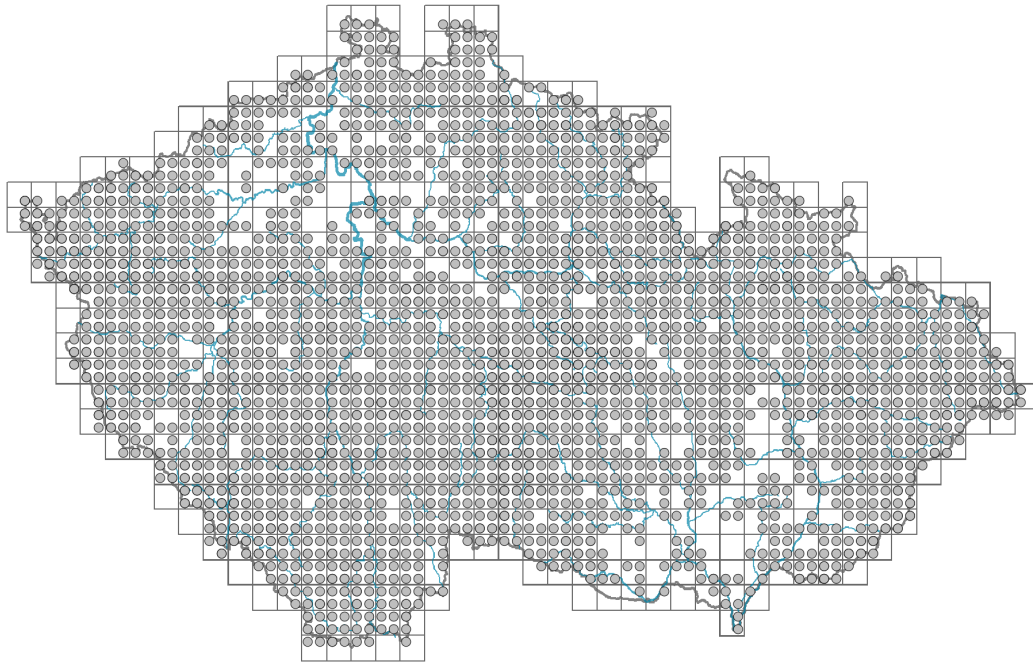


# *Caltha palustris*

## 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]: **0.2-0.7**

Growth form: **clonal herb**

Life form: **hemicryptophyte**

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

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

Life strategy (Pierce method, C-score): **74.6 %**

Life strategy (Pierce method, S-score): **0.1 %**

Life strategy (Pierce method, R-score): **25.3 %**

## Leaf

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

Leaf arrangement (phyllotaxis): **alternate**

Leaf shape: **simple - entire**

Stipules: **present**

Petiole: **present**

Leaf life span: **summer green**

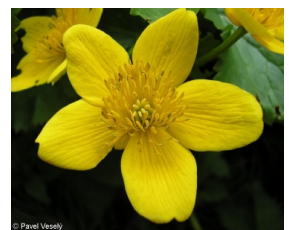
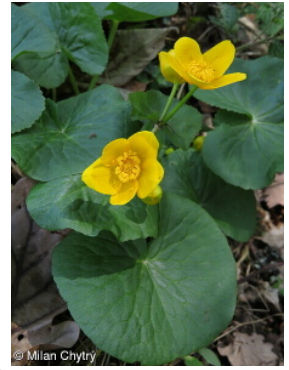
Leaf anatomy: **hygromorphic, helomorphic**

## Flower

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



Flowering phase: **3 Prunus avium-Ranunculus auricomus (end of early spring)**  
 Flower colour: **yellow**  
 Flower symmetry: **actinomorphic**  
 Perianth type: **homochlamydeous**  
 Perianth fusion: **free**  
 Inflorescence type: **flores solitarii**  
 Dicliny: **synoecious, andromonoecious, androdioecious**  
 Generative reproduction type: **alogamy self-incompatibility**  
 Pollination syndrome: **insect-pollination**  
 Pollinator spectrum: **flies s. l. (honeybee, other Hymenoptera, hoverflies, meat flies s. l., other Diptera, beetles, nitidulids)**



## Fruit, seed and dispersal

Fruit type: **dry fruit - cluster of follicles**  
 Fruit colour: **green, brown**  
 Reproduction type: **by seed/spores and vegetatively**  
 Dispersal unit (diaspore): **seed, shoot fragment**  
 Dispersal strategy: **Allium (mainly autochory)**  
 Myrmecochory: **myrmecochorous**

## Belowground organs and clonality

Shoot metamorphosis: **rhizome**  
 Storage organ: **rhizome**  
 Type of clonal growth organ: **epigeogenous rhizome**  
 Freely dispersible organs of clonal growth: **absent**  
 Shoot life span (cyclicality): **dicyclic or polycyclic shoots prevailing**  
 Branching type of stem-derived organs of clonal growth: **sympodial**  
 Primary root: **absent**  
 Persistence of the clonal growth organ [year]:  
 Number of clonal offspring:  
 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): **4**  
 Number of buds per shoot at a depth of 0–10 cm (root buds excluded):  
 Number of buds per shoot at a depth greater than 10 cm (root buds excluded):  
 Size of the belowground bud bank (root buds excluded): **15**  
 Depth of the belowground bud bank (root buds excluded) [cm]: **4**  
 Number of buds per shoot at the soil surface (root buds included): **4**  
 Number of buds per shoot at a depth of 0–10 cm (root buds included):  
 Number of buds per shoot at a depth greater than 10 cm (root buds included):  
 Size of the belowground bud bank (root buds included): **15**  
 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): **32 (56)**

Ploidy level (x): **2 (4)**

2C genome size [Mbp]: **17704.15**

1Cx monoploid genome size [Mbp]: **8852.07**

Genomic GC content: **43.6 %**

## Taxon origin

Origin in the Czech Republic: **native**

## Ecological indicator values

Ellenberg-type indicator values

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

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

Moisture indicator value: **9 - wetness indicator, focus on often soaked, poorly aerated soils**

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: **-1.1**

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

Whole-community disturbance severity indicator value: **0.26**

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

Whole-community structure based disturbance indicator value: **0.44**

Herb layer structure-based disturbance indicator value: **0.54**

## Habitat and sociology

Occurrence in habitats

2 Alpine and subalpine grasslands

2B Subalpine tall-forb and tall-grass vegetation: **1 - rare occurrence**

3 Aquatic vegetation

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**

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

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

4F Mesotrophic vegetation of muddy substrata: **2 - optimum**



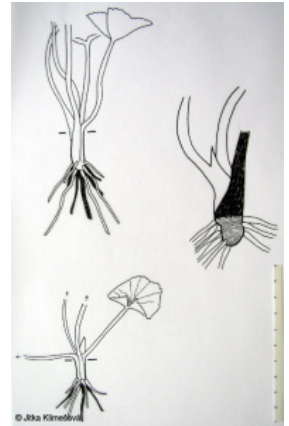


- 4G Tall-sedge beds: **2 - optimum**  
 4J River gravel banks: **1 - rare occurrence**  
 4K Petasites fringes of montane brooks: **2 - optimum**  
 5 Vegetation of springs and mires  
 5A Hard-water springs with tufa formation: **1 - rare occurrence**  
 5B Lowland to montane soft-water springs: **2 - optimum**  
 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  
 6D Alluvial meadows of lowland rivers: **1 - rare occurrence**  
 6E Wet Cirsium meadows: **2 - optimum**  
 6F Intermittently wet Molinia meadows: **1 - rare occurrence**  
 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**  
 10J Saline steppes: **1 - rare occurrence**  
 11 Heathlands and scrub  
 11H Subalpine deciduous scrub: **1 - rare occurrence**  
 11I Willow carrs: **2 - optimum**  
 11J Willow galleries of loamy and sandy river banks: **2 - optimum**  
 12 Forests  
 12A Alder carrs: **2 - optimum**  
 12B Alluvial forests: **2 - optimum**  
 12E Herb-rich beech forests: **1 - rare occurrence**  
 12Q Peatland birch forests: **1 - rare occurrence**  
 12R Acidophilous spruce forests: **1 - rare occurrence**  
 12S Basiphilous spruce forests: **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 classes: [LA Alnetea glutinosae](#)  
 Diagnostic taxon of alliances: [LAA Alnion glutinosae](#), [TDF Calthion palustris](#)  
 Diagnostic taxon of associations: [LAA03 Carici acutiformis-Alnetum glutinosae](#), [RBA03 Valeriano simplicifoliae-Caricetum flavae](#), [TDF03 Angelico sylvestris-Cirsietum palustris](#), [TDF04 Crepido paludosae-Juncetum acutiflori](#), [TDF06 Chaerophyllo hirsuti-Calthetum palustris](#), [TDF09 Caricetum cespitosae](#)  
 Constant taxon  
 Constant taxon of classes: [LA Alnetea glutinosae](#)



Constant taxon of alliances: [LAA Alnion glutinosae](#), [TDF Calthion palustris](#)

Constant taxon of associations: [LAA02 Carici elongatae-Alnetum glutinosae](#), [LAA03 Carici acutiformis-Alnetum glutinosae](#), [LBA01 Alnetum incanae](#), [LBA03 Carici remotae-Fraxinetum excelsioris](#), [LFC03 Equiseto sylvatici-Piceetum abietis](#), [MCG04 Comaro palustris-Caricetum cespitosae](#), [MCG05 Caricetum diandrae](#), [MCG06 Caricetum appropinquatae](#), [RAD01 Crepido paludosae-Philonotidetum seriatae](#), [RBA01 Valeriano dioicae-Caricetum davallianae](#), [RBA03 Valeriano simplicifoliae-Caricetum flavae](#), [RBC03 Agrostio caninae-Caricetum diandrae](#), [TDF01 Angelico sylvestris-Cirsietum oleracei](#), [TDF02 Cirsietum rivularis](#), [TDF03 Angelico sylvestris-Cirsietum palustris](#), [TDF04 Crepido paludosae-Juncetum acutiflori](#), [TDF06 Chaerophyllo hirsuti-Calthetum palustris](#), [TDF07 Scirpo sylvatici-Cirsietum cani](#), [TDF08 Scirpetum sylvatici](#), [TDF09 Caricetum cespitosae](#), [TDF10 Scirpo sylvatici-Caricetum brizoidis](#), [TDF12 Filipendulo ulmariae-Geranium palustris](#), [TDF13 Lysimachio vulgaris-Filipenduletum ulmariae](#), [TDF14 Chaerophyllo hirsuti-Filipenduletum ulmariae](#)



Dominant taxon

Dominant taxon of associations: [MCG06 Caricetum appropinquatae](#), [RAA01 Caricetum remotae](#), [RAA02 Cardamino-Chrysosplenietum alternifolii](#), [RAB01 Brachythecio rivularis-Cratoneuretum](#), [RBA03 Valeriano simplicifoliae-Caricetum flavae](#), [RBA04 Campylio stellati-Caricetum lasiocarpae](#), [TDF01 Angelico sylvestris-Cirsietum oleracei](#), [TDF03 Angelico sylvestris-Cirsietum palustris](#), [TDF04 Crepido paludosae-Juncetum acutiflori](#), [TDF06 Chaerophyllo hirsuti-Calthetum palustris](#), [TDF08 Scirpetum sylvatici](#)

Ecological specialization indices

Ecological specialization index for all vegetation types: **4.9**

Ecological specialization index for non-forest vegetation: **5.4**

Ecological specialization index for forest vegetation: **5.3**

Colonization ability

Index of colonization success (ICS): **2**

Index of colonization potential (ICP): **1**

Optimum successional age [years]: **75**

## Distribution and frequency

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

Floristic region: **circumpolar**

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

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

Occurrence frequency in the basic grid mapping cells and quadrants of the basic grid mapping cells: **653**

taxon.data.freq\_in\_quad: **2195**

Commonness in vegetation plots from the Czech Republic

Occurrence frequency in vegetation plots: **6.1 %**

Occurrence frequency in vegetation plots with a cover above 5%: **23.3 %**

Occurrence frequency in vegetation plots with a cover above 25%: **6.2 %**

Occurrence frequency in vegetation plots with a cover above 50%: **1 %**

Mean percentage cover in vegetation plots: **6.5 %**

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: **32**

Number of narrow habitats in which the taxon has its optimum: **12**

Number of broad habitats in which the taxon occurs: **10**

Number of broad habitats in which the taxon has its optimum: **5**

### **Threats and protection**

Legal protection: **not protected by law**