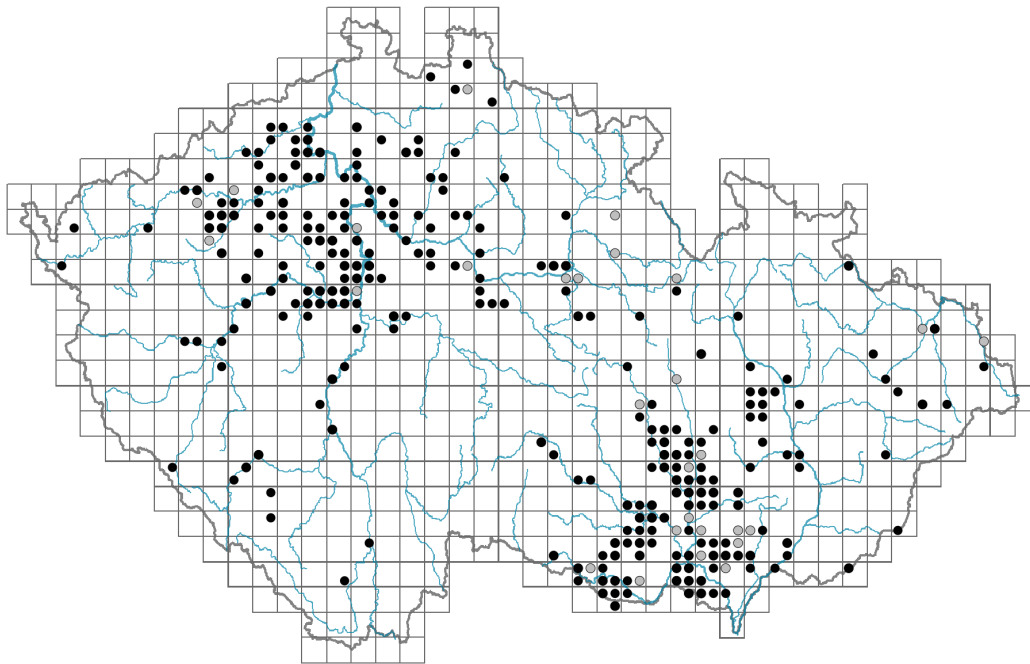


# *Lappula squarrosa*

## Distribution



© Dana Michalčová

### Map info

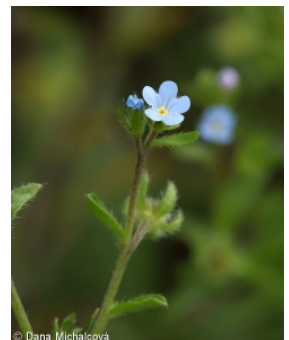
● revised records

○ unrevised records

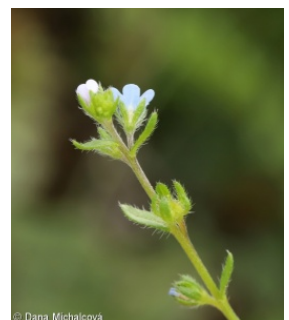
On the map are not visualized records without the coordinates and records marked as incorrect or doubtful.



© Milan Chytrý



© Dana Michalčová



© Dana Michalčová

## Habitus and growth type

Height [m]: **0.2-0.6**

Growth form: **annual herb**

Life form: **hemicryptophyte (therophyte)**

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

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

Life strategy (Pierce method, C-score): **29.9 %**

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

Life strategy (Pierce method, R-score): **70.1 %**

## Leaf

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

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

Leaf shape: **simple - entire**

Stipules: **absent**

Petiole: **both present and absent**

Leaf life span: **overwintering green**

Leaf anatomy: **scleromorphic, mesomorphic**

## Flower

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

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

Flower colour: **blue**

Flower symmetry: **actinomorphic**

Perianth type: **calyx and corolla**

Perianth fusion: **fused**

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

Calyx fusion: **fused at the base**

Inflorescence type: **cincinnus**

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**

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

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

Dispersal strategy: **Bidens (mainly autochory and epizoochory)**

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

### Belowground organs and clonality

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

Primary root: **present**

Bud bank

Number of buds per shoot at the soil surface (root buds excluded): **10**

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): **10**

Depth of the belowground bud bank (root buds excluded) [cm]: **1**

Number of buds per shoot at the soil surface (root buds included): **10**

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): **10**

Depth of the belowground bud bank (root buds included) [cm]: **1**

### Trophic mode

Parasitism and mycoheterotrophy: **autotrophic**

Carnivory: **non-carnivorous**

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

### Karyology

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

Ploidy level (x): **4**

2C genome size [Mbp]: **1172.23**

1Cx monoploid genome size [Mbp]: **293.06**

Genomic GC content: **40.7 %**



## Taxon origin

Origin in the Czech Republic: **archaeophyte**

Invasion status: **naturalized**

Geographic origin: **Mediterranean, Asia**

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

Introduction pathway: **unintentional - anthropogenic**



## 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: **3 - missing on damp soil**

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

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

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

## Habitat and sociology

Occurrence in habitats

1 Vegetation of cliffs, screes and walls

1A Calcareous cliffs: **1 - rare occurrence**

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

9 Sand grasslands and rock-outcrop vegetation

9F Basiphilous vegetation of spring therophytes and succulents: **1 - rare occurrence**

12 Forests

12T Robinia pseudacacia plantations: **1 - rare occurrence**

13 Anthropogenic vegetation

13A Annual vegetation of ruderal habitats: **1 - rare occurrence**

13D Perennial thermophilous ruderal vegetation: **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: **[XBH03 Linario-Brometum tectorum](#)**

Ecological specialization indices

Ecological specialization index for all vegetation types: **3.9**

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

## Colonization ability

Index of colonization success (ICS): **3**  
Index of colonization potential (ICP): **8**  
Optimum successional age [years]: **5.5**

## Distribution and frequency

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

Floristic region: **Europe, Asia**

Continental degree: **7**

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

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

Occurrence frequency in the basic grid mapping cells and quadrants of the basic grid mapping cells: **181**

taxon.data.freq\_in\_quad: **300**

### 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%: **6.3 %**

Occurrence frequency in vegetation plots with a cover above 25%: **0 %**

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: **13 %**

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

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

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

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): **NT - near threatened**

Legal protection: **not protected by law**