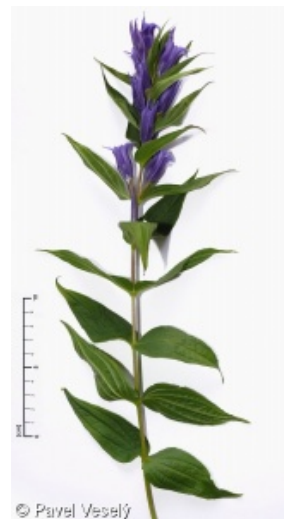
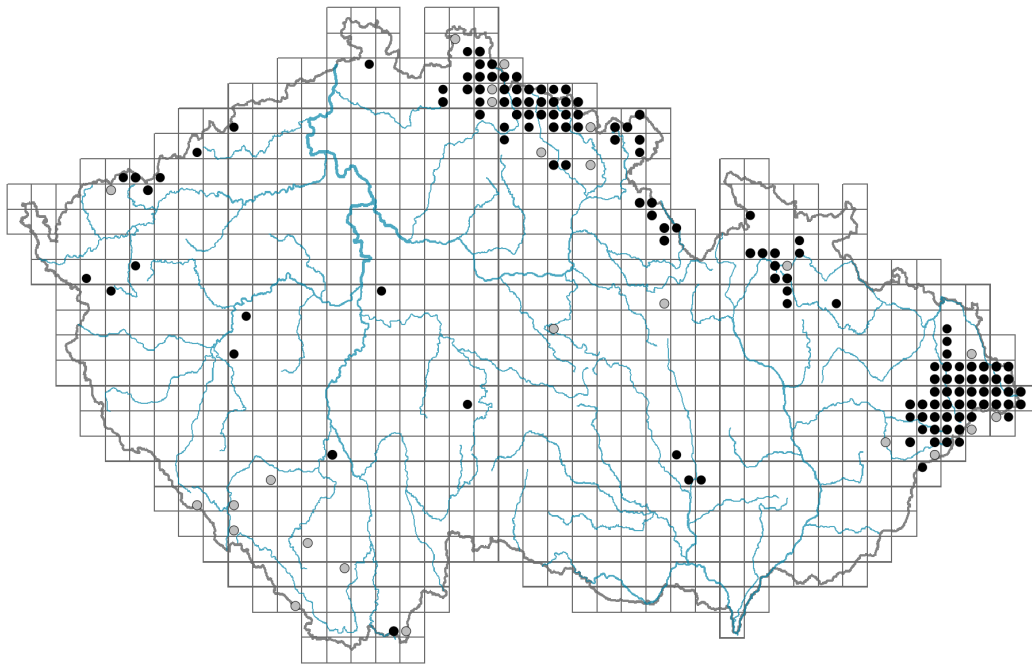


# *Gentiana asclepiadea*

## 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.

## Habitus and growth type

Height [m]: **0.2-0.7**

Growth form: **clonal herb**

Life form: **hemicryptophyte**

Life strategy: **C - competitor**

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

Life strategy (Pierce method, C-score): **16.8 %**

Life strategy (Pierce method, S-score): **44.1 %**

Life strategy (Pierce method, R-score): **39.1 %**



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## 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: **scleromorphic, mesomorphic**



© Pavel Veselý

## Flower

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

Flowering phase: **8 Clematis vitalba-Galium sylvaticum (mid-summer)**

Flower colour: **white, blue**

Flower symmetry: **actinomorphic**

Perianth type: **calyx and corolla**

Perianth fusion: **fused**

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

Calyx fusion: **synsepalous**

Inflorescence type: **racemus e verticillastris compositus**

Dicliny: **synoecious**

Generative reproduction type: **mixed mating**

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

## 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: **Epilobium (mainly anemochory and autochory)**

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

## Belowground organs and clonality

Shoot metamorphosis: **rhizome**

Storage organ: **rhizome**

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: **1**

Lateral spreading distance by clonal growth [m]: **0.01**

Clonal index: **3**

## 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**

Number of buds per shoot at the soil surface (root buds included): **5**

Number of buds per shoot at a depth of 0–10 cm (root buds included): **15**

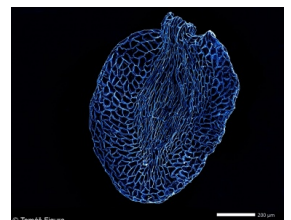
Number of buds per shoot at a depth greater than 10 cm (root buds included): **0**

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): **44**

Ploidy level (x): **4**

2C genome size [Mbp]: **5764.9**

1Cx monoploid genome size [Mbp]: **1441.23**

Genomic GC content: **42.2 %**

## Taxon origin

Origin in the Czech Republic: **native**

## Ecological indicator values

Ellenberg-type indicator values

Light indicator value: **6x - transition between values 5 and 7; rarely at less than 20% of diffuse radiation incident in an open area (generalist)**

Temperature indicator value: **3 - cool indicator, occurring mainly in subalpine areas**

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

Reaction indicator value: **5 - indicator of moderate acidity, occurring rarely in strongly acidic as well as in neutral to alkaline 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: **-1.46**

Herb layer disturbance frequency indicator value: **-0.88**

Whole-community disturbance severity indicator value: **0.2**

Herb layer disturbance severity indicator value: **0.18**

Whole-community structure based disturbance indicator value: **0.21**

Herb layer structure-based disturbance indicator value: **0.32**

## Habitat and sociology

Occurrence in habitats

1 Vegetation of cliffs, screes and walls

1B Siliceous cliffs and block fields: **1 - rare occurrence**

2 Alpine and subalpine grasslands

2A Alpine grasslands on siliceous bedrock: **1 - rare occurrence**

2B Subalpine tall-forb and tall-grass vegetation: **2 - optimum**

4 Wetland and riverine herbaceous vegetation

4K Petasites fringes of montane brooks: **1 - rare occurrence**

5 Vegetation of springs and mires

5C Alpine and subalpine soft-water springs: **1 - rare occurrence**

5E Acidic moss-rich fens and peatland meadows: **1 - rare occurrence**

5F Transitional mires: **1 - rare occurrence**



- 5G Raised bogs: **1 - rare occurrence**
- 6 Meadows and mesic pastures
- 6B Montane mesic meadows: **1 - rare occurrence**
- 6C Pastures and park grasslands: **1 - rare occurrence**
- 7 Acidophilous grasslands
- 7A Subalpine and montane acidophilous grasslands: **2 - optimum**
- 7B Submontane *Nardus* grasslands: **1 - rare occurrence**
- 11 Heathlands and scrub
- 11A Dry lowland to subalpine heathlands: **1 - rare occurrence**
- 11D Subalpine acidophilous *Pinus mugo* scrub: **2 - optimum**
- 11H Subalpine deciduous scrub: **2 - optimum**
- 11L Tall mesic and xeric shrub: **1 - rare occurrence**
- 11R Scrub and pioneer woodland of forests clearings: **2 - optimum**
- 12 Forests
- 12B Alluvial forests: **1 - rare occurrence**
- 12D Ravine forests: **1 - rare occurrence**
- 12E Herb-rich beech forests: **1 - rare occurrence**
- 12G Acidophilous beech forests: **1 - rare occurrence**
- 12R Acidophilous spruce forests: **2 - optimum**
- 12S Basiphilous spruce forests: **2 - optimum**
- 12V Spruce plantations: **1 - rare occurrence**
- 13 Anthropogenic vegetation
- 13F Herbaceous vegetation of forests clearings and *Rubus* scrub: **2 - optimum**

Affinity to the forest environment

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

Diagnostic taxon

Diagnostic taxon of classes: [AD \*Mulgedio-Aconitetea\*](#), [KC \*Roso pendulinae-Pinetea mugo\*](#)

Diagnostic taxon of alliances: [ADA \*Calamagrostion villosae\*](#), [ADB \*Calamagrostion arundinaceae\*](#), [ADC \*Salicion silesiaca\*](#), [ADE \*Dryopterido filicis-maris-Athyrium distentifolii\*](#), [KCA \*Pinion mugo\*](#), [TEA \*Nardion strictae\*](#)

Diagnostic taxon of associations: [ADA01 \*Sphagno compacti-Molinietum caeruleae\*](#), [ADA02 \*Crepido conyzifoliae-Calamagrostietum villosae\*](#), [ADB01 \*Bupleuro longifoliae-Calamagrostietum arundinaceae\*](#), [ADC01 \*Salici silesiaca-Betuletum carpatica\*](#), [ADC02 \*Pado borealis-Sorbetum aucupariae\*](#), [ADD01 \*Ranunculo platanifolii-Adenostyletum alliariae\*](#), [ADE01 \*Daphno mezerei-Dryopteridetum filicis-maris\*](#), [ADE02 \*Adenostylo alliariae-Athyrietum distentifolii\*](#), [KCA01 \*Dryopterido dilatatae-Pinetum mugo\*](#), [TEA02 \*Thesio alpini-Nardetum strictae\*](#)

Constant taxon

Constant taxon of classes: [AD \*Mulgedio-Aconitetea\*](#)

Constant taxon of alliances: [ADA \*Calamagrostion villosae\*](#), [ADB \*Calamagrostion arundinaceae\*](#), [ADC \*Salicion silesiaca\*](#), [ADE \*Dryopterido filicis-maris-Athyrium distentifolii\*](#)

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*Dryopteridetum filicis-maris*, ADE02 *Adenostylo alliariae-Athyrietum distentifolii*, KCA02 *Adenostylo alliariae-Pinetum mugo*

Ecological specialization indices

Ecological specialization index for all vegetation types: **4.6**

Ecological specialization index for non-forest vegetation: **4.8**

Ecological specialization index for forest vegetation: **5.3**

Colonization ability

Index of colonization success (ICS): **1**

Index of colonization potential (ICP): **1**

## **Distribution and frequency**

Floristic zone: **southern temperate, submeridional**

Floristic region: **Europe**

Continental degree: **5**

Distribution range extension along the continentality gradient: **3**

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

Occurrence frequency in the basic grid mapping cells and quadrants of the basic grid mapping cells: **90**

taxon.data.freq\_in\_quad: **160**

Commonness in vegetation plots from the Czech Republic

Occurrence frequency in vegetation plots: **0.5 %**

Occurrence frequency in vegetation plots with a cover above 5%: **7.3 %**

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: **2.9 %**

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: **25**

Number of narrow habitats in which the taxon has its optimum: **8**

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

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

## **Threats and protection**

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

Red List 2017 (IUCN categories): **LC - least concern**

Legal protection: **vulnerable taxon**