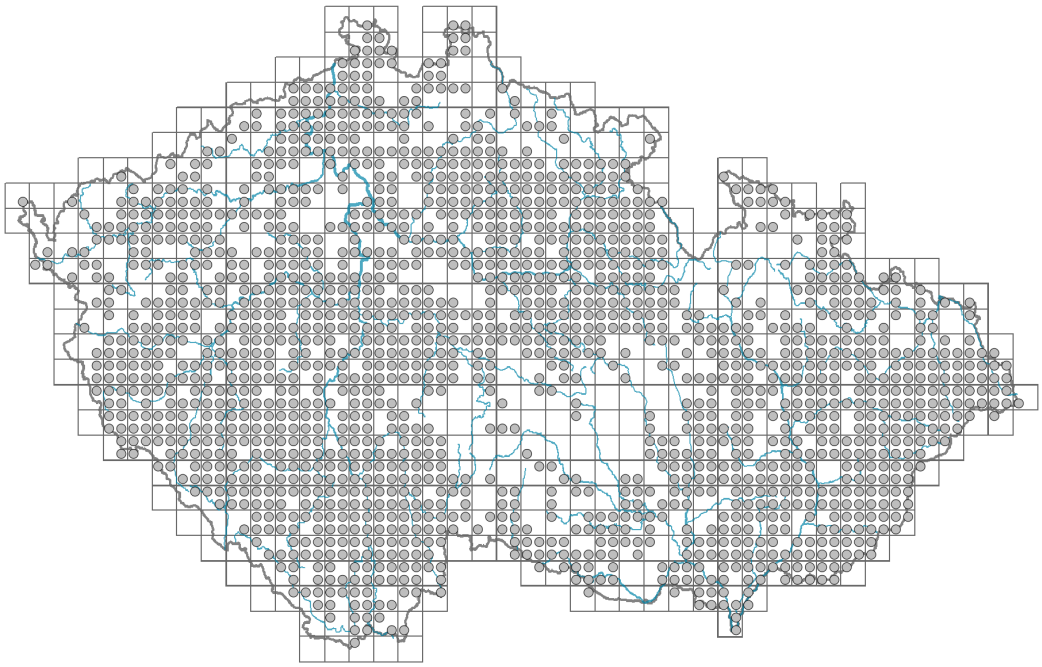
Betonica officinalis

Distribution





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]: **0.2–0.8**
Growth form: **clonal herb**
Life form: **hemicryptophyte**
Life strategy: **C – competitor**
Life strategy (Pierce method based on leaf traits): **CSR**
Life strategy (Pierce method, C-score): **39.1 %**
Life strategy (Pierce method, S-score): **32.5 %**
Life strategy (Pierce method, R-score): **28.5 %**

Leaf

Leaf presence and metamorphosis: **leaves present, not modified**
Leaf arrangement (phyllotaxis): **opposite**
Leaf shape: **simple – entire**
Stipules: **absent**
Petiole: **present**
Leaf life span: **summer green**
Leaf anatomy: **mesomorphic**

Flower

Flowering period [month]: **July–August**

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Flowering phase: **8 Clematis vitalba-Galium sylvaticum (mid-summer)**
Flower colour: **white, pink, red-violet**
Flower symmetry: **zygomorphic**
Perianth type: **calyx and corolla**
Perianth fusion: **fused**
Shape of the sympetalous corolla or syntepalous perianth: **bilabiate**
Calyx fusion: **synsepalous**
Inflorescence type: **pseudospica e verticillastris composita**
Dicliny: **synoecious, gynomonoecious**
Generative reproduction type: **mixed mating**
Pollination syndrome: **insect-pollination, selfing**





Fruit, seed and dispersal

Fruit type: **dry fruit – cluster of four one-seeded nutlets**
Fruit colour: **brown**
Reproduction type: **by seed/spores and vegetatively**
Dispersal unit (diaspore): **fruit, infrutescence or its part**
Dispersal strategy: **Allium (mainly autochory)**
Myrmecochory: **probably myrmecochorous nv**



Belowground organs and clonality

Shoot metamorphosis: **rhizome**
Storage organ: **rhizome**
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]: **4**
Number of clonal offspring: **0.5**
Lateral spreading distance by clonal growth [m]: **0.01**
Clonal index: **2**

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 exluded) [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**

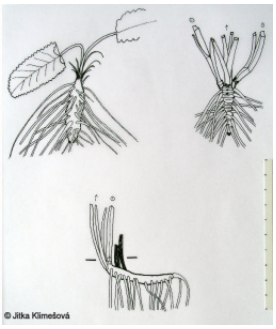




Trophic mode

Parasitism and mycoheterotrophy: **autotrophic**

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Carnivory: **non-carnivorous**
Symbiotic nitrogen fixation: **no nitrogen-fixing symbionts**

Karyology

Chromosome number (2n): **16**
Ploidy level (x): **2**
2C genome size [Mbp]: **8050.51**
1Cx monoploid genome size [Mbp]: **4025.26**
Genomic GC content: **40.8 %**

Taxon origin

Origin in the Czech Republic: **native**

Ecological indicator values

Ellenberg-type indicator values

Light indicator value: **6 – transition between values 5 and 7; rarely at less than 20% of diffuse radiation incident in an open area**
Temperature indicator value: **6 – transition between values 5 and 7**
Moisture indicator value: **4x – transition between values 3 and 5 (generalist)**
Reaction indicator value: **7 – indicator of slightly acidic to slightly basic conditions, never occurring in very acidic conditions**
Nutrient indicator value: **4 – transition between values 3 and 5**
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: **-1.51**
Herb layer disturbance frequency indicator value: **-0.47**
Whole-community disturbance severity indicator value: **0.27**
Herb layer disturbance severity indicator value: **0.23**
Whole-community structure based disturbance indicator value: **0.26**
Herb layer structure-based disturbance indicator value: **0.38**

Habitat and sociology

Occurrence in habitats

4 Wetland and riverine herbaceous vegetation

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

5 Vegetation of springs and mires

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

6 Meadows and mesic pastures

6A Mesic Arrhenatherum meadows: **2 – optimum**
6C Pastures and park grasslands: **1 – rare occurrence**
6D Alluvial meadows of lowland rivers: **1 – rare occurrence**
6E Wet Cirsium meadows: **1 – rare occurrence**

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6F Intermittently wet Molinia meadows: **2 – optimum**

7 Acidophilous grasslands

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

8 Dry grasslands

8B Submediterranean dry grasslands on rock outcrops: **1 – rare occurrence**
8C Narrow-leaved sub-continental steppes: **1 – rare occurrence**
8D Broad-leaved dry grasslands: **2 – optimum**
8E Acidophilous dry grasslands: **1 – rare occurrence**
8F Thermophilous forest fringe vegetation: **2 – optimum**

9 Sand grasslands and rock-outcrop vegetation

9C Festuca grasslands on acidic sands: **1 – rare occurrence**
9E Acidophilous vegetation of spring therophytes and succulents: **1 – rare occurrence**

10 Saline vegetation

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

11 Heathlands and scrub

11A Dry lowland to subalpine heathlands: **1 – rare occurrence**
11I Willow carrs: **1 – rare occurrence**
11J Willow galleries of loamy and sandy river banks: **1 – rare occurrence**
11L Tall mesic and xeric shrub: **1 – rare occurrence**
11N Low xeric scrub: **1 – rare occurrence**

12 Forests

12A Alder carrs: **1 – rare occurrence**
12B Alluvial forests: **1 – rare occurrence**
12C Oak-hornbeam forests: **1 – rare occurrence**
12F Limestone beech forests: **1 – rare occurrence**
12H Peri-Alpidic basiphilous thermophilous oak forests: **2 – optimum**
12I Sub-continental thermophilous oak forests: **2 – optimum**
12J Acidophilous thermophilous oak forests: **1 – rare occurrence**
12K Acidophilous oak forests: **1 – rare occurrence**
12L Boreo-continental pine forests: **1 – rare occurrence**
12O Peri-Alpidic pine forests: **1 – rare occurrence**
12U Plantations of broad-leaved non-native trees: **1 – rare occurrence**
12W Pine and larch plantations: **1 – rare occurrence**

13 Anthropogenic vegetation

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 classes: **LC *Quercetea pubescentis***
Diagnostic taxon of alliances: **LCA *Quercion pubescenti-petraeae***, **LCB *Aceri tatarici-Quercion***, **LCC *Quercion petraeae***, **TDD *Molinion caeruleae***
Diagnostic taxon of associations: **LCA01 *Lathyro collini-Quercetum pubescentis***, **LCB02 *Carici fritschii-Quercetum roboris***, **LCC03 *Melico pictae-Quercetum***

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roboris*, TDD01 *Molinietum caeruleae*, THF02 *Brachypodio pinnati-Molinietum arundinaceae

Constant taxon

Constant taxon of alliances: **LCB *Aceri tatarici-Quercion*, TDD *Molinion caeruleae***

Constant taxon of associations: **LCA01 *Lathyro collini-Quercetum pubescentis*, LCB02 *Carici fritschii-Quercetum roboris*, LCC03 *Melico pictae-Quercetum roboris*, TDD01 *Molinietum caeruleae*, THF02 *Brachypodio pinnati-Molinietum arundinaceae***

Ecological specialization indices

Ecological specialization index for all vegetation types: **4.5**

Ecological specialization index for non-forest vegetation: **5.2**

Ecological specialization index for forest vegetation: **5.1**

Colonization ability

Index of colonization success (ICS): **4**

Index of colonization potential (ICP): **2**

Optimum successional age [years]: **45**

Distribution and frequency

Floristic zone: **northern temperate, 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 (montane belt)**

Occurrence frequency in the basic grid mapping cells and quadrants of the basic grid mapping cells: 572

taxon.data.freq_in_quad: 1675

Commonness in vegetation plots from the Czech Republic

Occurrence frequency in vegetation plots: **1.7 %**

Occurrence frequency in vegetation plots with a cover above 5%: **11.1 %**

Occurrence frequency in vegetation plots with a cover above 25%: **1.2 %**

Occurrence frequency in vegetation plots with a cover above 50%: **0 %**

Mean percentage cover in vegetation plots: **3.5 %**

Maximum percentage cover in vegetation plots: **38 %**

Number of habitats with taxon occurrence in the Czech Republic

Number of narrow habitats in which the taxon occurs: **36**

Number of narrow habitats in which the taxon has its optimum: **6**

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

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**

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