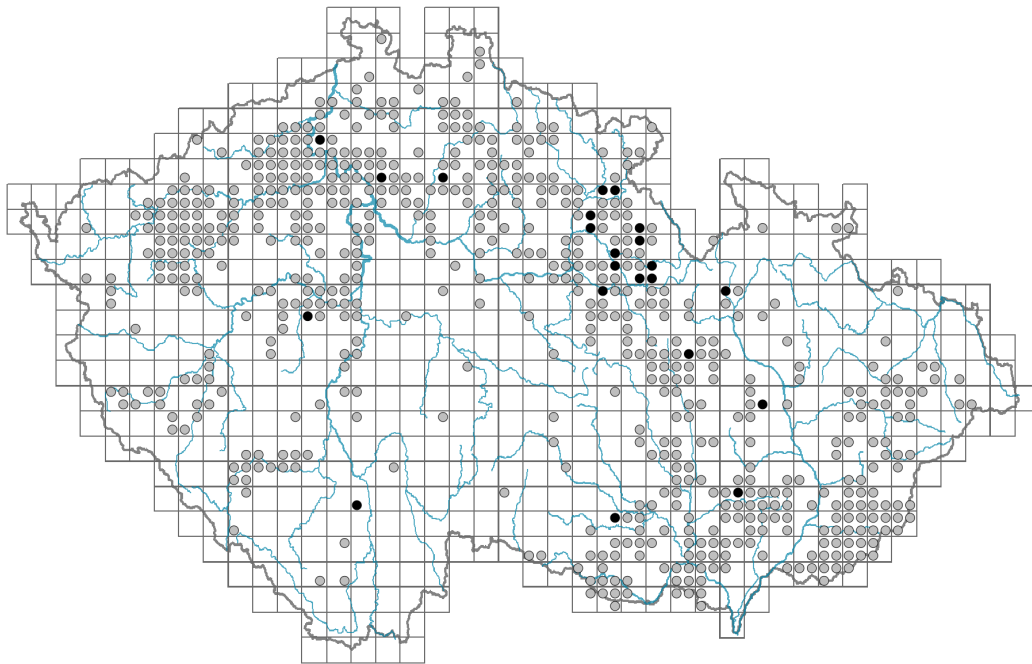


# Melampyrum arvense

## Distribution



© Pavel Veselý

### 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]: **0.1-0.6**Growth form: **annual herb**Life form: **therophyte**Life strategy: **CR - competitor/ruderal**Life strategy (Pierce method based on leaf traits): **R/CR**Life strategy (Pierce method, C-score): **22.3 %**Life strategy (Pierce method, S-score): **11 %**Life strategy (Pierce method, R-score): **66.7 %**

## Leaf

Leaf presence and metamorphosis: **leaves present, not modified**Leaf arrangement (phyllotaxis): **opposite**Leaf shape: **simple - entire**Stipules: **absent**Petiole: **absent**Leaf life span: **summer green**Leaf anatomy: **mesomorphic**

## Flower

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

© Ales Moravec



© Stanislav Bonar



© Ales Moravec

Flowering phase: **7 Ligustrum vulgare-Stachys sylvatica (end of early summer)**

Flower colour: **white, yellow**

Flower symmetry: **zygomorphic**

Perianth type: **calyx and corolla**

Perianth fusion: **fused**

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

Calyx fusion: **synsepalous**

Inflorescence type: **spica**

Dicliny: **synoecious**

Generative reproduction type: **facultative allogamy**

Pollination syndrome: **insect-pollination**

Pollinator spectrum: **bumblebees (honeybee, solitary bees, hoverflies, butterflies)**

## Fruit, seed and dispersal

Fruit type: **dry fruit - capsule**

Fruit colour: **brown, black**

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

Dispersal unit (diaspore): **seed**

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

Myrmecochory: **myrmecochorous**

## Belowground organs and clonality

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

Primary root: **present**

Bud bank

Number of buds per shoot at the soil surface (root buds excluded): **0**

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

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): **0**

Number of buds per shoot at the soil surface (root buds included): **0**

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

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): **0**

## Trophic mode

Parasitism and mycoheterotrophy: **root hemiparasite**

Carnivory: **non-carnivorous**

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

## Karyology

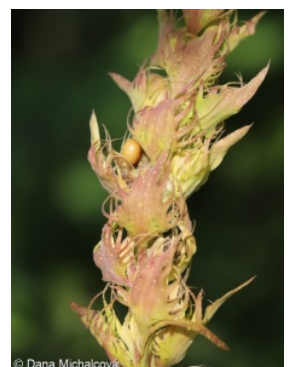
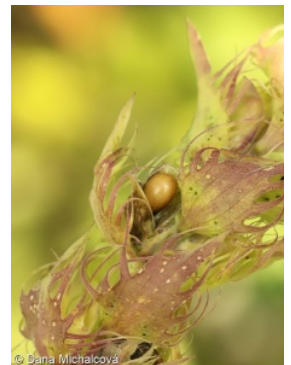
Chromosome number (2n): **18**

Ploidy level (x): **2**

2C genome size [Mbp]: **13148.19**

1Cx monoploid genome size [Mbp]: **6574.1**

Genomic GC content: **42.3 %**



## Taxon origin

Origin in the Czech Republic: **archaeophyte**  
 Invasion status: **naturalized**  
 Geographic origin: **Mediterranean**  
 Period of introduction: **Iron Age (750-20 BCE)**  
 Introduction pathway: **unintentional - agriculture**

## 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: **7 - heat indicator, occurring in relatively warm lowlands**

Moisture indicator value: **3 - missing on damp soil**

Reaction indicator value: **8 - transition between values 7 and 9, occurring mostly in calcium-rich conditions**

Nutrient indicator value: **4 - transition between values 3 and 5**

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

### Indicator values for disturbance

Whole-community disturbance frequency indicator value: **-0.22**

Herb layer disturbance frequency indicator value: **-0.22**

Whole-community disturbance severity indicator value: **0.25**

Herb layer disturbance severity indicator value: **0.29**

Whole-community structure based disturbance indicator value: **0.66**

Herb layer structure-based disturbance indicator value: **0.76**

## Habitat and sociology

### Occurrence in habitats

6 Meadows and mesic pastures

6A Mesic Arrhenatherum meadows: **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**

8C Narrow-leaved sub-continental steppes: **2 - optimum**

8D Broad-leaved dry grasslands: **2 - optimum**

8E Acidophilous dry grasslands: **1 - rare occurrence**

8F Thermophilous forest fringe vegetation: **2 - optimum**

11 Heathlands and scrub

11L Tall mesic and xeric shrub: **1 - rare occurrence**

11N Low xeric scrub: **1 - rare occurrence**

12 Forests

12H Peri-Alpidic basiphilous thermophilous oak forests: **1 - rare occurrence**

13 Anthropogenic vegetation

13B Annual vegetation of arable land: **1 - rare occurrence**



13D Perennial thermophilous ruderal vegetation: **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: **5.2**

Ecological specialization index for non-forest vegetation: **5.2**

Colonization ability

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

Index of colonization potential (ICP): **7**

Optimum successional age [years]: **26.5**

### Distribution and frequency

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

Floristic region: **Europe**

Continental degree: **6**

Distribution range extension along the continentality gradient: **5**

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: **318**

taxon.data.freq\_in\_quad: **629**

Commonness in vegetation plots from the Czech Republic

Occurrence frequency in vegetation plots: **0.3 %**

Occurrence frequency in vegetation plots with a cover above 5%: **4.1 %**

Occurrence frequency in vegetation plots with a cover above 25%: **1 %**

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

Mean percentage cover in vegetation plots: **2.8 %**

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: **12**

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

Number of broad habitats in which the taxon occurs: **5**

Number of broad habitats in which the taxon has its optimum: **1**

### Threats and protection

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

Red List 2017 (IUCN categories): **VU - vulnerable**

Legal protection: **not protected by law**

