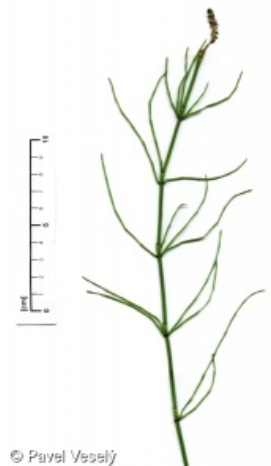
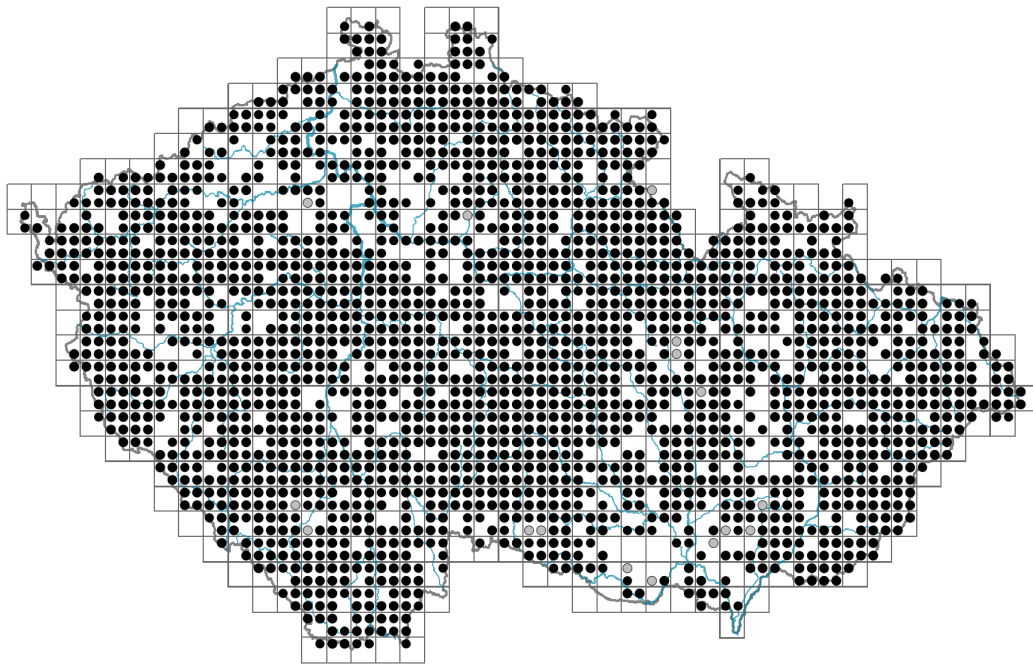


# *Equisetum palustre*

## 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]: **0.1-0.6**

Growth form: **clonal herb**

Life form: **geophyte**

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

## Leaf

Leaf presence and metamorphosis: **leaves reduced to sheaths**

Leaf arrangement (phyllotaxis): **verticillate**

Leaf shape: **simple - entire**

Stipules: **absent**

Leaf life span: **summer green**

Leaf anatomy: **scleromorphic, helomorphic**

## Flower

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

Dicliny: **dioecious**

## Fruit, seed and dispersal

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

Dispersal unit (diaspore): **spore**



© Dana Michalcová



© Dana Holubová

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

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

## Belowground organs and clonality

Shoot metamorphosis: **stolon, shoot tuber**

Storage organ: **stolon, shoot tuber**

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

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

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

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

Primary root: **absent**

Persistence of the clonal growth organ [year]: **4**

Number of clonal offspring: **3.4**

Lateral spreading distance by clonal growth [m]: **0.27**

Clonal index: **6**

## 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): **15**

Size of the belowground bud bank (root buds excluded): **35**

Depth of the belowground bud bank (root buds excluded) [cm]: **9**

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): **15**

Size of the belowground bud bank (root buds included): **35**

Depth of the belowground bud bank (root buds included) [cm]: **9**

## Trophic mode

Parasitism and mycoheterotrophy: **autotrophic**

Carnivory: **non-carnivorous**

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

## Karyology

Chromosome number (2n): **216**

Ploidy level (x): **2**

2C genome size [Mbp]: **27042.46**

1Cx monoploid genome size [Mbp]: **13521.23**

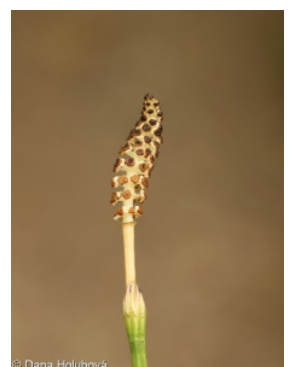
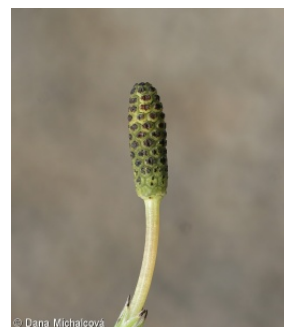
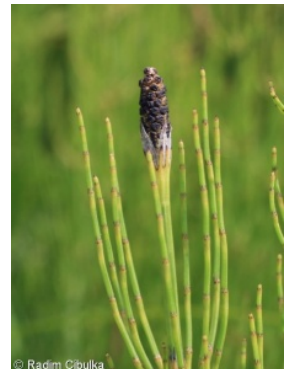
Genomic GC content: **44.2 %**

## Taxon origin

Origin in the Czech Republic: **native**

## Ecological indicator values

Ellenberg-type indicator values



Light indicator value: **6x - transition between values 5 and 7; rarely at less than 20% of diffuse radiation incident in an open area (generalist)**

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

Moisture indicator value: **8 - transition between values 7 and 9**

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

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: **-0.7**

Herb layer disturbance frequency indicator value: **-0.46**

Whole-community disturbance severity indicator value: **0.24**

Herb layer disturbance severity indicator value: **0.27**

Whole-community structure based disturbance indicator value: **0.57**

Herb layer structure-based disturbance indicator value: **0.67**

## 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: **1 - rare occurrence**

#### 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: **1 - rare occurrence**

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

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

4F Mesotrophic vegetation of muddy substrata: **1 - rare occurrence**

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

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

4I Vegetation of nitrophilous annual hygrophilous herbs: **1 - rare occurrence**

4J River gravel banks: **1 - rare occurrence**

4K Petasites fringes of montane brooks: **1 - rare occurrence**

#### 5 Vegetation of springs and mires

5A Hard-water springs with tufa formation: **1 - rare occurrence**

5B Lowland to montane soft-water springs: **1 - rare occurrence**

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

5D Calcareous fens: **2 - optimum**

5E Acidic moss-rich fens and peatland meadows: **2 - optimum**

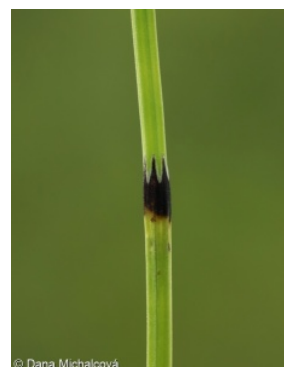
5F Transitional mires: **2 - optimum**

#### 6 Meadows and mesic pastures

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

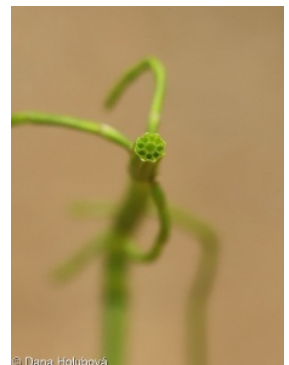
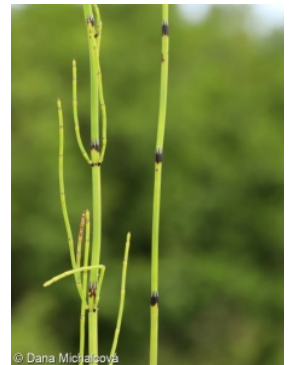
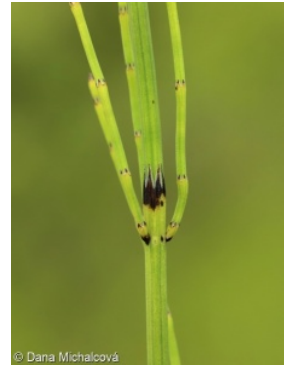
6D Alluvial meadows of lowland rivers: **2 - optimum**

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  
 7B Submontane *Nardus* grasslands: **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**  
 12B Alluvial forests: **1 - rare occurrence**  
 12Q Peatland birch forests: **1 - rare occurrence**  
 12U Plantations of broad-leaved non-native trees: **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: **2.1 - taxon occurring both in the forest and open vegetation**  
 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 alliances: [RBA \*Caricion davallianae\*](#), [RBB \*Sphagno warnstorffii-Tomentypnion nitentis\*](#)  
 Diagnostic taxon of associations: [RBA03 \*Valeriano simplicifoliae-Caricetum flavae\*](#)  
 Constant taxon  
 Constant taxon of alliances: [RBA \*Caricion davallianae\*](#)  
 Constant taxon of associations: [KAB02 \*Salicetum purpureae\*](#), [MCG06 \*Caricetum appropinquatae\*](#), [RBA01 \*Valeriano dioicae-Caricetum davallianae\*](#), [RBA02 \*Carici flavae-Cratoneuretum filicini\*](#), [RBA03 \*Valeriano simplicifoliae-Caricetum flavae\*](#), [RBA04 \*Campylio stellati-Caricetum lasiocarpae\*](#), [RBB01 \*Sphagno warnstorffii-Eriophoretum latifolii\*](#), [RBB02 \*Campylio stellati-Trichophoretum alpini\*](#), [TDF01 \*Angelico sylvestris-Cirsietum oleracei\*](#), [TDF07 \*Scirpo sylvatici-Cirsietum cani\*](#), [TDF08 \*Scirpetum sylvatici\*](#), [TDF09 \*Caricetum cespitosae\*](#), [TDF12 \*Filipendulo ulmariae-Geranium palustre\*](#)  
 Dominant taxon  
 Dominant taxon of associations: [RAB01 \*Brachythecio rivularis-Cratoneuretum\*](#), [RBA02 \*Carici flavae-Cratoneuretum filicini\*](#), [RBA03 \*Valeriano simplicifoliae-Caricetum flavae\*](#), [TDF07 \*Scirpo sylvatici-Cirsietum cani\*](#), [TDF11 \*Junco inflexi-Menthetum longifoliae\*](#)  
 Ecological specialization indices  
 Ecological specialization index for all vegetation types: **5**  
 Ecological specialization index for non-forest vegetation: **5.1**  
 Ecological specialization index for forest vegetation: **4.9**  
 Colonization ability  
 Index of colonization success (ICS): **3**  
 Index of colonization potential (ICP): **1**



Optimum successional age [years]: **3**

## Distribution and frequency

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

Floristic region: **circumpolar**

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

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

Occurrence frequency in the basic grid mapping cells and quadrants of the basic grid mapping cells: **647**

taxon.data.freq\_in\_quad: **2068**

Commonness in vegetation plots from the Czech Republic

Occurrence frequency in vegetation plots: **4.7 %**

Occurrence frequency in vegetation plots with a cover above 5%: **15.2 %**

Occurrence frequency in vegetation plots with a cover above 25%: **3.3 %**

Occurrence frequency in vegetation plots with a cover above 50%: **0.3 %**

Mean percentage cover in vegetation plots: **4.8 %**

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: **33**

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

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

Number of broad habitats in which the taxon has its optimum: **3**



## 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**