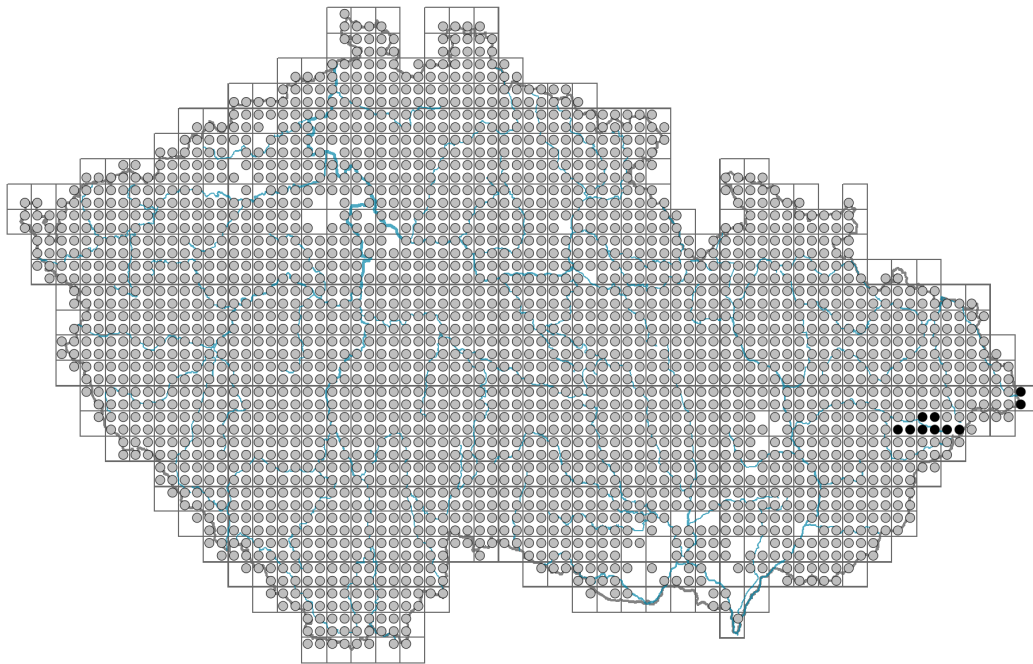


# *Picea abies*

## Distribution



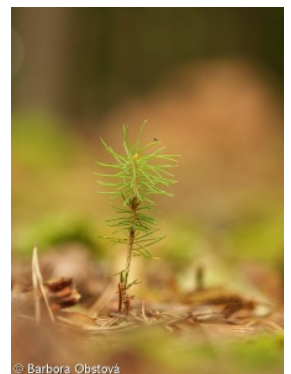
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### Map info

● revised records

○ unrevised records

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



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## Habitus and growth type

Height [m]: **1-50**

Growth form: **tree**

Life form: **macrophanerophyte**

Life strategy: **C - competitor**

Life strategy (Pierce method based on leaf traits): **S**

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

Life strategy (Pierce method, S-score): **100 %**

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

## Leaf

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

Leaf arrangement (phyllotaxis): **alternate**

Leaf shape: **simple - entire**

Stipules: **absent**

Petiole: **absent**

Leaf life span: **evergreen**

Leaf deciduousness in woody plants: **evergreen**

Leaf anatomy: **scleromorphic**

Functional leaf type in woody plants: **needle-like**

## Flower

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

Flowering phase: **4 Fagus sylvatica-Galeobdolon (start of mid-spring)**

Dicliny: **monoecious**

Generative reproduction type: **allogamy**

Pollination syndrome: **wind-pollination**

## Fruit, seed and dispersal

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

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

Dispersal strategy: **Epilobium (mainly anemochory and autochory)**

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

## Belowground organs and clonality

### Bud bank

Number of buds per shoot at the soil surface (root buds excluded): **0**

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): **0**

Number of buds per shoot at the soil surface (root buds included): **0**

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): **0**

## Trophic mode

Parasitism and mycoheterotrophy: **autotrophic**

Carnivory: **non-carnivorous**

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

## Karyology

Chromosome number (2n): **24**

Ploidy level (x): **2**

2C genome size [Mbp]: **34724.56**

1Cx monoploid genome size [Mbp]: **17362.28**

Genomic GC content: **42.6 %**

## Taxon origin

Origin in the Czech Republic: **native**

## Ecological indicator values

### Ellenberg-type indicator values

Light indicator value: **5 - semi-shade plant, only exceptionally occurring in full light, but usually at more than 10% of the diffuse radiation incident in an open**



**area**

Temperature indicator value: **4x - transition between values 3 and 5 (generalist)**

Moisture indicator value: **6x - transition between values 5 and 7 (generalist)**

Reaction indicator value: **4x - transition between values 3 and 5 (generalist)**

Nutrient indicator value: **4x - transition between values 3 and 5 (generalist)**

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

Indicator values for disturbance

Whole-community disturbance frequency indicator value: **-1.96**

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

Whole-community disturbance severity indicator value: **0.23**

Herb layer disturbance severity indicator value: **0.07**

Whole-community structure based disturbance indicator value: **0.08**

Herb layer structure-based disturbance indicator value: **0.16**

**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**

## 2 Alpine and subalpine grasslands

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

2B Subalpine tall-forb and tall-grass vegetation: **1 - rare occurrence**

## 4 Wetland and riverine herbaceous vegetation

4D Riverine reed vegetation: **1 - rare occurrence**

4G Tall-sedge beds: **1 - rare occurrence**

4J River gravel banks: **1 - rare occurrence**

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

## 5 Vegetation of springs and mires

5B Lowland to montane soft-water springs: **1 - rare occurrence**

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

5D Calcareous fens: **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**

5H Wet peat soils and bog hollows: **1 - rare occurrence**

## 6 Meadows and mesic pastures

6E Wet Cirsium meadows: **1 - rare occurrence**

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

## 7 Acidophilous grasslands

7A Subalpine and montane acidophilous grasslands: **1 - rare occurrence**

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

## 8 Dry grasslands

8B Submediterranean dry grasslands on rock outcrops: **1 - rare occurrence**

## 9 Sand grasslands and rock-outcrop vegetation

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



- 9C Festuca grasslands on acidic sands: **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: **1 - rare occurrence**  
 11I Willow carrs: **1 - rare occurrence**  
 11L Tall mesic and xeric shrub: **1 - rare occurrence**  
 11R Scrub and pioneer woodland of forests clearings: **1 - rare occurrence**

## 12 Forests

- 12A Alder carrs: **1 - rare occurrence**  
 12B Alluvial forests: **2 - optimum**  
 12C Oak-hornbeam forests: **2 - optimum**  
 12D Ravine forests: **2 - optimum**  
 12E Herb-rich beech forests: **2 - optimum**  
 12F Limestone beech forests: **2 - optimum**  
 12G Acidophilous beech forests: **4 - constant dominant**  
 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: **2 - optimum**  
 12L Boreo-continental pine forests: **4 - constant dominant**  
 12O Peri-Alpidic pine forests: **1 - rare occurrence**  
 12P Peatland pine forests: **2 - optimum**  
 12Q Peatland birch forests: **2 - optimum**  
 12R Acidophilous spruce forests: **4 - constant dominant**  
 12S Basiphilous spruce forests: **4 - constant dominant**  
 12T Robinia pseudacacia plantations: **1 - rare occurrence**  
 12U Plantations of broad-leaved non-native trees: **1 - rare occurrence**  
 12V Spruce plantations: **4 - constant dominant**  
 12W Pine and larch plantations: **2 - optimum**

## 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 Thermophyticum: **1.1 - taxon occurring mainly in the closed forest**

Affinity to the forest environment in Mesophyticum and Oreophyticum: **1.1 - taxon occurring mainly in the closed forest**

### Diagnostic taxon

Diagnostic taxon of classes: [LF Vaccinio-Piceetea](#)

Diagnostic taxon of alliances: [LBE Luzulo-Fagion sylvaticae](#), [LFC Piceion abietis](#), [LFD Vaccinio uliginosi-Pinion sylvestris](#)

Diagnostic taxon of associations: [KBC06 Piceo abietis-Sorbetum aucupariae](#), [LBA02 Piceo abietis-Alnetum glutinosae](#), [LBC04 Athyrio distentifolii-Fagetum sylvaticae](#), [LBE02 Calamagrostio villosae-Fagetum sylvaticae](#), [LBE03 Luzulo-Abietetum albae](#), [LBE04 Vaccinio myrtilli-Abietetum albae](#), [LFC01 Calamagrostio villosae-Piceetum abietis](#), [LFC02 Athyrio distentifolii-Piceetum abietis](#), [LFC03 Equiseto sylvatici-Piceetum abietis](#), [LFC04 Soldanello montanae-Piceetum abietis](#), [LFD04 Vaccinio uliginosi-Piceetum abietis](#)



## Constant taxon

Constant taxon of classes: [KC Roso pendulinae-Pinetea mugo](#), [LF Vaccinio-Piceetea](#)

Constant taxon of alliances: [KCA Pinion mugo](#), [LBE Luzulo-Fagion sylvaticae](#), [LFA Festuco-Pinion sylvestris](#), [LFB Dicrano-Pinion sylvestris](#), [LFC Piceion abietis](#), [LFD Vaccinio uliginosi-Pinion sylvestris](#)

Constant taxon of associations: [KBC04 Senecioni fuchsii-Coryletum avellanae](#), [KBC06 Piceo abietis-Sorbetum aucupariae](#), [KCA01 Dryopterido dilatatae-Pinetum mugo](#), [KCA02 Adenostylo alliariae-Pinetum mugo](#), [LAA01 Thelypterido palustris-Alnetum glutinosae](#), [LBA01 Alnetum incanae](#), [LBA02 Piceo abietis-Alnetum glutinosae](#), [LBC04 Athyrio distentifolii-Fagetum sylvaticae](#), [LBC05 Galio rotundifolii-Abietetum albae](#), [LBE01 Luzulo luzuloidis-Fagetum sylvaticae](#), [LBE02 Calamagrostio villosae-Fagetum sylvaticae](#), [LBE03 Luzulo-Abietetum albae](#), [LBE04 Vaccinio myrtilli-Abietetum albae](#), [LFA01 Festuco-Pinetum sylvestris](#), [LFB02 Vaccinio myrtilli-Pinetum sylvestris](#), [LFC01 Calamagrostio villosae-Piceetum abietis](#), [LFC02 Athyrio distentifolii-Piceetum abietis](#), [LFC03 Equiseto sylvatici-Piceetum abietis](#), [LFC04 Soldanello montanae-Piceetum abietis](#), [LFD02 Vaccinio uliginosi-Pinetum sylvestris](#), [LFD03 Vaccinio-Pinetum montanae](#), [LFD04 Vaccinio uliginosi-Piceetum abietis](#), [RCA04 Sphagno-Pinetum sylvestris](#)

## Dominant taxon

Dominant taxon of associations: [LBA02 Piceo abietis-Alnetum glutinosae](#), [LBE01 Luzulo luzuloidis-Fagetum sylvaticae](#), [LBE04 Vaccinio myrtilli-Abietetum albae](#), [LFC01 Calamagrostio villosae-Piceetum abietis](#), [LFC02 Athyrio distentifolii-Piceetum abietis](#), [LFC03 Equiseto sylvatici-Piceetum abietis](#), [LFC04 Soldanello montanae-Piceetum abietis](#), [LFD04 Vaccinio uliginosi-Piceetum abietis](#)

## Ecological specialization indices

Ecological specialization index for all vegetation types: **4.4**

Ecological specialization index for non-forest vegetation: **3.4**

Ecological specialization index for forest vegetation: **4.5**

## Colonization ability

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

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

Optimum successional age [years]: **15**

## Distribution and frequency

Floristic zone: **boreal, 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, submontane belt, montane belt**

Expansive taxon in the region: **Bohemian Moravian Mesophyticum, Bohemian Moravian Oreophyticum, Carpathian Mesophyticum, Carpathian Oreophyticum**

Occurrence frequency in the basic grid mapping cells and quadrants of the basic grid mapping cells: **673**

taxon.data.freq\_in\_quad: **2455**

Commonness in vegetation plots from the Czech Republic

Occurrence frequency in vegetation plots: **5.7 %**



Occurrence frequency in vegetation plots with a cover above 5%: **45.1 %**  
Occurrence frequency in vegetation plots with a cover above 25%: **21.6 %**  
Occurrence frequency in vegetation plots with a cover above 50%: **10.8 %**  
Mean percentage cover in vegetation plots: **16.1 %**  
Maximum percentage cover in vegetation plots: **99 %**  
Number of habitats with taxon occurrence in the Czech Republic  
Number of narrow habitats in which the taxon occurs: **50**  
Number of narrow habitats in which the taxon has its optimum: **16**  
Number of broad habitats in which the taxon occurs: **11**  
Number of broad habitats in which the taxon has its optimum: **3**



### 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**

