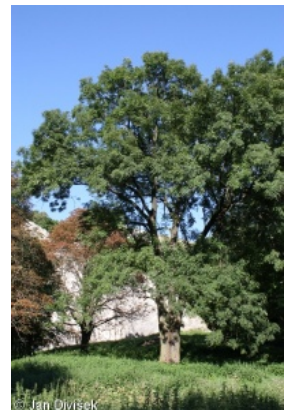
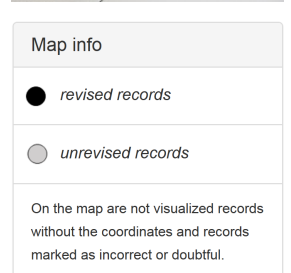
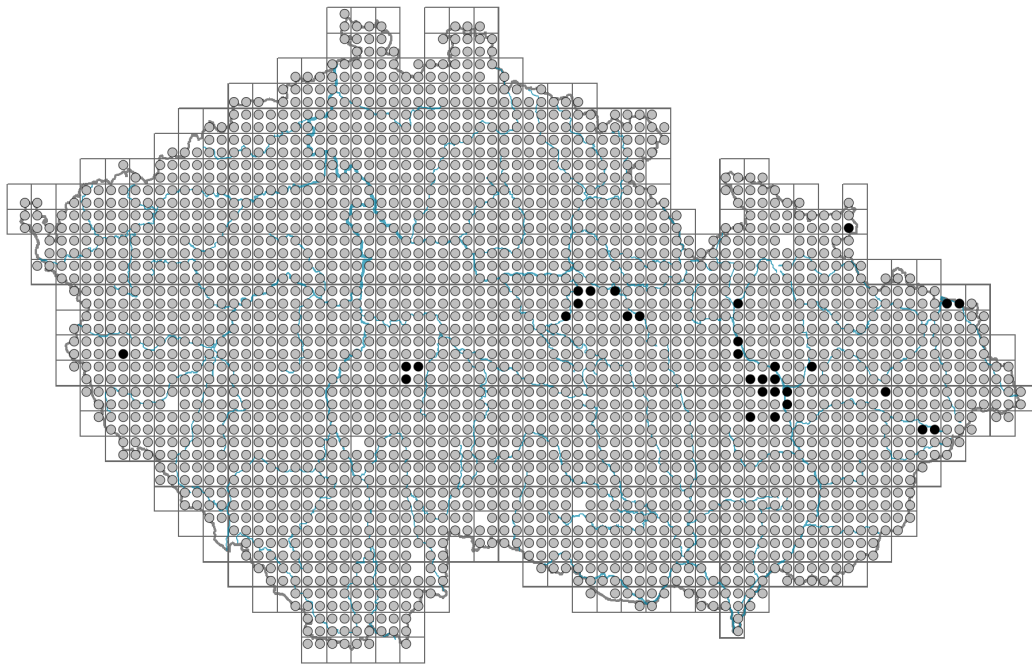


# *Fraxinus excelsior*

## Distribution



## Habitus and growth type

Height [m]: **20-35**

Growth form: **tree**

Life form: **macrophanerophyte**

Life strategy: **C - competitor**

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

Life strategy (Pierce method, C-score): **37.4 %**

Life strategy (Pierce method, S-score): **46.2 %**

Life strategy (Pierce method, R-score): **16.5 %**

## Leaf

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

Leaf arrangement (phyllotaxis): **opposite, verticillate**

Leaf shape: **compound - imparipinnate**

Stipules: **absent**

Petiole: **present**

Leaf life span: **summer green**

Leaf deciduousness in woody plants: **winter deciduous**

Leaf anatomy: **mesomorphic**

Functional leaf type in woody plants: **broad deciduous or semi-deciduous**

## Flower

Flowering period [month]: **April**

Flowering phase: **2 Acer platanoides-Anemone nemorosa (start of early spring)**

Flower colour: **green-white**

Perianth type: **flower achlamydeous**

Inflorescence type: **panicula**

Dicliny: **trioecious**

Generative reproduction type: **facultative allogamy**

Pollination syndrome: **wind-pollination**

## Fruit, seed and dispersal

Fruit type: **dry fruit - achene/cypsela/samara**

Fruit colour: **brown**

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

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

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

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

## Belowground organs and clonality

Position of root buds: **lateral roots**

Role of root buds in life-history of a plant: **additive**

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): **15**

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): **15**

Size of the belowground bud bank (root buds included): **45**

Depth of the belowground bud bank (root buds included) [cm]: **7**

## Trophic mode

Parasitism and mycoheterotrophy: **autotrophic**

Carnivory: **non-carnivorous**

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

## Karyology

Chromosome number (2n): **46**

Ploidy level (x): **2**

2C genome size [Mbp]: **1532.21**

1Cx monoploid genome size [Mbp]: **766.1**

Genomic GC content: **37.3 %**



**Taxon origin**

Origin in the Czech Republic: **native**

**Ecological indicator values**

Ellenberg-type indicator values

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

Temperature indicator value: **5 - moderate heat indicator, occurring from lowland to montane belt, mainly in submontane-temperate areas**

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

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

Nutrient indicator value: **7 - occurring at nutrient-rich sites more often than at average sites and only exceptionally at poor sites**

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

Indicator values for disturbance

Whole-community disturbance frequency indicator value: **-1.92**

Herb layer disturbance frequency indicator value: **-0.8**

Whole-community disturbance severity indicator value: **0.25**

Herb layer disturbance severity indicator value: **0.09**

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

Herb layer structure-based disturbance indicator value: **0.2**

**Habitat and sociology**

Occurrence in habitats

1 Vegetation of cliffs, screes and walls

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

1C Walls: **1 - rare occurrence**

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

4 Wetland and riverine herbaceous vegetation

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

5 Vegetation of springs and mires

5A Hard-water springs with tufa formation: **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**

8D Broad-leaved dry grasslands: **1 - rare occurrence**

8F Thermophilous forest fringe vegetation: **1 - rare occurrence**

11 Heathlands and scrub

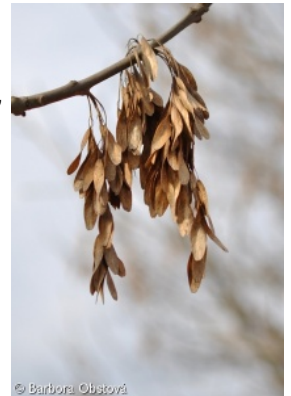
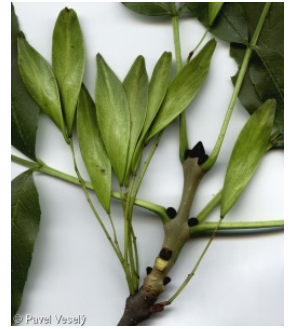
11J Willow galleries of loamy and sandy river banks: **1 - rare occurrence**

11L Tall mesic and xeric shrub: **2 - optimum**

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

11R Scrub and pioneer woodland of forests clearings: **1 - rare occurrence**

12 Forests



- 12A Alder carrs: **2 - optimum**  
 12B Alluvial forests: **4 - constant dominant**  
 12C Oak-hornbeam forests: **2 - optimum**  
 12D Ravine forests: **4 - constant dominant**  
 12E Herb-rich beech forests: **2 - optimum**  
 12F Limestone beech forests: **2 - optimum**  
 12G Acidophilous beech forests: **1 - rare occurrence**  
 12H Peri-Alpidic basiphilous thermophilous oak forests: **2 - optimum**  
 12I Sub-continental thermophilous oak forests: **1 - rare occurrence**  
 12J Acidophilous thermophilous oak forests: **1 - rare occurrence**  
 12K Acidophilous oak forests: **1 - rare occurrence**  
 12T Robinia pseudacacia plantations: **1 - rare occurrence**  
 12U Plantations of broad-leaved non-native trees: **2 - optimum**  
 12V Spruce plantations: **1 - rare occurrence**  
 12W Pine and larch plantations: **1 - rare occurrence**
- 13 Anthropogenic vegetation
- 13D Perennial thermophilous ruderal vegetation: **1 - rare occurrence**  
 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: **2.1 - taxon occurring both in the forest and open vegetation**

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 alliances: [LBA \*Alnion incanae\*](#), [LBF \*Tilio platyphylli-Acerion\*](#)

Diagnostic taxon of associations: [LBA04 \*Stellario nemorum-Alnetum glutinosae\*](#), [LBA05 \*Pruno padi-Fraxinetum excelsioris\*](#), [LBF02 \*Mercuriali perennis-Fraxinetum excelsioris\*](#)

#### Constant taxon

Constant taxon of alliances: [LBA \*Alnion incanae\*](#), [LBF \*Tilio platyphylli-Acerion\*](#)

Constant taxon of associations: [LBA03 \*Carici remotae-Fraxinetum excelsioris\*](#), [LBA04 \*Stellario nemorum-Alnetum glutinosae\*](#), [LBA05 \*Pruno padi-Fraxinetum excelsioris\*](#), [LBA06 \*Ficario vernaе-Ulmetum campestris\*](#), [LBB04 \*Primulo veris-Carpinetum betuli\*](#), [LBF01 \*Aceri-Tilietum\*](#), [LBF02 \*Mercuriali perennis-Fraxinetum excelsioris\*](#), [LBF03 \*Arunco dioici-Aceretum pseudoplatani\*](#), [LCB01 \*Quercetum pubescenti-roboris\*](#)

#### Dominant taxon

Dominant taxon of associations: [LBA03 \*Carici remotae-Fraxinetum excelsioris\*](#), [LBA04 \*Stellario nemorum-Alnetum glutinosae\*](#), [LBA05 \*Pruno padi-Fraxinetum excelsioris\*](#), [LBA06 \*Ficario vernaе-Ulmetum campestris\*](#), [LBF01 \*Aceri-Tilietum\*](#), [LBF02 \*Mercuriali perennis-Fraxinetum excelsioris\*](#), [LBF03 \*Arunco dioici-Aceretum pseudoplatani\*](#), [LCB01 \*Quercetum pubescenti-roboris\*](#)

#### Ecological specialization indices

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

Ecological specialization index for non-forest vegetation: **3.1**

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

#### Colonization ability



Index of colonization success (ICS): **8**  
 Index of colonization potential (ICP): **7**  
 Optimum successional age [years]: **40**

## Distribution and frequency

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

Floristic region: **Europe**

Distribution range extension along the continentality gradient: **5**

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

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

Occurrence frequency in the basic grid mapping cells and quadrants of the basic grid mapping cells: **665**

taxon.data.freq\_in\_quad: **2468**

Commonness in vegetation plots from the Czech Republic

Occurrence frequency in vegetation plots: **3.3 %**

Occurrence frequency in vegetation plots with a cover above 5%: **45 %**

Occurrence frequency in vegetation plots with a cover above 25%: **20.1 %**

Occurrence frequency in vegetation plots with a cover above 50%: **5.2 %**

Mean percentage cover in vegetation plots: **14.2 %**

Maximum percentage cover in vegetation plots: **93 %**

Number of habitats with taxon occurrence in the Czech Republic

Number of narrow habitats in which the taxon occurs: **32**

Number of narrow habitats in which the taxon has its optimum: **9**

Number of broad habitats in which the taxon occurs: **7**

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

## 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**

