

# *Alisma plantago-aquatica*

## 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]: **0.2-1.3**

Growth form: **clonal herb**

Life form: **geophyte**

Life strategy: **CSR - competitor/stress-tolerator/ruderal**

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

Life strategy (Pierce method, C-score): **68.1 %**

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

Life strategy (Pierce method, R-score): **32 %**

## 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: **helomorphic**

## Flower

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

Flowering phase: **8 Clematis vitalba-Galium sylvaticum (mid-summer)**

Flower colour: **white**

Flower symmetry: **actinomorphic**

Perianth type: **calyx and corolla**

Perianth fusion: **free**

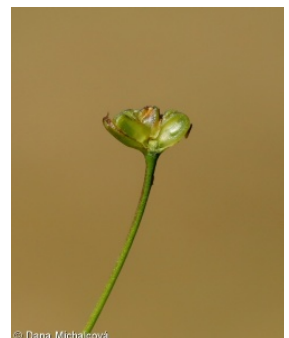
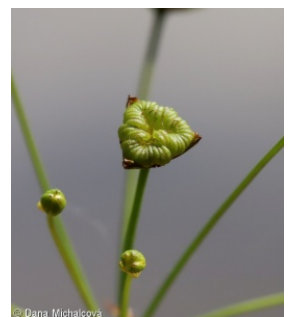
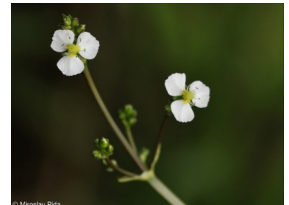
Calyx fusion: **aposepalous**

Inflorescence type: **panicula**

Dicliny: **synoecious**

Generative reproduction type: **mixed mating**

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



## Fruit, seed and dispersal

Fruit type: **dry fruit - head of achenes**

Fruit colour: **brown**

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

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

Dispersal strategy: **Sparganium (mainly autochory and hydrochory)**

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

## Belowground organs and clonality

Shoot metamorphosis: **shoot tuber, turion**

Storage organ: **shoot tuber, turion**

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

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

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

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

Primary root: **absent**

Persistence of the clonal growth organ [year]: **1.7**

Number of clonal offspring: **2.1**

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

Clonal index: **3**

## Bud bank

Number of buds per shoot at the soil surface (root buds excluded): **3**

Number of buds per shoot at a depth of 0–10 cm (root buds excluded): **8**

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): **10**

Depth of the belowground bud bank (root buds excluded) [cm]: **4**

Number of buds per shoot at the soil surface (root buds included): **3**

Number of buds per shoot at a depth of 0–10 cm (root buds included): **8**

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Size of the belowground bud bank (root buds included): **10**

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## Trophic mode

Parasitism and mycoheterotrophy: **autotrophic**

Carnivory: **non-carnivorous**

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

## Karyology

Chromosome number (2n): **14**

Ploidy level (x): **2**

2C genome size [Mbp]: **18490.3**

1Cx monoploid genome size [Mbp]: **9245.15**

Genomic GC content: **42.7 %**

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

Moisture indicator value: **10 - aquatic plant that survives long periods without soil flooding**

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

Nutrient indicator value: **8 - pronounced nutrient indicator**

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: **-0.65**

Herb layer disturbance frequency indicator value: **-0.61**

Whole-community disturbance severity indicator value: **0.23**

Herb layer disturbance severity indicator value: **0.28**

Whole-community structure based disturbance indicator value: **0.6**

Herb layer structure-based disturbance indicator value: **0.6**

## Habitat and sociology

Occurrence in habitats

3 Aquatic vegetation

3A Macrophytic vegetation of eutrophic and mesotrophic still waters: **1 - rare occurrence**

3B Macrophytic vegetation of water streams: **1 - rare occurrence**

3C Macrophytic vegetation of oligotrophic lakes and pools: **2 - optimum**

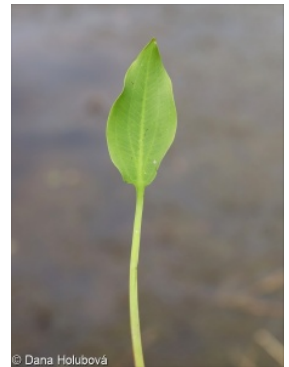
4 Wetland and riverine herbaceous vegetation

4A Reed-beds of eutrophic still waters: **2 - optimum**

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

4C Eutrophic vegetation of muddy substrata: **2 - optimum**

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



- 4E Reed vegetation of brooks: **2 - optimum**  
 4F Mesotrophic vegetation of muddy substrata: **1 - rare occurrence**  
 4G Tall-sedge beds: **2 - optimum**  
 4H Vegetation of low annual hygrophilous herbs: **2 - optimum**  
 4I Vegetation of nitrophilous annual hygrophilous herbs: **2 - optimum**  
 5 Vegetation of springs and mires  
 5D Calcareous fens: **1 - rare occurrence**  
 6 Meadows and mesic pastures  
 6D Alluvial meadows of lowland rivers: **1 - rare occurrence**  
 6G Vegetation of wet disturbed soils: **1 - rare occurrence**  
 10 Saline vegetation  
 10I Inland saline meadows: **1 - rare occurrence**  
 11 Heathlands and scrub  
 11I Willow carrs: **1 - rare occurrence**  
 11J Willow galleries of loamy and sandy river banks: **1 - rare occurrence**  
 12 Forests  
 12A Alder carrs: **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: [MA Isoëto-Nano-Juncetea](#)

Diagnostic taxon of alliances: [MCC Eleocharito palustris-Sagittarion sagittifoliae](#)

Diagnostic taxon of associations: [MCC05 Scirpetum radicans](#), [MCC07 Alopecuro-Alismatetum plantaginis-aquaticae](#)

#### Constant taxon

Constant taxon of associations: [MCC05 Scirpetum radicans](#), [MCC07 Alopecuro-Alismatetum plantaginis-aquaticae](#), [MCC11 Bolboschoenetum yagarae](#), [VCA02 Charetum braunii](#)

#### Dominant taxon

Dominant taxon of associations: [MCC07 Alopecuro-Alismatetum plantaginis-aquaticae](#), [MCC08 Alismatetum lanceolati](#)

#### Ecological specialization indices

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

Ecological specialization index for non-forest vegetation: **4**

Ecological specialization index for forest vegetation: **5**

#### Colonization ability

Index of colonization success (ICS): **5**

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

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

#### Distribution and frequency

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





Floristic region: **Europe, Asia, Africa**

Distribution range extension along the continentality gradient: **9**

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

Occurrence frequency in the basic grid mapping cells and quadrants of the basic grid mapping cells: **614**

taxon.data.freq\_in\_quad: **1879**

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%: **15.9 %**

Occurrence frequency in vegetation plots with a cover above 25%: **9.1 %**

Occurrence frequency in vegetation plots with a cover above 50%: **4.9 %**

Mean percentage cover in vegetation plots: **7.9 %**

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: **19**

Number of narrow habitats in which the taxon has its optimum: **7**

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**

