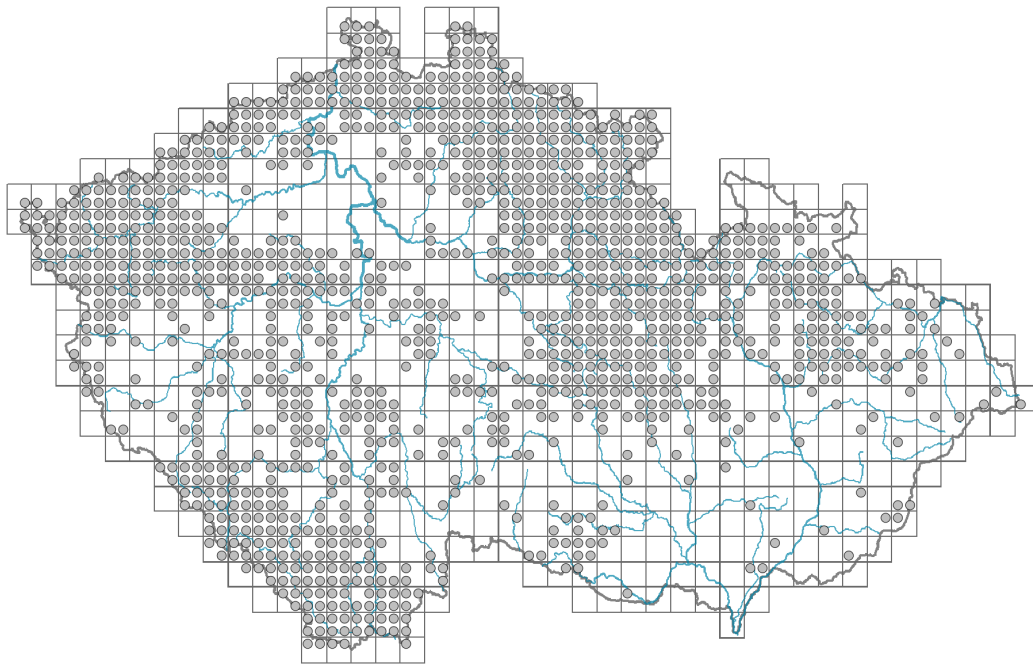


Bistorta officinalis

Distribution



© Pavel Veselý

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]: **0.3-0.8**

Growth form: **clonal herb**

Life form: **geophyte**

Life strategy: **CS - competitor/stress-tolerator**

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

Life strategy (Pierce method, C-score): **76 %**

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

Life strategy (Pierce method, R-score): **24 %**

Leaf

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

Leaf arrangement (phyllotaxis): **alternate**

Leaf shape: **simple - entire**

Stipules: **present**

Petiole: **both present and absent**

Leaf life span: **summer green**

Leaf anatomy: **mesomorphic, helomorphic**

Flower

Flowering period [month]: **May-August**



© Aleš Moravec



© Zdenka Přibáňová



© Jana Haluzová

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

Flower colour: **pink**

Flower symmetry: **actinomorphic**

Perianth type: **homochlamydeous**

Perianth fusion: **fused**

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

Inflorescence type: **pseudospica**

Dicliny: **synoecious, gynomonoecious, gynodioecious**

Pollination syndrome: **insect-pollination, geitonogamy**



Fruit, seed and dispersal

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

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 non-myrmecochorous**



Belowground organs and clonality

Shoot metamorphosis: **stolon, rhizome**

Storage organ: **stolon, 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]: **0.05**

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 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): **48**

Ploidy level (x): **4**

2C genome size [Mbp]: **5353.87**

1Cx monoploid genome size [Mbp]: **1338.47**

Genomic GC content: **42.2 %**

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: **4 - transition between values 3 and 5**

Moisture indicator value: **7 - humidity indicator, focus on well moistened, but not wet soils**

Reaction indicator value: **5 - indicator of moderate acidity, occurring rarely in strongly acidic as well as in neutral to alkaline conditions**

Nutrient indicator value: **5 - occurring at moderately nutrient-rich sites, and less frequently at poor and rich sites**

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

Indicator values for disturbance

Whole-community disturbance frequency indicator value: **-0.74**

Herb layer disturbance frequency indicator value: **-0.45**

Whole-community disturbance severity indicator value: **0.26**

Herb layer disturbance severity indicator value: **0.29**

Whole-community structure based disturbance indicator value: **0.53**

Herb layer structure-based disturbance indicator value: **0.69**

Habitat and sociology

Occurrence in habitats

1 Vegetation of cliffs, screes and walls

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

2 Alpine and subalpine grasslands

2A Alpine grasslands on siliceous bedrock: **2 - optimum**

2B Subalpine tall-forb and tall-grass vegetation: **2 - optimum**

4 Wetland and riverine herbaceous vegetation

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

4G Tall-sedge beds: **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: **2 - optimum**



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

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

6B Montane mesic meadows: **2 - optimum**

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

6D Alluvial meadows of lowland rivers: **1 - rare occurrence**

6E Wet Cirsium meadows: **2 - optimum**

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

6G Vegetation of wet disturbed soils: **1 - rare occurrence**

7 Acidophilous grasslands

7A Subalpine and montane acidophilous grasslands: **2 - optimum**

7B Submontane Nardus grasslands: **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**

11D Subalpine acidophilous Pinus mugo scrub: **1 - rare occurrence**

11H Subalpine deciduous scrub: **2 - optimum**

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**

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

12 Forests

12A Alder carrs: **1 - rare occurrence**

12B Alluvial forests: **1 - rare occurrence**

12E Herb-rich beech forests: **1 - rare occurrence**

12I Sub-continental thermophilous oak forests: **1 - rare occurrence**

12K Acidophilous oak forests: **1 - rare occurrence**

12L Boreo-continental pine forests: **1 - rare occurrence**

12P Peatland pine forests: **1 - rare occurrence**

12Q Peatland birch forests: **1 - rare occurrence**

12R Acidophilous spruce forests: **1 - rare occurrence**

12S Basiphilous spruce forests: **1 - rare occurrence**

13 Anthropogenic vegetation

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

Affinity to the forest environment

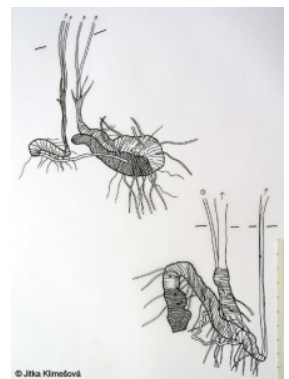
Affinity to the forest environment in Thermophyticum: **2.2 - taxon occurring partly in the forest, but mainly in open vegetation**

Affinity to the forest environment in Mesophyticum and Oreophyticum: **2.2 - taxon occurring partly in the forest, but mainly in open vegetation**

Diagnostic taxon

Diagnostic taxon of classes: [AB Juncetea trifidi](#)

Diagnostic taxon of alliances: [ABA Juncion trifidi](#), [ADA Calamagrostion villosae](#),



[ADC Salicion silesiacae](#), [TDB Polygono bistortae-Trisetion flavescentis](#), [TEA Nardion strictae](#), [TEB Nardo strictae-Agrostion tenuis](#)

Diagnostic taxon of associations: [ABA01 Cetrario-Festucetum supinae](#), [ADA02 Crepido conyzifoliae-Calamagrostietum villosae](#), [ADA03 Viola sudeticae-Deschampsietum cespitosae](#), [ADC01 Salici silesiacae-Betuletum carpaticae](#), [ADD02 Salicetum lapponum](#), [RAD02 Swertietum perennis](#), [RBC04 Bartsio alpinae-Caricetum nigrae](#), [TDB02 Melandrio rubri-Phleetum alpini](#), [TDF05 Polygono bistortae-Cirsietum heterophylli](#), [TEA02 Thesio alpini-Nardetum strictae](#), [TEB01 Sileno vulgaris-Nardetum strictae](#)

Constant taxon

Constant taxon of classes: [AB Juncetea trifidi](#), [AD Mulgedio-Aconitetea](#)

Constant taxon of alliances: [ABA Juncion trifidi](#), [ABB Nardo strictae-Caricion bigelowii](#), [ADA Calamagrostion villosae](#), [ADC Salicion silesiacae](#), [TDB Polygono bistortae-Trisetion flavescentis](#), [TEA Nardion strictae](#), [TEB Nardo strictae-Agrostion tenuis](#)

Constant taxon of associations: [AAA01 Avenello flexuosae-Callunetum vulgaris](#), [ABA01 Cetrario-Festucetum supinae](#), [ABB01 Carici bigelowii-Nardetum strictae](#), [ACA01 Saxifraga oppositifoliae-Festucetum versicoloris](#), [ADA01 Sphagno compacti-Molinietum caeruleae](#), [ADA02 Crepido conyzifoliae-Calamagrostietum villosae](#), [ADA03 Viola sudeticae-Deschampsietum cespitosae](#), [ADC01 Salici silesiacae-Betuletum carpaticae](#), [ADD01 Ranunculo platanifolii-Adenostyletum alliariae](#), [ADD02 Salicetum lapponum](#), [ADE02 Adenostylo alliariae-Athyrietum distentifolii](#), [RAD02 Swertietum perennis](#), [RBC04 Bartsio alpinae-Caricetum nigrae](#), [TDB01 Geranio sylvatici-Trisetetum flavescentis](#), [TDB02 Melandrio rubri-Phleetum alpini](#), [TDB03 Meo athamantici-Festucetum rubrae](#), [TDF03 Angelico sylvestris-Cirsietum palustris](#), [TDF05 Polygono bistortae-Cirsietum heterophylli](#), [TDF14 Chaerophyllo hirsuti-Filipenduletum ulmariae](#), [TEA01 Festuco supinae-Nardetum strictae](#), [TEA02 Thesio alpini-Nardetum strictae](#), [TEB01 Sileno vulgaris-Nardetum strictae](#)

Dominant taxon

Dominant taxon of associations: [TDB03 Meo athamantici-Festucetum rubrae](#), [TDF01 Angelico sylvestris-Cirsietum oleracei](#), [TDF03 Angelico sylvestris-Cirsietum palustris](#), [TDF04 Crepido paludosae-Juncetum acutiflori](#), [TDF05 Polygono bistortae-Cirsietum heterophylli](#), [TDF10 Scirpo sylvatici-Caricetum brizoidis](#), [TEB01 Sileno vulgaris-Nardetum strictae](#)

Ecological specialization indices

Ecological specialization index for all vegetation types: **5.2**

Ecological specialization index for non-forest vegetation: **5.3**

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

Colonization ability

Index of colonization success (ICS): **3**

Index of colonization potential (ICP): **1**

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

Distribution and frequency

Floristic zone: **arctic, boreal, northern temperate, southern temperate, submeridional, meridional**

Floristic region: **Europe, Asia, Americas**

Continental degree: **7**

Distribution range extension along the continentality gradient: **7**

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

Occurrence frequency in the basic grid mapping cells and quadrants of the basic grid mapping cells: **484**

taxon.data.freq_in_quad: **1274**

Commonness in vegetation plots from the Czech Republic

Occurrence frequency in vegetation plots: **3.8 %**

Occurrence frequency in vegetation plots with a cover above 5%: **25.6 %**

Occurrence frequency in vegetation plots with a cover above 25%: **8.1 %**

Occurrence frequency in vegetation plots with a cover above 50%: **1.9 %**

Mean percentage cover in vegetation plots: **7.6 %**

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: **41**

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: **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**