

# *Symphytum officinale*

## 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]: **0.4-1.2**

Growth form: **polycarpic perennial non-clonal herb**

Life form: **hemicryptophyte (geophyte)**

Life strategy: **C - competitor**

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

Life strategy (Pierce method, C-score): **68.1 %**

Life strategy (Pierce method, S-score): **0 %**

Life strategy (Pierce method, R-score): **31.9 %**



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## Leaf

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

Leaf arrangement (phyllotaxis): **alternate**

Leaf shape: **simple - entire**

Stipules: **absent**

Petiole: **both present and absent**

Leaf life span: **summer green**

Leaf anatomy: **mesomorphic, hygromorphic**



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## Flower

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

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

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

Flower symmetry: **actinomorphic**

Perianth type: **calyx and corolla**

Perianth fusion: **fused**

Shape of the sympetalous corolla or syntepalous perianth: **tubular**

Calyx fusion: **synsepalous**

Inflorescence type: **cincinnus**

Dicliny: **synoecious**

Generative reproduction type: **allogamy self-incompatibility, facultative allogamy**

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

### Fruit, seed and dispersal

Fruit type: **dry fruit - cluster of four one-seeded nutlets**

Fruit colour: **brown, grey**

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

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

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

Myrmecochory: **myrmecochorous**

### Belowground organs and clonality

Shoot metamorphosis: **rhizome-like pleiocorm**

Root metamorphosis: **primary storage root**

Storage organ: **rhizome-like pleiocorm, primary storage root**

Shoot life span (cyclicality): **dicyclic or polycyclic shoots prevailing**

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

Primary root: **present**

Position of root buds: **lateral roots**

Role of root buds in life-history of a plant: **regenerative**

### 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 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): **17**

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): **37**

Depth of the belowground bud bank (root buds included) [cm]: **9**

### Trophic mode

Parasitism and mycoheterotrophy: **autotrophic**

Carnivory: **non-carnivorous**

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



## Karyology

Chromosome number (2n): **48 (24)**

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

2C genome size [Mbp]: **3809.05**

1Cx monoploid genome size [Mbp]: **952.26**

Genomic GC content: **37.5 %**

## Taxon origin

Origin in the Czech Republic: **native**

## Ecological indicator values

### Ellenberg-type indicator values

Light indicator value: **7 - half-light plant, mostly occurring at full light, but also in the shade up to about 30% of diffuse radiation incident in an open area**

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

Moisture indicator value: **7 - humidity indicator, focus on well moistened, but not wet soils**

Reaction indicator value: **7x - indicator of slightly acidic to slightly basic conditions, never occurring in very acidic conditions (generalist)**

Nutrient indicator value: **8 - pronounced nutrient indicator**

Salinity indicator value: **1 - salt tolerant, mostly on low-salt to salt-free soils, but occasionally on slightly salty soils**

### Indicator values for disturbance

Whole-community disturbance frequency indicator value: **-0.92**

Herb layer disturbance frequency indicator value: **-0.5**

Whole-community disturbance severity indicator value: **0.38**

Herb layer disturbance severity indicator value: **0.4**

Whole-community structure based disturbance indicator value: **0.44**

Herb layer structure-based disturbance indicator value: **0.49**

## Habitat and sociology

### Occurrence in habitats

4 Wetland and riverine herbaceous vegetation

4A Reed-beds of eutrophic still waters: **2 - optimum**

4B Halophilous reed and sedge beds: **1 - rare occurrence**

4C Eutrophic vegetation of muddy substrata: **1 - rare occurrence**

4D Riverine reed vegetation: **2 - optimum**

4E Reed vegetation of brooks: **1 - rare occurrence**

4G Tall-sedge beds: **2 - optimum**

4I Vegetation of nitrophilous annual hygrophilous herbs: **1 - rare occurrence**

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

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

4L Nitrophilous herbaceous fringes of lowland rivers: **2 - optimum**

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: **2 - optimum**
- 6C Pastures and park grasslands: **1 - rare occurrence**
- 6D Alluvial meadows of lowland rivers: **2 - optimum**
- 6E Wet Cirsium meadows: **2 - optimum**
- 6F Intermittently wet Molinia meadows: **1 - rare occurrence**
- 6G Vegetation of wet disturbed soils: **1 - rare occurrence**
- 8 Dry grasslands
- 8F Thermophilous forest fringe vegetation: **1 - rare occurrence**
- 10 Saline vegetation
- 10I Inland saline meadows: **1 - rare occurrence**
- 11 Heathlands and scrub
- 11I Willow carrs: **1 - rare occurrence**
- 11J Willow galleries of loamy and sandy river banks: **2 - optimum**
- 11L Tall mesic and xeric shrub: **1 - rare occurrence**
- 11R Scrub and pioneer woodland of forests clearings: **1 - rare occurrence**
- 12 Forests
- 12A Alder carrs: **1 - rare occurrence**
- 12B Alluvial forests: **2 - optimum**
- 12I Sub-continental thermophilous oak forests: **1 - rare occurrence**
- 12T Robinia pseudacacia plantations: **1 - rare occurrence**
- 12U Plantations of broad-leaved non-native trees: **2 - optimum**
- 12W Pine and larch plantations: **1 - rare occurrence**
- 13 Anthropogenic vegetation
- 13A Annual vegetation of ruderal habitats: **1 - rare occurrence**
- 13B Annual vegetation of arable land: **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: **1 - rare occurrence**
- Affinity to the forest environment
- Affinity to the forest environment in Thermophyticum: **2.2 - taxon occurring partly in the forest, but mainly in open vegetation**
- Affinity to the forest environment in Mesophyticum and Oreophyticum: **2.2 - taxon occurring partly in the forest, but mainly in open vegetation**
- Diagnostic taxon
- Diagnostic taxon of classes: [KA \*Salicetea purpureae\*](#)
- Diagnostic taxon of alliances: [KAC \*Salicion albae\*](#), [MCD \*Phalaridion arundinaceae\*](#), [XDA \*Senecionion fluviatilis\*](#)
- Diagnostic taxon of associations: [KAC01 \*Salicetum albae\*](#), [TDE01 \*Poo trivialis-Alopecuretum pratensis\*](#), [TDE03 \*Lathyro palustris-Gratioletum officinalis\*](#), [TDE05 \*Scutellario hastifoliae-Veronicetum longifoliae\*](#)
- Constant taxon
- Constant taxon of alliances: [KAA \*Salicion triandrae\*](#), [KAC \*Salicion albae\*](#)
- Constant taxon of associations: [KAA01 \*Salicetum triandrae\*](#), [KAC01 \*Salicetum albae\*](#), [KBD03 \*Sambuco nigrae-Aceretum negundo\*](#), [LBA07 \*Fraxino pannonicae-Ulmetum glabrae\*](#), [MCD01 \*Rorippo-Phalaridetum arundinaceae\*](#), [TDE01 \*Poo\*](#)



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[trivialis-Alopecuretum pratensis](#), [TDE03 Lathyro palustris-Gratioletum officinalis](#), [TDE05 Scutellario hastifoliae-Veronicetum longifoliae](#), [XDA01 Cuscuta europaeae-Calystegietum sepium](#)

Dominant taxon

Dominant taxon of associations: [XBG10 Chamaeplietum officinalis](#)

Ecological specialization indices

Ecological specialization index for all vegetation types: **3.8**

Ecological specialization index for non-forest vegetation: **4**

Ecological specialization index for forest vegetation: **4.9**

Colonization ability

Index of colonization success (ICS): **6**

Index of colonization potential (ICP): **4**

Optimum successional age [years]: **32**

## Distribution and frequency

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

Floristic region: **Europe, Western Asia**

Distribution range extension along the continentality gradient: **7**

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: **646**

taxon.data.freq\_in\_quad: **2242**

Commonness in vegetation plots from the Czech Republic

Occurrence frequency in vegetation plots: **3.8 %**

Occurrence frequency in vegetation plots with a cover above 5%: **5.4 %**

Occurrence frequency in vegetation plots with a cover above 25%: **0.4 %**

Occurrence frequency in vegetation plots with a cover above 50%: **0.1 %**

Mean percentage cover in vegetation plots: **2.7 %**

Maximum percentage cover in vegetation plots: **63 %**

Number of habitats with taxon occurrence in the Czech Republic

Number of narrow habitats in which the taxon occurs: **34**

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: **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**