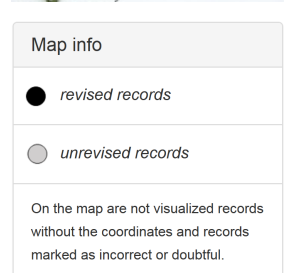


# *Echium vulgare* subsp. *vulgare*

## Distribution



## Habitus and growth type

Height [m]: **0.2-1.7**

Growth form: **monocarpic perennial non-clonal herb**

Life form: **hemicryptophyte**

Life strategy: **CR - competitor/ruderal**

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

Life strategy (Pierce method, C-score): **78.1 %**

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

Life strategy (Pierce method, R-score): **21.9 %**



## Leaf

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

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

Leaf shape: **simple - entire**

Stipules: **absent**

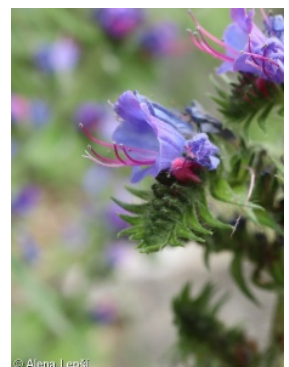
Petiole: **both present and absent**

Leaf life span: **evergreen**

Leaf anatomy: **scleromorphic**

## Flower

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



Flower colour: **white, pink, blue**

Flower symmetry: **zygomorphic**

Perianth type: **calyx and corolla**

Perianth fusion: **fused**

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

Calyx fusion: **synsepalous**

Inflorescence type: **racemus e cincinnis compositus**

Dicliny: **synoecious, gynodioecious**

Generative reproduction type: **facultative allogamy**

Pollination syndrome: **insect-pollination**

Pollinator spectrum: **honeybee, bumblebees, solitary bees, other Hymenoptera, hoverflies, flies s. l., other Diptera, butterflies, beetles, nitidulids, unknown**

## Fruit, seed and dispersal

Fruit type: **dry fruit - cluster of four one-seeded nutlets**

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

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

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

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

## Belowground organs and clonality

Root metamorphosis: **primary storage root**

Storage organ: **primary storage root**

Shoot life span (cyclicity): **dicyclic or polycyclic shoots prevailing**

Primary root: **present**

### 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): **3**

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): **8**

Depth of the belowground bud bank (root buds excluded) [cm]: **2**

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): **3**

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): **8**

Depth of the belowground bud bank (root buds included) [cm]: **2**

## Trophic mode

Parasitism and mycoheterotrophy: **autotrophic**

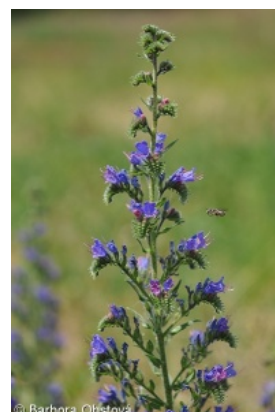
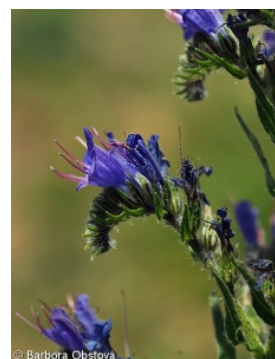
Carnivory: **non-carnivorous**

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

## Karyology

Chromosome number (2n): **32**

Ploidy level (x): **4**



2C genome size [Mbp]: **1478.2**

1Cx monoploid genome size [Mbp]: **369.55**

Genomic GC content: **38.2 %**

## Taxon origin

Origin in the Czech Republic: **native**

## 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: **6 - transition between values 5 and 7**

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: **-0.39**

Herb layer disturbance frequency indicator value: **-0.3**

Whole-community disturbance severity indicator value: **0.44**

Herb layer disturbance severity indicator value: **0.47**

Whole-community structure based disturbance indicator value: **0.58**

Herb layer structure-based disturbance indicator value: **0.62**

## Habitat and sociology

Occurrence in habitats

1 Vegetation of cliffs, screes and walls

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

1D Mobile calcareous screes: **2 - optimum**

6 Meadows and mesic pastures

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

6C Pastures and park grasslands: **1 - rare occurrence**

8 Dry grasslands

8A Hercynian dry grasslands on rock outcrops: **2 - optimum**

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

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

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

8E Acidophilous dry grasslands: **2 - optimum**

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

9 Sand grasslands and rock-outcrop vegetation

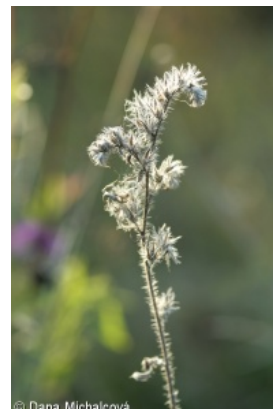
9B Open vegetation of acidic sands: **1 - rare occurrence**

9C Festuca grasslands on acidic sands: **2 - optimum**

9D Pannonian sand steppes: **2 - optimum**

9E Acidophilous vegetation of spring therophytes and succulents: **2 - optimum**

9F Basiphilous vegetation of spring therophytes and succulents: **2 - optimum**



## 11 Heathlands and scrub

11A Dry lowland to subalpine heathlands: **1 - rare occurrence**

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

11N Low xeric scrub: **2 - optimum**

## 12 Forests

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

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

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

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

13D Perennial thermophilous ruderal vegetation: **2 - optimum**

13E Perennial nitrophilous herbaceous vegetation of mesic sites: **1 - rare occurrence**

13F Herbaceous vegetation of forests clearings and Rubus scrub: **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**

## Diagnostic taxon

Diagnostic taxon of classes: [SC \*Thlaspietea rotundifolii\*](#)

Diagnostic taxon of alliances: [KAB \*Salicion elaeagno-daphnoidis\*](#), [SCA \*Stipion calamagrostis\*](#), [TFF \*Alyso alyssoidis-Sedion\*](#), [THB \*Bromo pannonici-Festucion pallentis\*](#), [XCA \*Onopordion acanthii\*](#)

Diagnostic taxon of associations: [KAB01 \*Salicetum elaeagno-purpureae\*](#), [SCA03 \*Teucrio botryos-Melicetum ciliatae\*](#), [TFF02 \*Alyso alyssoidis-Sedetum\*](#), [THB01 \*Poo badensis-Festucetum pallentis\*](#), [THD02 \*Erysimo crepidifolii-Festucetum valesiaca\*](#), [XCB02 \*Berteroetum incanae\*](#)

## Constant taxon

Constant taxon of alliances: [TFF \*Alyso alyssoidis-Sedion\*](#), [THB \*Bromo pannonici-Festucion pallentis\*](#)

Constant taxon of associations: [KAB01 \*Salicetum elaeagno-purpureae\*](#), [KAB03 \*Salici purpureae-Myricarietum germanicae\*](#), [SCA02 \*Galeopsietum angustifoliae\*](#), [SCA03 \*Teucrio botryos-Melicetum ciliatae\*](#), [TFF02 \*Alyso alyssoidis-Sedetum\*](#), [THB01 \*Poo badensis-Festucetum pallentis\*](#), [THD02 \*Erysimo crepidifolii-Festucetum valesiaca\*](#), [THD04 \*Koelerio macranthae-Stipetum joannis\*](#), [THG02 \*Avenulo pratensis-Festucetum valesiaca\*](#), [XBG09 \*Sisymbrietum altissimi\*](#), [XCB02 \*Berteroetum incanae\*](#), [XCB04 \*Dauco carotae-Picridetum hieracioidis\*](#)

## Dominant taxon

Dominant taxon of associations: [XCB01 \*Melilotetum albo-officinalis\*](#)

## Ecological specialization indices

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

Ecological specialization index for non-forest vegetation: **3.8**

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

## Colonization ability

Index of colonization success (ICS): **8**

Index of colonization potential (ICP): **8**  
Optimum successional age [years]: **14.5**

### Distribution and frequency

Floristic zone: **southern temperate, submeridional, meridional**  
Floristic region: **Europe, Western Asia**  
Distribution range extension along the continentality gradient: **6**  
Elevational belt in the Czech Republic: **lowlands, colline belt, submontane belt**  
Occurrence frequency in the basic grid mapping cells and quadrants of the basic grid mapping cells: 616  
taxon.data.freq\_in\_quad: 1874

#### Commonness in vegetation plots from the Czech Republic

Occurrence frequency in vegetation plots: **2.2 %**  
Occurrence frequency in vegetation plots with a cover above 5%: **7.4 %**  
Occurrence frequency in vegetation plots with a cover above 25%: **2.6 %**  
Occurrence frequency in vegetation plots with a cover above 50%: **0.2 %**  
Mean percentage cover in vegetation plots: **3.5 %**  
Maximum percentage cover in vegetation plots: **88 %**  
Number of habitats with taxon occurrence in the Czech Republic  
Number of narrow habitats in which the taxon occurs: **28**  
Number of narrow habitats in which the taxon has its optimum: **13**  
Number of broad habitats in which the taxon occurs: **7**  
Number of broad habitats in which the taxon has its optimum: **5**

### 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**