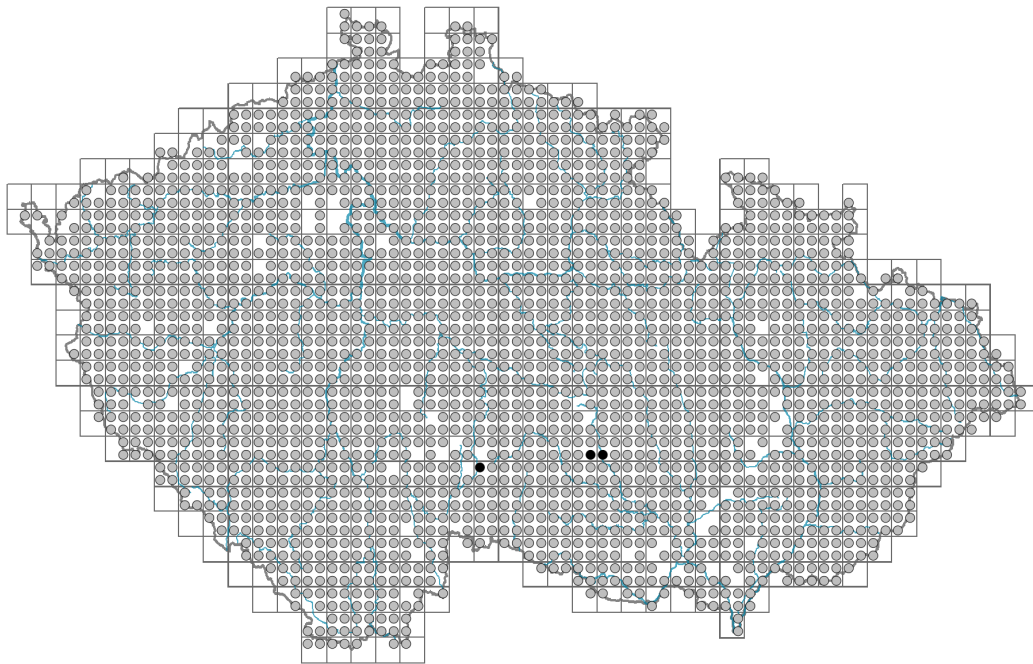


# Geranium robertianum

## Distribution



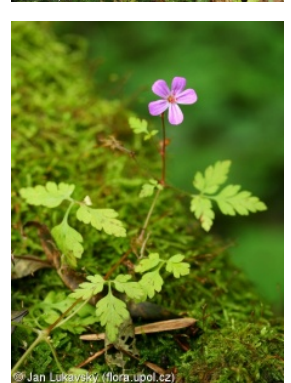
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### Map info

● 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]: **0.1-0.5**

Growth form: **annual herb**

Life form: **therophyte (hemicryptophyte)**

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

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

Life strategy (Pierce method, C-score): **32 %**

Life strategy (Pierce method, S-score): **11.3 %**

Life strategy (Pierce method, R-score): **56.7 %**

## Leaf

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

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

Leaf shape: **simple - palmately divided, compound - ternate**

Stipules: **present**

Petiole: **present**

Leaf life span: **overwintering green**

Leaf anatomy: **hygromorphic**

## Flower

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

Flowering phase: **5 Sorbus aucuparia-Galium odoratum (end of mid-spring)**

Flower colour: **pink, pink-violet**

Flower symmetry: **actinomorphic**

Perianth type: **calyx and corolla**

Perianth fusion: **free**

Calyx fusion: **aposepalous**

Inflorescence type: **dichasium**

Dicliny: **gynomonoecious, andromonoecious, gynodioecious, androdioecious**

Generative reproduction type: **mixed mating**

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

Pollinator spectrum: **solitary bees, hoverflies, other Diptera, nitidulids (bumblebees, butterflies, beetles)**

## Fruit, seed and dispersal

Fruit type: **dry fruit - dry schizocarp with an apical beak**

Reproduction type: **only by seed/spores**

Dispersal unit (diaspore): **seed, fruit, infrutescence or its part**

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

Myrmecochory: **non-myrmecochorous (b)**

## Belowground organs and clonality

Root metamorphosis: **primary storage root**

Storage organ: **primary storage root**

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

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): **3**

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): **8**

Depth of the belowground bud bank (root buds excluded) [cm]: **2**

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): **3**

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): **8**

Depth of the belowground bud bank (root buds included) [cm]: **2**

## Trophic mode

Parasitism and mycoheterotrophy: **autotrophic**

Carnivory: **non-carnivorous**

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

## Karyology

Chromosome number (2n): **64 (32)**

Ploidy level (x): **4 (2)**



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2C genome size [Mbp]: **2092.51**  
 1Cx monoploid genome size [Mbp]: **523.13**  
 Genomic GC content: **38 %**

## Taxon origin

Origin in the Czech Republic: **native**

## Ecological indicator values

Ellenberg-type indicator values

Light indicator value: **5x - semi-shade plant, only exceptionally occurring in full light, but usually at more than 10% of the diffuse radiation incident in an open area (generalist)**

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

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

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

Nutrient indicator value: **7 - occurring at nutrient-rich sites more often than at average sites and only exceptionally at poor sites**

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

Indicator values for disturbance

Whole-community disturbance frequency indicator value: **-1.8**

Herb layer disturbance frequency indicator value: **-0.8**

Whole-community disturbance severity indicator value: **0.31**

Herb layer disturbance severity indicator value: **0.19**

Whole-community structure based disturbance indicator value: **0.19**

Herb layer structure-based disturbance indicator value: **0.21**

## Habitat and sociology

Occurrence in habitats

1 Vegetation of cliffs, screes and walls

1A Calcareous cliffs: **2 - optimum**

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

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

1D Mobile calcareous screes: **2 - optimum**

2 Alpine and subalpine grasslands

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

4 Wetland and riverine herbaceous vegetation

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

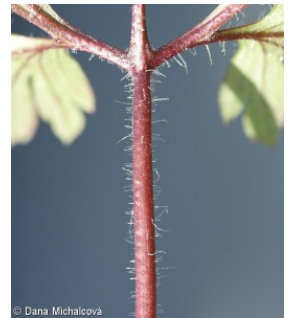
5A Hard-water springs with tufa formation: **2 - optimum**

5B Lowland to montane soft-water springs: **2 - optimum**

8 Dry grasslands

8A Hercynian dry grasslands on rock outcrops: **1 - rare occurrence**

8B Submediterranean dry grasslands on rock outcrops: **1 - rare occurrence**



- 8F Thermophilous forest fringe vegetation: **1 - rare occurrence**
- 9 Sand grasslands and rock-outcrop vegetation
- 9F Basiphilous vegetation of spring therophytes and succulents: **1 - rare occurrence**
- 11 Heathlands and scrub
- 11J Willow galleries of loamy and sandy river banks: **1 - rare occurrence**
- 11L Tall mesic and xeric shrub: **2 - optimum**
- 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: **1 - rare occurrence**
- 12H Peri-Alpidic basiphilous thermophilous oak forests: **2 - optimum**
- 12I Sub-continental thermophilous oak forests: **1 - rare occurrence**
- 12J Acidophilous thermophilous oak forests: **1 - rare occurrence**
- 12K Acidophilous oak forests: **1 - rare occurrence**
- 12L Boreo-continental pine forests: **1 - rare occurrence**
- 12O Peri-Alpidic pine forests: **1 - rare occurrence**
- 12T Robinia pseudacacia plantations: **2 - optimum**
- 12U Plantations of broad-leaved non-native trees: **2 - optimum**
- 12V Spruce plantations: **2 - optimum**
- 12W Pine and larch plantations: **1 - rare occurrence**
- 13 Anthropogenic vegetation
- 13A Annual vegetation of ruderal habitats: **1 - rare occurrence**
- 13D Perennial thermophilous ruderal vegetation: **1 - rare occurrence**
- 13E Perennial nitrophilous herbaceous vegetation of mesic sites: **2 - optimum**
- 13F Herbaceous vegetation of forests clearings and Rubus scrub: **2 - optimum**

#### Affinity to the forest environment

Affinity to the forest environment in Thermophyticum: **2.1 - taxon occurring both in the forest and open vegetation**

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

#### Diagnostic taxon

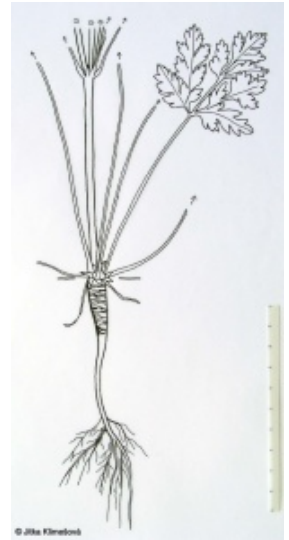
Diagnostic taxon of classes: [LB \*Carpino-Fagetea\*](#)

Diagnostic taxon of alliances: [LBF \*Tilio platyphylli-Acerion\*](#), [XDC \*Impatienti noli-tangere-Stachyion sylvaticae\*](#), [XDD \*Geo urbani-Alliarion petiolatae\*](#)

Diagnostic taxon of associations: [LBF02 \*Mercuriali perennis-Fraxinetum excelsioris\*](#), [XDC01 \*Stachyo sylvaticae-Impatientetum noli-tangere\*](#), [XDC02 \*Epilobio montani-Geranium robertiani\*](#)

#### Constant taxon

Constant taxon of alliances: [KAB \*Salicion elaeagno-daphnoidis\*](#), [LBF \*Tilio platyphylli-Acerion\*](#), [XDC \*Impatienti noli-tangere-Stachyion sylvaticae\*](#), [XDD \*Geo urbani-Alliarion petiolatae\*](#)



Constant taxon of associations: [KAB01 \*Salicetum elaeagno-purpureae\*](#), [KBB03 \*Populo tremulae-Coryletum avellanae\*](#), [KBC04 \*Senecioni fuchsii-Coryletum avellanae\*](#), [KBE01 \*Chelidonio majoris-Robinetum pseudoacaciae\*](#), [LBA04 \*Stellario nemorum-Alnetum glutinosae\*](#), [LBC02 \*Mercuriali perennis-Fagetum sylvaticae\*](#), [LBC05 \*Galio rotundifolii-Abietetum albae\*](#), [LBF01 \*Aceri-Tilietum\*](#), [LBF02 \*Mercuriali perennis-Fraxinetum excelsioris\*](#), [LBF03 \*Arunco dioici-Aceretum pseudoplatani\*](#), [SAC02 \*Festuco pallentis-Saxifragetum rosaceae\*](#), [SCA01 \*Gymnocarpietum robertiani\*](#), [XDC01 \*Stachyo sylvaticae-Impatientetum nolitangere\*](#), [XDC02 \*Epilobio montani-Geranium robertiani\*](#), [XDC04 \*Carici pendulae-Eupatorietum cannabini\*](#), [XDD01 \*Alliario petiolatae-Chaerophylletum temuli\*](#), [XDE06 \*Anthriscio nitidae-Aegopodietum podagrariae\*](#)

Dominant taxon

Dominant taxon of associations: [XDC02 \*Epilobio montani-Geranium robertiani\*](#), [XDD01 \*Alliario petiolatae-Chaerophylletum temuli\*](#)

Ecological specialization indices

Ecological specialization index for all vegetation types: **4.5**

Ecological specialization index for non-forest vegetation: **3.4**

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

Colonization ability

Index of colonization success (ICS): **8**

Index of colonization potential (ICP): **6**

Optimum successional age [years]: **39**

## Distribution and frequency

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

Floristic region: **Europe, Asia**

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

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

Expansive taxon in the region: **Bohemian Thermophyticum, Bohemian Moravian Mesophyticum, Bohemian Moravian Oreophyticum, Pannonian Thermophyticum, Carpathian Mesophyticum, Carpathian Oreophyticum**

Occurrence frequency in the basic grid mapping cells and quadrants of the basic grid mapping cells: **659**

taxon.data.freq\_in\_quad: **2376**

Commonness in vegetation plots from the Czech Republic

Occurrence frequency in vegetation plots: **5.8 %**

Occurrence frequency in vegetation plots with a cover above 5%: **11.1 %**

Occurrence frequency in vegetation plots with a cover above 25%: **3.8 %**

Occurrence frequency in vegetation plots with a cover above 50%: **1.4 %**

Mean percentage cover in vegetation plots: **4.6 %**

Maximum percentage cover in vegetation plots: **88 %**

Number of habitats with taxon occurrence in the Czech Republic

Number of narrow habitats in which the taxon occurs: **38**

Number of narrow habitats in which the taxon has its optimum: **17**

Number of broad habitats in which the taxon occurs: **9**

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

## **Threats and protection**

Red List 2017 (national categories): **taxon is not on the Red List**

Red List 2017 (IUCN categories): **LC(NA) - least concern (taxon is not on the Red List)**

Legal protection: **not protected by law**