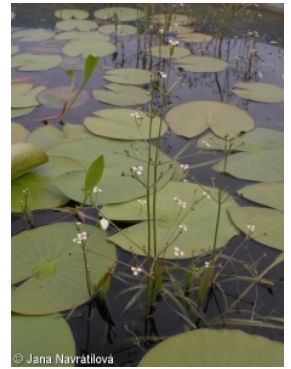
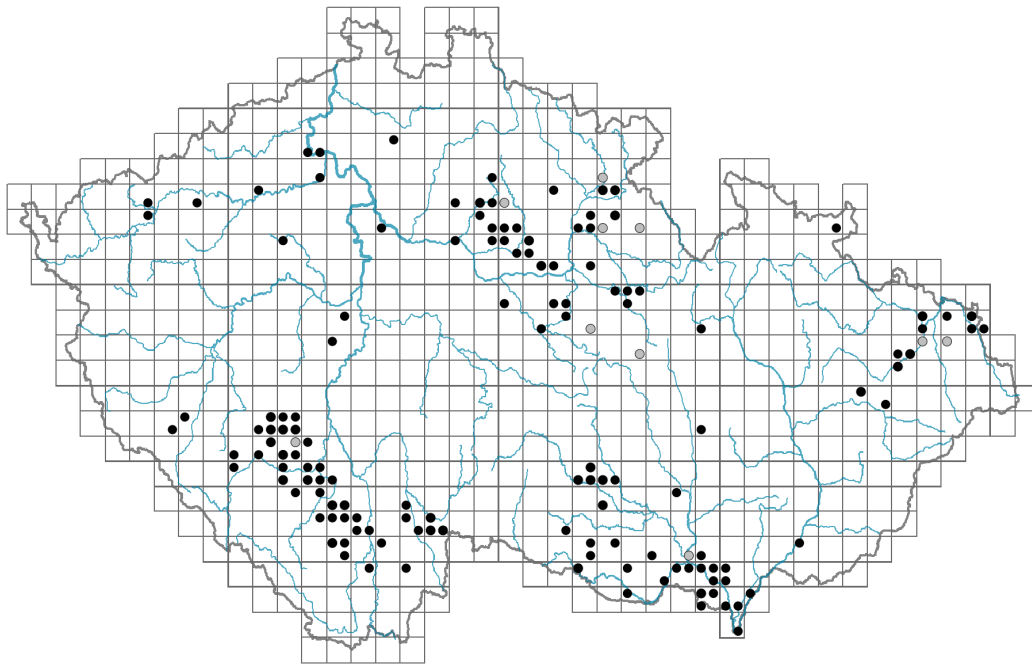


# *Alisma gramineum*

## 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]: **0.1-0.5**

Growth form: **clonal herb**

Life form: **hydrophyte (geophyte)**

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

## 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-August**

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

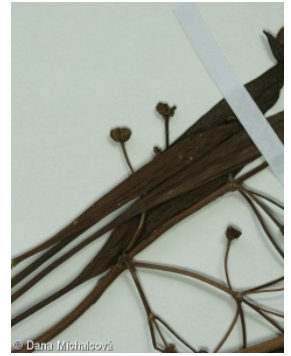
Fruit type: **dry fruit - head of achenes**  
 Fruit colour: **brown**  
 Reproduction type: **by seed/spores and vegetatively**  
 Dispersal unit (diaspore): **seed, fruit, infructescence or its part**  
 Dispersal strategy: **Sparganium (mainly autochory and hydrochory)**  
 Myrmecochory: **non-myrmecochorous (b)**

### Belowground organs and clonality

Shoot metamorphosis: **rhizome, turion**  
 Storage organ: **rhizome, 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]: **1.5**  
 Number of clonal offspring: **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): **10**  
 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): **13**  
 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): **10**  
 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): **13**  
 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): **14**

Ploidy level (x): **2**

2C genome size [Mbp]: **19837.81**

1Cx monoploid genome size [Mbp]: **9918.91**

Genomic GC content: **42.9 %**

## 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: **7 - heat indicator, occurring in relatively warm lowlands**

Moisture indicator value: **11 - aquatic plant rooted under water, but at least temporarily with leaves above the surface, or a plant floating on the water surface**

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

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

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: **-0.58**

Herb layer disturbance frequency indicator value: **-0.58**

Whole-community disturbance severity indicator value: **0.22**

Herb layer disturbance severity indicator value: **0.26**

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

Herb layer structure-based disturbance indicator value: **0.58**

## Habitat and sociology

### Occurrence in habitats

#### 3 Aquatic vegetation

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

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

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

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

#### 10 Saline vegetation

10I Inland saline meadows: **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 associations: [MCC09 \*Batrachio circinati-Alismatetum graminei\*](#)

Constant taxon

Constant taxon of associations: [MCC09 \*Batrachio circinati-Alismatetum graminei\*](#)

Dominant taxon

Dominant taxon of associations: [MCC09 \*Batrachio circinati-Alismatetum graminei\*](#),  
[VBB02 \*Potametum graminei\*](#)

Ecological specialization indices

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

Ecological specialization index for non-forest vegetation: **4.5**

Colonization ability

Index of colonization success (ICS): **1**

## Distribution and frequency

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

Floristic region: **circumpolar**

Continentality degree: **7**

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

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

Occurrence frequency in the basic grid mapping cells and quadrants of the basic grid mapping cells: **100**

taxon.data.freq\_in\_quad: **149**

Commonness in vegetation plots from the Czech Republic

Occurrence frequency in vegetation plots: **0.2 %**

Occurrence frequency in vegetation plots with a cover above 5%: **43.1 %**

Occurrence frequency in vegetation plots with a cover above 25%: **19.6 %**

Occurrence frequency in vegetation plots with a cover above 50%: **3.9 %**

Mean percentage cover in vegetation plots: **12.8 %**

Maximum percentage cover in vegetation plots: **63 %**

Number of habitats with taxon occurrence in the Czech Republic

Number of narrow habitats in which the taxon occurs: **7**

Number of narrow habitats in which the taxon has its optimum: **2**

Number of broad habitats in which the taxon occurs: **3**

Number of broad habitats in which the taxon has its optimum: **2**

## Threats and protection

Red List 2017 (national categories): **C2b - endangered taxon, rare and declining**

Red List 2017 (IUCN categories): **EN - endangered**

Legal protection: **not protected by law**