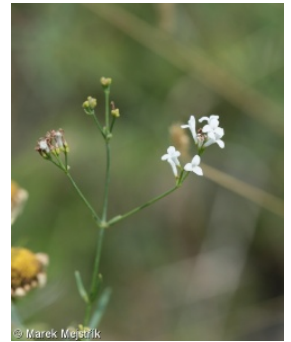
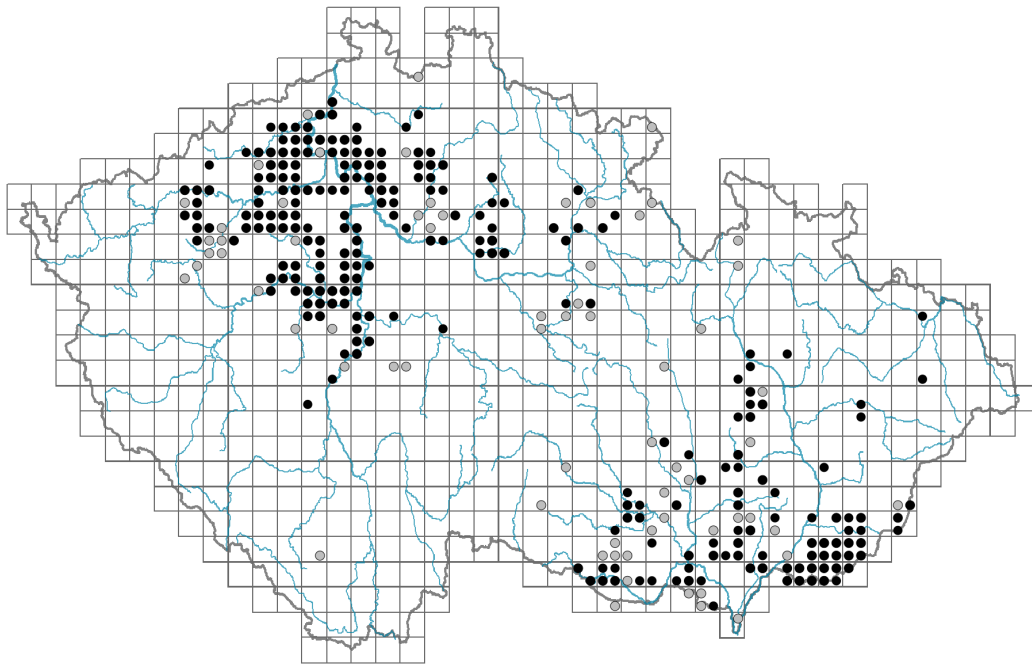


# *Asperula tinctoria*

## Distribution



© Marek Mejstřík

### 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]: **0.2-0.6**Growth form: **clonal herb**Life form: **hemicryptophyte**Life strategy: **CSR - competitor/stress-tolerator/ruderal**Life strategy (Pierce method based on leaf traits): **SR**Life strategy (Pierce method, C-score): **3 %**Life strategy (Pierce method, S-score): **46.1 %**Life strategy (Pierce method, R-score): **50.8 %**

## Leaf

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

## Flower

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

Flowering phase: **6 Cornus sanguinea-Melica uniflora (start of early summer)**

Flower colour: **white**

Flower symmetry: **actinomorphic**

Perianth type: **calyx absent, corolla present**

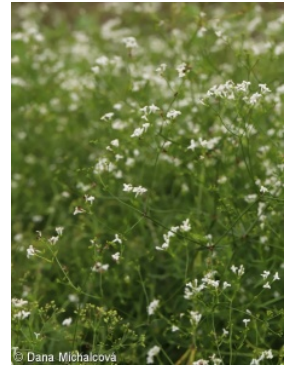
Perianth fusion: **fused**

Shape of the sympetalous corolla or syntepalous perianth: **funnel-shaped**

Inflorescence type: **panicula e dichasiis composita**

Dicliny: **synoecious**

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



### Fruit, seed and dispersal

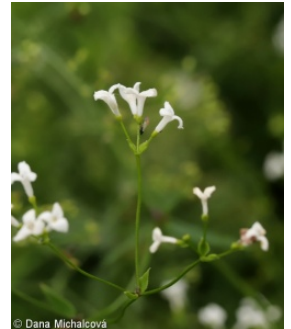
Fruit type: **dry fruit - pair of nutlets**

Reproduction type: **by seed/spores and vegetatively**

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

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

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



### Belowground organs and clonality

Shoot metamorphosis: **stolon**

Storage organ: **stolon**

Type of clonal growth organ: **hypogeogenous rhizome**

Freely dispersible organs of clonal growth: **absent**

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

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

Primary root: **absent**

Persistence of the clonal growth organ [year]: **4**

Number of clonal offspring: **2.3**

Lateral spreading distance by clonal growth [m]: **0.13**

Clonal index: **4**

#### 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): **15**

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): **20**

Depth of the belowground bud bank (root buds excluded) [cm]: **4**

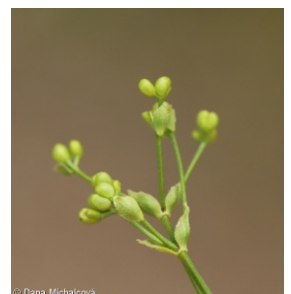
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Size of the belowground bud bank (root buds included): **20**

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): **22 (44)**

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

2C genome size [Mbp]: **2048.45**

1Cx monoploid genome size [Mbp]: **1024.22**

Genomic GC content: **40.8 %**

## Taxon origin

Origin in the Czech Republic: **native**

## Ecological indicator values

Ellenberg-type indicator values

Light indicator value: **6 - transition between values 5 and 7; rarely at less than 20% 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: **8 - transition between values 7 and 9, occurring mostly in calcium-rich conditions**

Nutrient indicator value: **3 - occurring at nutrient-poor sites more frequently than at average sites and exceptionally at rich sites**

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

Indicator values for disturbance

Whole-community disturbance frequency indicator value: **-1.64**

Herb layer disturbance frequency indicator value: **-0.57**

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

Herb layer disturbance severity indicator value: **0.15**

Whole-community structure based disturbance indicator value: **0.22**

Herb layer structure-based disturbance indicator value: **0.31**

## Habitat and sociology

Occurrence in habitats

6 Meadows and mesic pastures

6A Mesic Arrhenatherum meadows: **1 - rare occurrence**

6F Intermittently wet Molinia meadows: **1 - rare occurrence**

8 Dry grasslands

8A Hercynian dry grasslands on rock outcrops: **1 - rare occurrence**

8B Submediterranean dry grasslands on rock outcrops: **2 - optimum**

8C Narrow-leaved sub-continental steppes: **1 - rare occurrence**

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

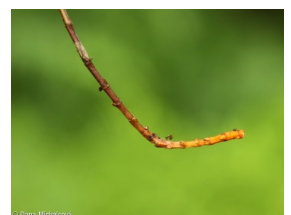
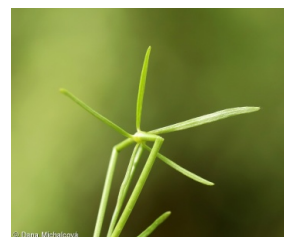
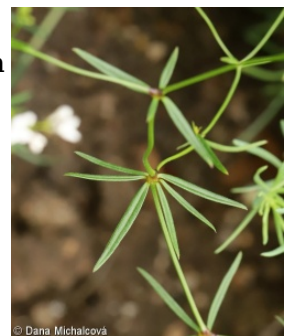
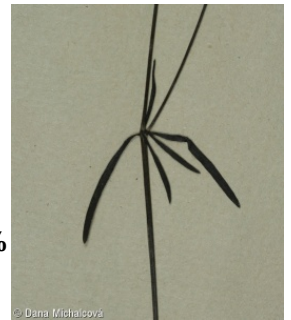
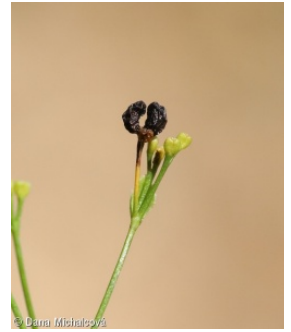
8F Thermophilous forest fringe vegetation: **2 - optimum**

11 Heathlands and scrub

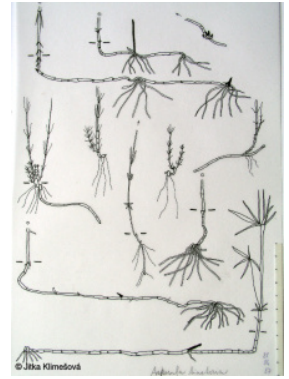
11L Tall mesic and xeric shrub: **1 - rare occurrence**

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

12 Forests



- 12C Oak-hornbeam forests: **1 - rare occurrence**  
 12D Ravine forests: **1 - rare occurrence**  
 12F Limestone beech forests: **1 - rare occurrence**  
 12H Peri-Alpidic basiphilous thermophilous oak forests: **2 - optimum**  
 12I Sub-continental thermophilous oak forests: **2 - optimum**  
 12J Acidophilous thermophilous oak forests: **1 - rare occurrence**  
 12L Boreo-continental pine forests: **1 - rare occurrence**  
 12O Peri-Alpidic pine forests: **1 - rare occurrence**  
 12W Pine and larch plantations: **1 - rare occurrence**



### Affinity to the forest environment

Affinity to the forest environment in Thermophyticum: **2.1 - taxon occurring both in the forest and open vegetation**

### Diagnostic taxon

Diagnostic taxon of alliances: [LCA Quercion pubescenti-petraeae](#), [LCB Aceri tatarici-Quercion](#), [LFA Festuco-Pinion sylvestris](#)

Diagnostic taxon of associations: [LCA01 Lathyro collini-Quercetum pubescentis](#), [LCB02 Carici fritschii-Quercetum roboris](#), [LFA01 Festuco-Pinetum sylvestris](#)

### Constant taxon

Constant taxon of alliances: [LFA Festuco-Pinion sylvestris](#)

Constant taxon of associations: [LCA01 Lathyro collini-Quercetum pubescentis](#), [LCB02 Carici fritschii-Quercetum roboris](#), [LFA01 Festuco-Pinetum sylvestris](#)

### Ecological specialization indices

Ecological specialization index for all vegetation types: **4.7**

Ecological specialization index for non-forest vegetation: **5**

Ecological specialization index for forest vegetation: **5.1**

### Colonization ability

Index of colonization success (ICS): **4**

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

Optimum successional age [years]: **75**

## Distribution and frequency

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

Floristic region: **Europe**

Continental degree: **5**

Distribution range extension along the continentality gradient: **4**

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: **179**

taxon.data.freq\_in\_quad: **329**

### 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%: **2.2 %**

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: **2.3 %**

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: **18**

Number of narrow habitats in which the taxon has its optimum: **5**

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

Number of broad habitats in which the taxon has its optimum: **2**

### **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**