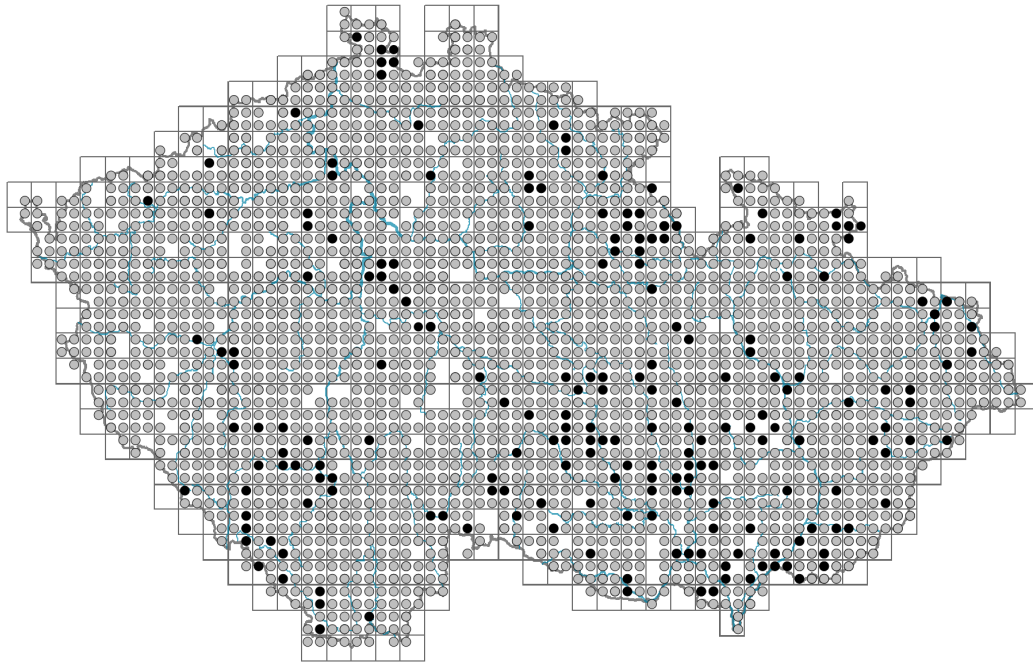


# *Plantago major*

## 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]: **0.1-0.4**

Growth form: **clonal herb**

Life form: **hemicryptophyte**

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

Life strategy (Pierce method, C-score): **82.3 %**

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

Life strategy (Pierce method, R-score): **17.7 %**

## Leaf

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

Leaf arrangement (phyllotaxis): **rosulate**

Leaf shape: **simple - entire**

Stipules: **absent**

Petiole: **present**

Leaf life span: **summer green**

Leaf anatomy: **scleromorphic, mesomorphic**

## Flower

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

Flower colour: **green, brown**



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Flower symmetry: **actinomorphic**

Perianth type: **calyx and corolla**

Perianth fusion: **fused**

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

Calyx fusion: **synsepalous**

Inflorescence type: **spica**

Generative reproduction type: **facultative allogamy**

Pollination syndrome: **wind-pollination, selfing, geitonogamy**

Pollinator spectrum: **hoverflies, butterflies, beetles (bumblebees, solitary bees, other Diptera)**

## Fruit, seed and dispersal

Fruit type: **dry fruit - capsule**

Fruit colour: **violet, brown**

Reproduction type: **mostly by seed/spores, rarely vegetatively**

Dispersal unit (diaspore): **seed**

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

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

## Belowground organs and clonality

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

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

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

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

Primary root: **absent**

Persistence of the clonal growth organ [year]: **3.6**

Number of clonal offspring: **1.6**

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

### 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): **12**

Ploidy level (x): **2**

2C genome size [Mbp]: **1304**

1Cx monoploid genome size [Mbp]: **652**

Genomic GC content: **41.2 %**

## Taxon origin

Origin in the Czech Republic: **native**

## Ecological indicator values

### Ellenberg-type indicator values

Light indicator value: **7 - half-light plant, mostly occurring at full light, but also in the shade up to about 30% of diffuse radiation incident in an open area**

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

Moisture indicator value: **5 - indicator of fresh soils, focus on soils of average moisture, missing on wet and on soils that frequently dry out**

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

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

Salinity indicator value: **1 - salt tolerant, mostly on low-salt to salt-free soils, but occasionally on slightly salty soils**

### Indicator values for disturbance

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

Herb layer disturbance frequency indicator value: **-0.04**

Whole-community disturbance severity indicator value: **0.69**

Herb layer disturbance severity indicator value: **0.7**

Whole-community structure based disturbance indicator value: **0.65**

Herb layer structure-based disturbance indicator value: **0.71**

## Habitat and sociology

### Occurrence in habitats

#### 3 Aquatic vegetation

3C Macrophytic vegetation of oligotrophic lakes and pools: **1 - rare occurrence**

#### 4 Wetland and riverine herbaceous vegetation

4B Halophilous reed and sedge beds: **1 - rare occurrence**

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

4E Reed vegetation of brooks: **1 - rare occurrence**

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

4H Vegetation of low annual hygrophilous herbs: **1 - rare occurrence**

4I Vegetation of nitrophilous annual hygrophilous herbs: **2 - optimum**

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

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

4L Nitrophilous herbaceous fringes of lowland rivers: **1 - rare occurrence**



## 6 Meadows and mesic pastures

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

6B Montane mesic meadows: **1 - rare occurrence**

6C Pastures and park grasslands: **2 - optimum**

6D Alluvial meadows of lowland rivers: **2 - optimum**

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

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

6G Vegetation of wet disturbed soils: **2 - optimum**

## 7 Acidophilous grasslands

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

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

## 8 Dry grasslands

8F Thermophilous forest fringe vegetation: **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**

9D Pannonian sand steppes: **1 - rare occurrence**

## 10 Saline vegetation

10I Inland saline meadows: **1 - rare occurrence**

10J Saline steppes: **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: **1 - rare occurrence**

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

## 12 Forests

12T Robinia pseudacacia plantations: **1 - rare occurrence**

12U Plantations of broad-leaved non-native trees: **1 - rare occurrence**

12V Spruce plantations: **1 - rare occurrence**

12W Pine and larch plantations: **1 - rare occurrence**

## 13 Anthropogenic vegetation

13A Annual vegetation of ruderal habitats: **2 - optimum**

13B Annual vegetation of arable land: **2 - optimum**

13C Annual vegetation of trampled habitats: **2 - optimum**

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: [XA \*Polygono arenastri-Poëtea annuae\*](#)

Diagnostic taxon of alliances: [TDC \*Cynosurion cristati\*](#), [XAA \*Coronopodo-Polygonion arenastri\*](#), [XAB \*Saginion procumbentis\*](#)

Diagnostic taxon of associations: [TDC01 \*Lolio perennis-Cynosuretum cristati\*](#), [TDC03 \*Lolietum perennis\*](#), [TDC04 \*Prunello vulgaris-Ranunculetum repentis\*](#),

[TDC05 \*Alchemillo hybridae-Poëtum supinae\*](#), [XAA04 \*Eragrostio minoris-Polygonetum arenastri\*](#), [XAB04 \*Poëtum annuae\*](#), [XAB05 \*Lolio perennis-Matricarietum discoideae\*](#)

Constant taxon

Constant taxon of classes: [XA \*Polygono arenastri-Poëtea annuae\*](#)

Constant taxon of alliances: [TDC \*Cynosurion cristati\*](#), [XAA \*Coronopodo-Polygonion arenastri\*](#), [XAB \*Saginion procumbentis\*](#), [XBI \*Malvion neglectae\*](#)

Constant taxon of associations: [MBB04 \*Chenopodio chenopodioidis-Atriplicetum prostratae\*](#), [TCB02 \*Loto tenuis-Potentilletum anserinae\*](#), [TCB03 \*Agrostio stoloniferae-Juncetum ranarii\*](#), [TDC01 \*Lolio perennis-Cynosuretum cristati\*](#), [TDC03 \*Lolietum perennis\*](#), [TDC04 \*Prunello vulgaris-Ranunculetum repentis\*](#), [TDC05 \*Alchemillo hybridae-Poëtum supinae\*](#), [XAA01 \*Polygonetum arenastri\*](#), [XAA03 \*Poo annuae-Coronopodetum squamati\*](#), [XAA04 \*Eragrostio minoris-Polygonetum arenastri\*](#), [XAB01 \*Sagino procumbentis-Bryetum argentei\*](#), [XAB02 \*Herniarietum glabrae\*](#), [XAB04 \*Poëtum annuae\*](#), [XAB05 \*Lolio perennis-Matricarietum discoideae\*](#), [XBG02 \*Chenopodietum urbici\*](#), [XBG06 \*Atriplicetum roseae\*](#), [XBG10 \*Chamaepietum officinalis\*](#), [XBI01 \*Hyoscyamo nigri-Malvetum neglectae\*](#), [XBI03 \*Polygono arenastri-Chenopodietum muralis\*](#), [XBI04 \*Malvo neglectae-Chenopodietum vulvariae\*](#), [XBI05 \*Matricario discoideae-Anthemidetum cotulae\*](#), [XBK01 \*Digitario sanguinalis-Eragrostietum minoris\*](#), [XBK03 \*Eragrostio poaeoidis-Panicetum capillaris\*](#), [XCB01 \*Melilotetum albo-officinalis\*](#)

Dominant taxon

Dominant taxon of associations: [TCB02 \*Loto tenuis-Potentilletum anserinae\*](#), [TDC03 \*Lolietum perennis\*](#), [XAB04 \*Poëtum annuae\*](#)

Ecological specialization indices

Ecological specialization index for all vegetation types: **3.9**

Ecological specialization index for non-forest vegetation: **3.9**

Ecological specialization index for forest vegetation: **4.4**

Colonization ability

Index of colonization success (ICS): **7**

Index of colonization potential (ICP): **5**

Optimum successional age [years]: **6**

## Distribution and frequency

Distribution range extension along the continentality gradient: **8**

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

Occurrence frequency in the basic grid mapping cells and quadrants of the basic grid mapping cells: 666

taxon.data.freq\_in\_quad: 2379

Commonness in vegetation plots from the Czech Republic

Occurrence frequency in vegetation plots: **6.7 %**

Occurrence frequency in vegetation plots with a cover above 5%: **15.4 %**

Occurrence frequency in vegetation plots with a cover above 25%: **5.4 %**

Occurrence frequency in vegetation plots with a cover above 50%: **0.9 %**

Mean percentage cover in vegetation plots: **5.5 %**

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: **38**

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

Number of broad habitats in which the taxon occurs: **10**

Number of broad habitats in which the taxon has its optimum: **3**

### **Threats and protection**

Legal protection: **not protected by law**