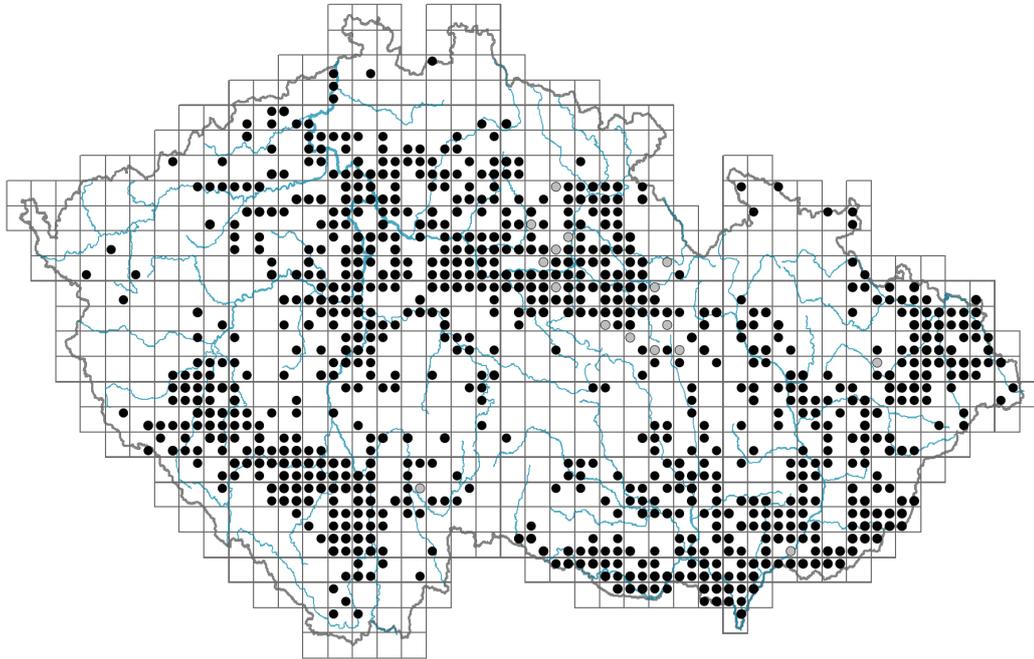


# *Verbena officinalis*

## 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.



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## Habitus and growth type

Height [m]: **0.3-0.7**

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

Life form: **hemicryptophyte**

Life strategy: **CR - competitor/ruderal**

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

Life strategy (Pierce method, C-score): **22.5 %**

Life strategy (Pierce method, S-score): **51.6 %**

Life strategy (Pierce method, R-score): **26 %**

## Leaf

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

Leaf arrangement (phyllotaxis): **opposite**

Leaf shape: **simple - entire, simple - pinnately divided**

Stipules: **absent**

Petiole: **both present and absent**

Leaf life span: **summer green**

Leaf anatomy: **scleromorphic**

## Flower

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

Flowering phase: **8 Clematis vitalba-Galium sylvaticum (mid-summer)**  
 Flower colour: **pink-violet**  
 Flower symmetry: **actinomorphic**  
 Perianth type: **calyx and corolla**  
 Perianth fusion: **fused**  
 Shape of the sympetalous corolla or syntepalous perianth: **hypocrateriform**  
 Calyx fusion: **synsepalous**  
 Inflorescence type: **spica**  
 Dicliny: **synoecious**  
 Generative reproduction type: **mixed mating**  
 Pollination syndrome: **insect-pollination, selfing**



### Fruit, seed and dispersal

Fruit type: **dry fruit - cluster of four one-seeded nutlets**  
 Fruit colour: **brown**  
 Reproduction type: **only by seed/spores**  
 Dispersal unit (diaspore): **fruit, infructescence or its part**  
 Dispersal strategy: **Allium (mainly autochory)**  
 Myrmecochory: **non-myrmecochorous (b)**



### Belowground organs and clonality

Shoot metamorphosis: **pleiocorm**  
 Root metamorphosis: **primary storage root**  
 Storage organ: **pleiocorm, primary storage root**  
 Shoot life span (cyclicality): **monocyclic shoots prevailing**  
 Branching type of stem-derived organs of clonal growth: **sympodial**  
 Primary root: **present**



### 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]: **4**  
 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]: **4**



### Trophic mode

Parasitism and mycoheterotrophy: **autotrophic**  
 Carnivory: **non-carnivorous**  
 Symbiotic nitrogen fixation: **no nitrogen-fixing symbionts**

## Karyology

Chromosome number (2n): **14**

Ploidy level (x): **2**

2C genome size [Mbp]: **583.17**

1Cx monoploid genome size [Mbp]: **291.59**

Genomic GC content: **38.5 %**

## Taxon origin

Origin in the Czech Republic: **archaeophyte**

Invasion status: **naturalized**

Geographic origin: **Mediterranean**

Period of introduction: **Bronze Age (2300-750 BCE)**

Introduction pathway: **unintentional - anthropogenic, unintentional - nature**

## Ecological indicator values

Ellenberg-type indicator values

Light indicator value: **8 - light plant, only exceptionally occurring at less than 40% of diffuse radiation incident in an open area**

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

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

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: **-1.05**

Herb layer disturbance frequency indicator value: **-0.24**

Whole-community disturbance severity indicator value: **0.58**

Herb layer disturbance severity indicator value: **0.57**

Whole-community structure based disturbance indicator value: **0.71**

Herb layer structure-based disturbance indicator value: **0.8**

## Habitat and sociology

Occurrence in habitats

4 Wetland and riverine herbaceous vegetation

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

6 Meadows and mesic pastures

6C Pastures and park grasslands: **2 - optimum**

6D Alluvial meadows of lowland rivers: **1 - rare occurrence**

10 Saline vegetation

10I Inland saline meadows: **2 - optimum**

## 13 Anthropogenic vegetation

13A Annual vegetation of ruderal habitats: **2 - optimum**

13C Annual vegetation of trampled habitats: **1 - rare occurrence**

13D Perennial thermophilous ruderal vegetation: **2 - optimum**

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

### Affinity to the forest environment

Affinity to the forest environment in Thermophyticum: **0 - taxon that does not spontaneously occur in Czech forests**

Affinity to the forest environment in Mesophyticum and Oreophyticum: **0 - taxon that does not spontaneously occur in Czech forests**

### Ecological specialization indices

Ecological specialization index for all vegetation types: **3.5**

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

### Colonization ability

Index of colonization success (ICS): **2**

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

Optimum successional age [years]: **42**

## 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**

Occurrence frequency in the basic grid mapping cells and quadrants of the basic grid mapping cells: **400**

taxon.data.freq\_in\_quad: **862**

### Commonness in vegetation plots from the Czech Republic

Occurrence frequency in vegetation plots: **0.1 %**

Occurrence frequency in vegetation plots with a cover above 5%: **2.5 %**

Occurrence frequency in vegetation plots with a cover above 25%: **2.5 %**

Occurrence frequency in vegetation plots with a cover above 50%: **0 %**

Mean percentage cover in vegetation plots: **3 %**

Maximum percentage cover in vegetation plots: **42 %**

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

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

Number of narrow habitats in which the taxon has its optimum: **4**

Number of broad habitats in which the taxon occurs: **4**

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

## Threats and protection

Red List 2017 (national categories): **C3 - vulnerable taxon**

Red List 2017 (IUCN categories): **NT - near threatened**

Legal protection: **not protected by law**