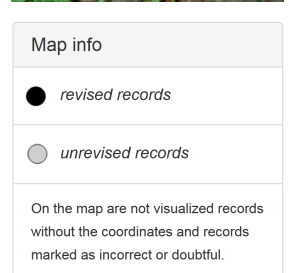


Athyrium filix-femina

Distribution



Habitus and growth type

Height [m]: **0.3-1.2**

Growth form: **clonal herb**

Life form: **hemicryptophyte**

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

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

Life strategy (Pierce method, C-score): **69 %**

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

Life strategy (Pierce method, R-score): **31 %**

Leaf

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

Leaf arrangement (phyllotaxis): **rosulate**

Leaf shape: **compound - bipinnate, compound - tripinnate**

Stipules: **absent**

Petiole: **present**

Leaf life span: **summer green**

Leaf anatomy: **hygromorphic**

Flower

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

Dicliny: **synoecious**

Fruit, seed and dispersal

Reproduction type: **by seed/spores and vegetatively**

Dispersal unit (diaspore): **spore**

Dispersal strategy: **Lycopodium (mainly anemochory)**

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

Belowground organs and clonality

Shoot metamorphosis: **rhizome**

Storage organ: **rhizome**

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

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

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 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): **80**

Ploidy level (x): **2**

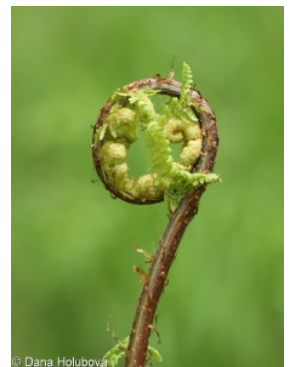
2C genome size [Mbp]: **12720.53**

1Cx monoploid genome size [Mbp]: **6360.26**

Genomic GC content: **44.4 %**

Taxon origin

Origin in the Czech Republic: **native**



Ecological indicator values

Ellenberg-type indicator values

Light indicator value: **3 - shade plant, usually occurring where the incident radiation is less than 5% of that in an open area, but also at sunnier sites**

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

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

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

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

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

Indicator values for disturbance

Whole-community disturbance frequency indicator value: **-1.88**

Herb layer disturbance frequency indicator value: **-0.72**

Whole-community disturbance severity indicator value: **0.28**

Herb layer disturbance severity indicator value: **0.14**

Whole-community structure based disturbance indicator value: **0.12**

Herb layer structure-based disturbance indicator value: **0.18**

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**

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

2 Alpine and subalpine grasslands

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

4 Wetland and riverine herbaceous vegetation

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

4E Reed vegetation of brooks: **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: **2 - optimum**

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

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

5F Transitional mires: **1 - rare occurrence**

6 Meadows and mesic pastures

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

7 Acidophilous grasslands

7B Submontane Nardus grasslands: **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: **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**

11R Scrub and pioneer woodland of forests clearings: **2 - optimum**

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: **1 - rare occurrence**

12G Acidophilous beech forests: **2 - optimum**

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: **1 - rare occurrence**

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

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

12R Acidophilous spruce forests: **2 - optimum**

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

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

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

12V Spruce plantations: **2 - optimum**

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

13 Anthropogenic vegetation

13E Perennial nitrophilous herbaceous vegetation of mesic sites: **2 - optimum**

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: **2.1 - taxon occurring both in the forest and open vegetation**

Diagnostic taxon

Diagnostic taxon of classes: [LB *Carpino-Fagetea*](#), [RA *Montio-Cardaminetea*](#)

Diagnostic taxon of alliances: [LBA *Alnion incanae*](#), [LBC *Fagion sylvaticae*](#), [RAA *Caricion remotae*](#)

Diagnostic taxon of associations: [LBA01 *Alnetum incanae*](#), [LBA03 *Carici remotae-Fraxinetum excelsioris*](#), [LBC04 *Athyrio distentifolii-Fagetum sylvaticae*](#), [LBE03 *Luzulo-Abietetum albae*](#)

Constant taxon

Constant taxon of alliances: [LBA *Alnion incanae*](#), [LBC *Fagion sylvaticae*](#), [RAA *Caricion remotae*](#)

Constant taxon of associations: [ADD05 *Chaerophyllo hirsuti-Cicerbitetum alpinae*](#), [ADE01 *Daphno mezerei-Dryopteridetum filicis-maris*](#), [KBC03 *Senecioni fuchsii-Sambucetum racemosae*](#), [KBC04 *Senecioni fuchsii-Coryletum avellanae*](#), [KBC06 *Piceo abietis-Sorbetum aucupariae*](#), [LAA03 *Carici acutiformis-Alnetum glutinosae*](#), [LBA01 *Alnetum incanae*](#), [LBA02 *Piceo abietis-Alnetum glutinosae*](#), [LBA03 *Carici remotae-Fraxinetum excelsioris*](#), [LBA04 *Stellario nemorum-Alnetum glutinosae*](#), [LBC01 *Galio odorati-Fagetum sylvaticae*](#), [LBC02 *Mercuriali*](#)

[perennis-Fagetum sylvaticae](#), [LBC03 Carici pilosae-Fagetum sylvaticae](#), [LBC04 Athyrio distentifolii-Fagetum sylvaticae](#), [LBC05 Galio rotundifolii-Abietetum albae](#), [LBE02 Calamagrostio villosae-Fagetum sylvaticae](#), [LBE03 Luzulo-Abietetum albae](#), [LBF03 Arunco dioici-Aceretum pseudoplatani](#), [LFC03 Equiseto sylvatici-Piceetum abietis](#), [RAA01 Caricetum remotae](#), [RAA02 Cardamino-Chrysosplenietum alternifolii](#), [RAA03 Pellio epiphyllae-Chrysosplenietum oppositifolii](#), [XDC01 Stachyo sylvaticae-Impatientetum noli-tangere](#), [XDC03 Arunco vulgaris-Lunarietum redivivae](#), [XDC04 Carici pendulae-Eupatorietum cannabini](#), [XEA05 Digitali-Senecionetum ovati](#), [XEA07 Gymnocarpio dryopteridis-Athyrietum filicis-feminae](#)

Dominant taxon

Dominant taxon of associations: [LBC04 Athyrio distentifolii-Fagetum sylvaticae](#), [XDC04 Carici pendulae-Eupatorietum cannabini](#), [XEA07 Gymnocarpio dryopteridis-Athyrietum filicis-feminae](#)

Ecological specialization indices

Ecological specialization index for all vegetation types: **5**

Ecological specialization index for non-forest vegetation: **4.3**

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

Colonization ability

Index of colonization success (ICS): **6**

Index of colonization potential (ICP): **3**

Optimum successional age [years]: **35**

Distribution and frequency

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

Floristic region: **circumpolar**

Distribution range extension along the continentality gradient: **6**

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

Occurrence frequency in the basic grid mapping cells and quadrants of the basic grid mapping cells: **656**

taxon.data.freq_in_quad: **2314**

Commonness in vegetation plots from the Czech Republic

Occurrence frequency in vegetation plots: **5.3 %**

Occurrence frequency in vegetation plots with a cover above 5%: **13.1 %**

Occurrence frequency in vegetation plots with a cover above 25%: **2 %**

Occurrence frequency in vegetation plots with a cover above 50%: **0.1 %**

Mean percentage cover in vegetation plots: **4 %**

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: **12**

Number of broad habitats in which the taxon occurs: **9**

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**