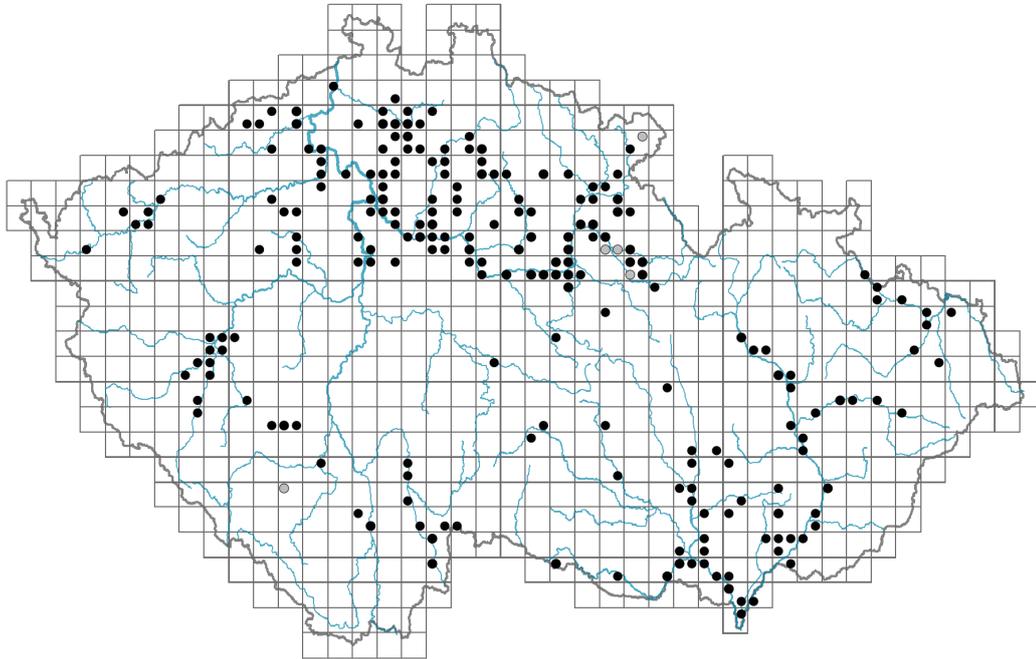


# *Myriophyllum verticillatum*

## 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]: **0.4-2**

Growth form: **clonal herb**

Life form: **hydrophyte**

## Leaf

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

Leaf arrangement (phyllotaxis): **verticillate**

Leaf shape: **simple - pinnately divided**

Stipules: **absent**

Petiole: **absent**

Leaf anatomy: **hydromorphic**

## Flower

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

Flowering phase: **7 Ligustrum vulgare-Stachys sylvatica (end of early summer)**

Flower colour: **green-white**

Perianth type: **reduced or absent**

Perianth fusion: **reduced**

Calyx fusion: **aposepalous**

Inflorescence type: **spica**

Dicliny: **monoecious**

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

### Fruit, seed and dispersal

Fruit type: **dry fruit - cluster of four one-seeded nutlets**

Reproduction type: **mostly vegetatively, rarely by seed/spores**

Dispersal unit (diaspore): **fruit, infructescence or its part, turion, shoot fragment**

Dispersal strategy: **Wolffia (mainly hydrochory)**

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

### Belowground organs and clonality

Shoot metamorphosis: **stolon, turion**

Storage organ: **stolon, turion**

Type of clonal growth organ: **turion**

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

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**

Number of clonal offspring: **5.2**

Lateral spreading distance by clonal growth [m]: **0.13**

Clonal index: **7**

#### Bud bank

Number of buds per shoot at the soil surface (root buds excluded): **10**

Number of buds per shoot at a depth of 0–10 cm (root buds excluded): **2**

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): **12**

Depth of the belowground bud bank (root buds excluded) [cm]: **2**

Number of buds per shoot at the soil surface (root buds included): **10**

Number of buds per shoot at a depth of 0–10 cm (root buds included): **2**

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): **12**

Depth of the belowground bud bank (root buds included) [cm]: **2**

### Trophic mode

Parasitism and mycoheterotrophy: **autotrophic**

Carnivory: **non-carnivorous**

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

### Karyology

Chromosome number (2n): **28**

Ploidy level (x): **4**

2C genome size [Mbp]: **916.25**

1Cx monoploid genome size [Mbp]: **229.06**

Genomic GC content: **39.5 %**



## Taxon origin

Origin in the Czech Republic: **native**

## Ecological indicator values

Ellenberg-type indicator values

Light indicator value: **5 - semi-shade plant, only exceptionally occurring in full light, but usually at more than 10% of the diffuse radiation incident in an open area**

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

Moisture indicator value: **12 - permanently or almost permanently submerged aquatic plant**

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

Nutrient indicator value: **7 - occurring at nutrient-rich sites more often than at average sites and only exceptionally at poor sites**

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

Indicator values for disturbance

Whole-community disturbance frequency indicator value: **-0.57**

Herb layer disturbance frequency indicator value: **-0.5**

Whole-community disturbance severity indicator value: **0.11**

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

Whole-community structure based disturbance indicator value: **0.52**

Herb layer structure-based disturbance indicator value: **0.51**

## Habitat and sociology

Occurrence in habitats

3 Aquatic vegetation

3A Macrophytic vegetation of eutrophic and mesotrophic still waters: **2 - optimum**

3C Macrophytic vegetation of oligotrophic lakes and pools: **1 - rare occurrence**

4 Wetland and riverine herbaceous vegetation

4A Reed-beds of eutrophic still waters: **1 - rare occurrence**

4C Eutrophic vegetation of muddy substrata: **1 - rare occurrence**

4E Reed vegetation of brooks: **1 - rare occurrence**

4H Vegetation of low annual hygrophilous herbs: **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: [VBB08 \*Myriophylletum verticillati\*](#)

Constant taxon

Constant taxon of associations: [VBB08 \*Myriophylletum verticillati\*](#)

Dominant taxon

Dominant taxon of associations: [VBB08 \*Myriophylletum verticillati\*](#)



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## Ecological specialization indices

Ecological specialization index for all vegetation types: **4.8**

Ecological specialization index for non-forest vegetation: **4.7**

## Distribution and frequency

Floristic zone: **boreal, 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: **174**

taxon.data.freq\_in\_quad: **265**

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%: **42.2 %**

Occurrence frequency in vegetation plots with a cover above 25%: **37.5 %**

Occurrence frequency in vegetation plots with a cover above 50%: **34.4 %**

Mean percentage cover in vegetation plots: **31.6 %**

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: **6**

Number of narrow habitats in which the taxon has its optimum: **1**

Number of broad habitats in which the taxon occurs: **2**

Number of broad habitats in which the taxon has its optimum: **1**

## Threats and protection

Red List 2017 (national categories): **C3 - vulnerable taxon**

Red List 2017 (IUCN categories): **VU - vulnerable**

Legal protection: **not protected by law**