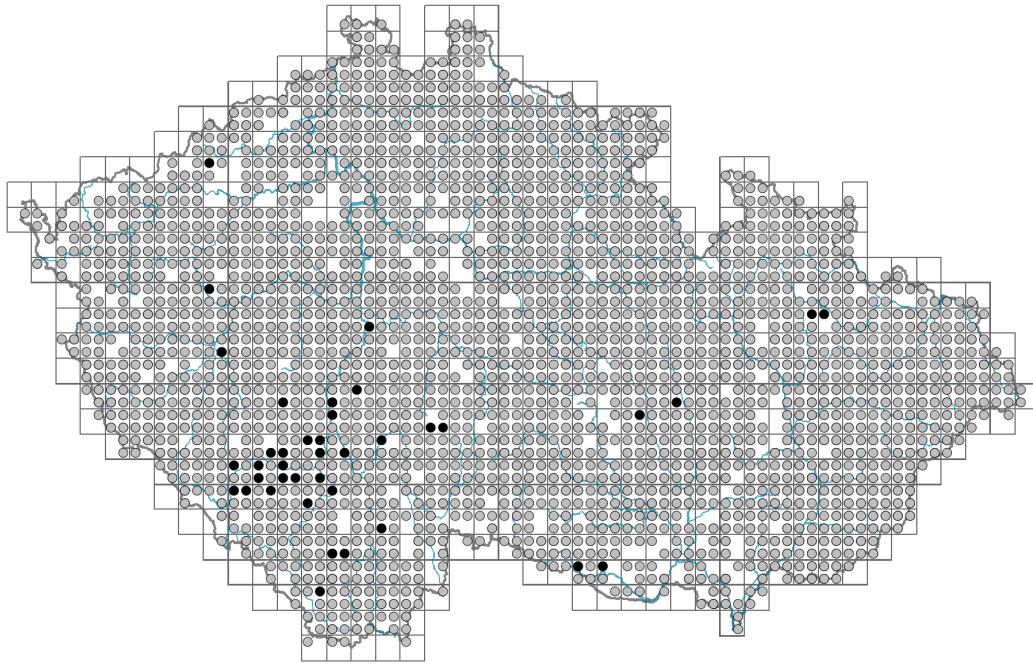


# *Viola riviniana* agg.

## 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: **polycarpic perennial non-clonal herb, 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, rosulate**

Leaf shape: **simple - entire**

Stipules: **present**

Petiole: **present**

Leaf life span: **summer green, evergreen**

Leaf anatomy: **mesomorphic, hygromorphic**

## Flower

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

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

Flower colour: **pink, violet, 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

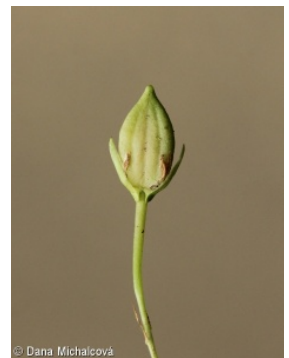
Shoot metamorphosis: **rhizome**  
 Root metamorphosis: **root shoot**  
 Storage organ: **rhizome**  
 Type of clonal growth organ: **epigeogenous rhizome**  
 Freely dispersible organs of clonal growth: **absent**  
 Shoot life span (cyclicity): **monocyclic shoots prevailing**  
 Branching type of stem-derived organs of clonal growth: **monopodial**  
 Primary root: **present**  
 Persistence of the clonal growth organ [year]: **3.5**  
 Number of clonal offspring: **0.5**  
 Lateral spreading distance by clonal growth [m]: **0.01**  
 Position of root buds: **primary root, 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): **20**  
 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): **40**  
 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, 40**

Ploidy level (x): **4, 8**

2C genome size [Mbp]: **1653.68**

1Cx monoploid genome size [Mbp]: **278.93**

## Taxon origin

Origin in the Czech Republic: **native**

## Ecological indicator values

Ellenberg-type indicator values

Light indicator value: **3 - shade plant, usually occurring where the incident radiation is less than 5% of that in an open area, but also at sunnier sites**

Temperature indicator value: **5x - moderate heat indicator, occurring from lowland to montane belt, mainly in submontane-temperate areas (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: **7 - indicator of slightly acidic to slightly basic conditions, never occurring in very acidic conditions**

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

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

## 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**

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

2 Alpine and subalpine grasslands

2B Subalpine tall-forb and tall-grass vegetation: **1 - rare occurrence**

4 Wetland and riverine herbaceous vegetation

4J River gravel banks: **1 - rare occurrence**

4K Petasites fringes of montane brooks: **1 - rare occurrence**

4L Nitrophilous herbaceous fringes of lowland rivers: **1 - rare occurrence**

5 Vegetation of springs and mires

5A Hard-water springs with tufa formation: **1 - rare occurrence**

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

6 Meadows and mesic pastures

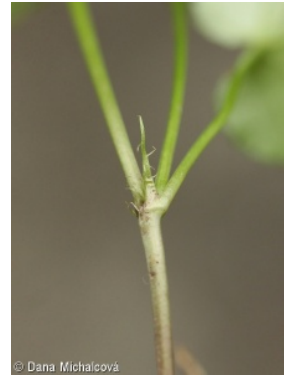
6A Mesic Arrhenatherum meadows: **1 - rare occurrence**

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**



© Dana Michalčová



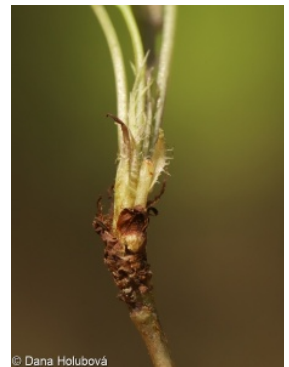
© Martin Dostál (flora.lod.cz)



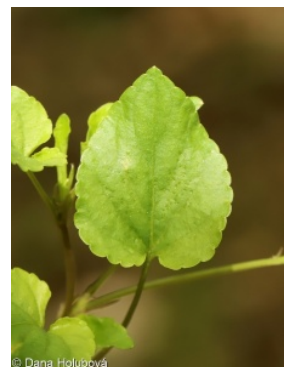
© Martin Dostál (flora.lod.cz)



© Martin Dostál (flora.lod.cz)



© Dana Holubová



© Dana Holubová



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

12A Alder carrs: **1 - rare occurrence**

12B Alluvial forests: **2 - optimum**

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: **2 - optimum**

12V Spruce plantations: **2 - optimum**

12W Pine and larch plantations: **2 - optimum**

## 13 Anthropogenic vegetation

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

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**

## 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**

Occurrence frequency in the basic grid mapping cells and quadrants of the basic grid mapping cells: 651

taxon.data.freq\_in\_quad: 2269

Commonness in vegetation plots from the Czech Republic

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: **47**

Number of narrow habitats in which the taxon has its optimum: **13**

Number of broad habitats in which the taxon occurs: **10**

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

