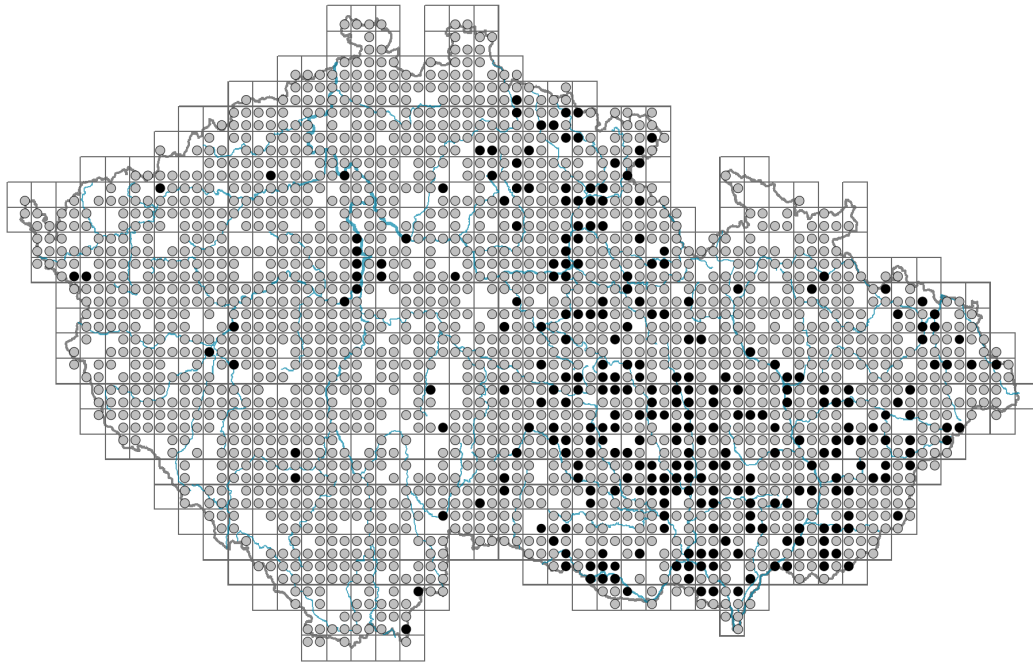


# *Linaria vulgaris*

## 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]: **0.2-0.5**

Growth form: **clonal herb**

Life form: **geophyte (hemicryptophyte)**

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

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

Life strategy (Pierce method, C-score): **10.7 %**

Life strategy (Pierce method, S-score): **25 %**

Life strategy (Pierce method, R-score): **64.3 %**

## Leaf

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

Leaf arrangement (phyllotaxis): **alternate**

Leaf shape: **simple - entire**

Stipules: **absent**

Petiole: **absent**

Leaf life span: **summer green**

Leaf anatomy: **mesomorphic**



## Flower

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

Flowering phase: **8 Clematis vitalba-Galium sylvaticum (mid-summer)**  
 Flower colour: **yellow**  
 Flower symmetry: **zygomorphic**  
 Perianth type: **calyx and corolla**  
 Perianth fusion: **fused**  
 Shape of the sympetalous corolla or syntepalous perianth: **personate**  
 Calyx fusion: **synsepalous**  
 Inflorescence type: **racemus**  
 Dicliny: **synoecious**  
 Generative reproduction type: **alogamy self-incompatibility**  
 Pollination syndrome: **insect-pollination**

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

## Belowground organs and clonality

Root metamorphosis: **root shoot**  
 Type of clonal growth organ: **root with adventitious buds**  
 Freely dispersible organs of clonal growth: **absent**  
 Shoot life span (cyclicity): **monocyclic shoots prevailing**  
 Branching type of stem-derived organs of clonal growth: **sympodial**  
 Primary root: **absent**  
 Persistence of the clonal growth organ [year]: **3.8**  
 Number of clonal offspring: **2.4**  
 Lateral spreading distance by clonal growth [m]: **0.21**  
 Clonal index: **4**  
 Position of root buds: **lateral roots**  
 Role of root buds in life-history of a plant: **necessary**

## 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): **4**  
 Number of buds per shoot at a depth greater than 10 cm (root buds excluded):  
 Size of the belowground bud bank (root buds excluded): **9**  
 Depth of the belowground bud bank (root buds excluded) [cm]: **3**  
 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): **15**  
 Number of buds per shoot at a depth greater than 10 cm (root buds included):  
 Size of the belowground bud bank (root buds included): **35**  
 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): **12**

Ploidy level (x): **2**

2C genome size [Mbp]: **1548.06**

1Cx monoploid genome size [Mbp]: **774.03**

Genomic GC content: **39.6 %**

## Taxon origin

Origin in the Czech Republic: **archaeophyte**

Invasion status: **naturalized**

Geographic origin: **Mediterranean**

Period of introduction: **Early Middle Ages (550-1200)**

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: **4 - transition between values 3 and 5**

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

Nutrient indicator value: **5 - occurring at moderately nutrient-rich sites, and less frequently at poor and rich 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: **-0.75**

Herb layer disturbance frequency indicator value: **-0.26**

Whole-community disturbance severity indicator value: **0.65**

Herb layer disturbance severity indicator value: **0.66**

Whole-community structure based disturbance indicator value: **0.48**

Herb layer structure-based disturbance indicator value: **0.56**

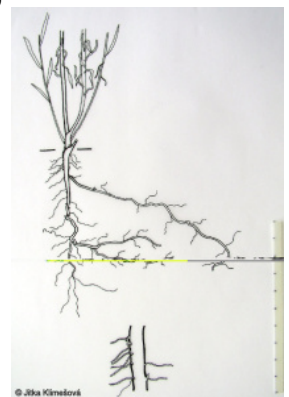
## Habitat and sociology

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**



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

## 6 Meadows and mesic pastures

6A Mesic Arrhenatherum 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**

6G Vegetation of wet disturbed soils: **1 - rare occurrence**

## 7 Acidophilous grasslands

7B Submontane Nardus grasslands: **1 - rare occurrence**

## 8 Dry grasslands

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

## 9 Sand grasslands and rock-outcrop vegetation

9C Festuca grasslands on acidic sands: **1 - rare occurrence**

9E Acidophilous vegetation of spring therophytes and succulents: **1 - rare occurrence**

## 10 Saline vegetation

10I Inland saline meadows: **1 - rare occurrence**

## 11 Heathlands and scrub

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

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

11R Scrub and pioneer woodland of forests clearings: **1 - rare occurrence**

## 12 Forests

12C Oak-hornbeam forests: **1 - rare occurrence**

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

12I Sub-continental thermophilous oak forests: **1 - rare occurrence**

12J Acidophilous thermophilous oak forests: **1 - rare occurrence**

12K Acidophilous oak forests: **1 - rare occurrence**

12O Peri-Alpidic pine forests: **1 - rare occurrence**

12U Plantations of broad-leaved non-native trees: **1 - rare occurrence**

12V Spruce plantations: **1 - rare occurrence**

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: **2 - optimum**

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

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

## Diagnostic taxon

Diagnostic taxon of associations: [\*\*XCB02 Berteroetum incanae\*\*](#)



## Constant taxon

Constant taxon of associations: [XCB02 \*Berteroetum incanae\*](#)

## Ecological specialization indices

Ecological specialization index for all vegetation types: **3.7**

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

Ecological specialization index for forest vegetation: **4.6**

## Colonization ability

Index of colonization success (ICS): **7**

Index of colonization potential (ICP): **8**

Optimum successional age [years]: **10.5**

## Distribution and frequency

Floristic zone: **boreal, 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 (montane belt)**

Occurrence frequency in the basic grid mapping cells and quadrants of the basic grid mapping cells: **644**

taxon.data.freq\_in\_quad: **2082**

## Commonness in vegetation plots from the Czech Republic

Occurrence frequency in vegetation plots: **1.3 %**

Occurrence frequency in vegetation plots with a cover above 5%: **3 %**

Occurrence frequency in vegetation plots with a cover above 25%: **0.7 %**

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

Mean percentage cover in vegetation plots: **2.5 %**

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: **33**

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

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

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

## 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**