes and walls

1A Calcareous cliffs: **1 - rare occurrence**

1B Siliceous cliffs and block fields: **1 - rare occurrence**

1C Walls: **1 - rare occurrence**

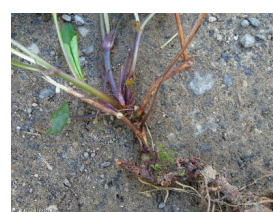
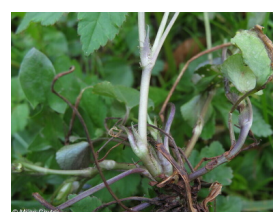
5 Vegetation of springs and mires

5B Lowland to montane soft-water springs: **1 - rare occurrence**

6 Meadows and mesic pastures

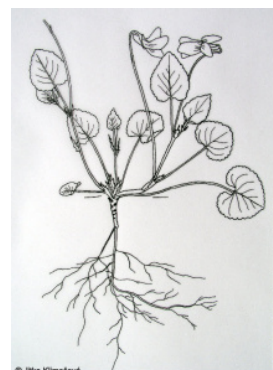
6A Mesic Arrhenatherum meadows: **1 - rare occurrence**

6B Montane mesic meadows: **1 - rare occurrence**





- 6C Pastures and park grasslands: **1 - rare occurrence**  
 6D Alluvial meadows of lowland rivers: **1 - rare occurrence**  
 6F Intermittently wet Molinia meadows: **1 - rare occurrence**  
 6G Vegetation of wet disturbed soils: **1 - rare occurrence**  
 7 Acidophilous grasslands  
 7B Submontane Nardus grasslands: **1 - rare occurrence**  
 8 Dry grasslands  
 8A Hercynian dry grasslands on rock outcrops: **1 - rare occurrence**  
 8B Submediterranean dry grasslands on rock outcrops: **1 - rare occurrence**  
 8D Broad-leaved dry grasslands: **1 - rare occurrence**  
 8E Acidophilous dry grasslands: **1 - rare occurrence**  
 8F Thermophilous forest fringe vegetation: **1 - rare occurrence**  
 11 Heathlands and scrub  
 11A Dry lowland to subalpine heathlands: **1 - rare occurrence**  
 11H Subalpine deciduous scrub: **1 - rare occurrence**  
 11J Willow galleries of loamy and sandy river banks: **1 - rare occurrence**  
 11L Tall mesic and xeric shrub: **1 - rare occurrence**  
 11N Low xeric scrub: **1 - rare occurrence**  
 11R Scrub and pioneer woodland of forests clearings: **2 - optimum**  
 12 Forests  
 12B Alluvial forests: **1 - rare occurrence**  
 12C Oak-hornbeam forests: **2 - optimum**  
 12D Ravine forests: **2 - optimum**  
 12E Herb-rich beech forests: **2 - optimum**  
 12F Limestone beech forests: **2 - optimum**  
 12G Acidophilous beech forests: **2 - optimum**  
 12H Peri-Alpidic basiphilous thermophilous oak forests: **1 - rare occurrence**  
 12I Sub-continental thermophilous oak forests: **2 - optimum**  
 12J Acidophilous thermophilous oak forests: **1 - rare occurrence**  
 12K Acidophilous oak forests: **2 - optimum**  
 12L Boreo-continental pine forests: **1 - rare occurrence**  
 12O Peri-Alpidic pine forests: **1 - rare occurrence**  
 12T Robinia pseudacacia plantations: **1 - rare occurrence**  
 12U Plantations of broad-leaved non-native trees: **1 - rare occurrence**  
 12V Spruce plantations: **2 - optimum**  
 12W Pine and larch plantations: **2 - optimum**  
 13 Anthropogenic vegetation  
 13F Herbaceous vegetation of forests clearings and Rubus scrub: **2 - optimum**  
 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: **LBB Carpinion betuli**  
 Diagnostic taxon of associations: **XEA03 Rubo idaei-Calamagrostietum arundinaceae**  
 Constant taxon



Constant taxon of associations: [XEA03 \*Rubus idaei\*-\*Calamagrostietum arundinaceae\*](#)

## Ecological specialization indices

Ecological specialization index for all vegetation types: **4.7**

Ecological specialization index for non-forest vegetation: **3.9**

Ecological specialization index for forest vegetation: **5**

## Colonization ability

Index of colonization success (ICS): **5**

Index of colonization potential (ICP): **5**

Optimum successional age [years]: **34.5**

## Distribution and frequency

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

Floristic region: **Europe**

Continentality degree: **4**

Distribution range extension along the continentality gradient: **4**

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

Occurrence frequency in the basic grid mapping cells and quadrants of the basic grid mapping cells: **575**

taxon.data.freq\_in\_quad: **1594**

## Commonness in vegetation plots from the Czech Republic

Occurrence frequency in vegetation plots: **1.7 %**

Occurrence frequency in vegetation plots with a cover above 5%: **0.2 %**

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 %**

Maximum percentage cover in vegetation plots: **13 %**

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

Number of narrow habitats in which the taxon occurs: **39**

Number of narrow habitats in which the taxon has its optimum: **11**

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

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

## Threats and protection

Legal protection: **not protected by law**