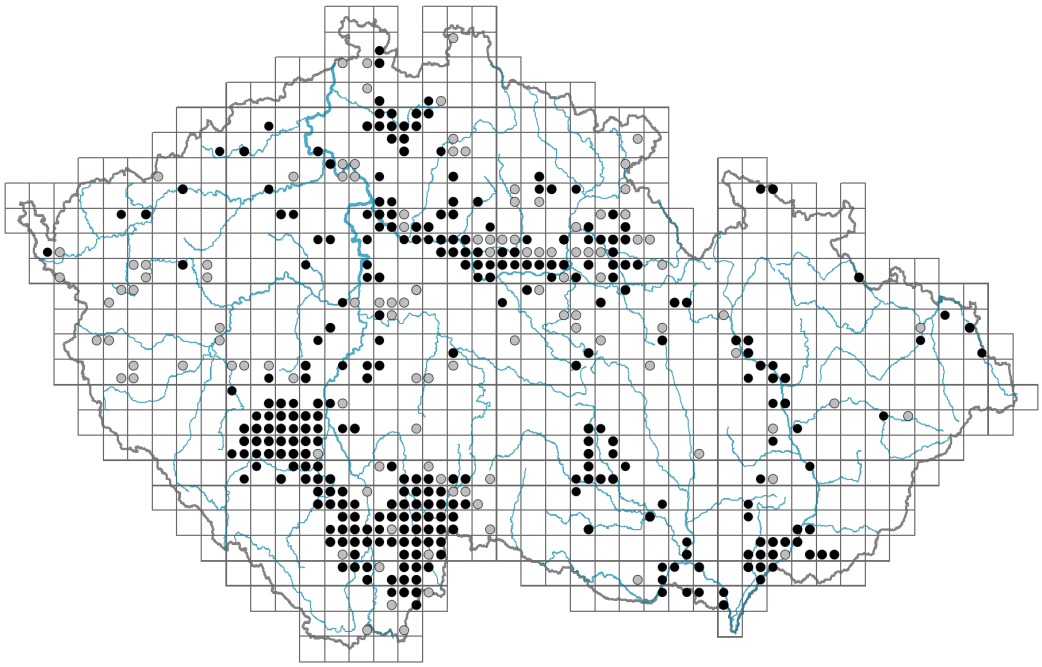
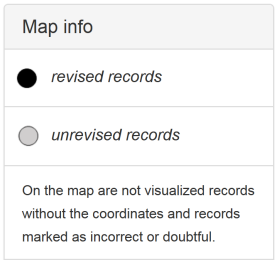
Carex elata

Distribution





Habitus and growth type

Height [m]: **0.4–1.2**
Growth form: **clonal herb**
Life form: **hemicryptophyte**
Life strategy: **CS – competitor/stress-tolerator**
Life strategy (Pierce method based on leaf traits): **CS/CSR**
Life strategy (Pierce method, C-score): **36 %**
Life strategy (Pierce method, S-score): **52.1 %**
Life strategy (Pierce method, R-score): **11.9 %**

Leaf

Leaf presence and metamorphosis: **leaves present, not modified**
Leaf arrangement (phyllotaxis): **alternate**
Leaf shape: **simple – entire**
Stipules: **absent**
Petiole: **absent**
Leaf life span: **summer green**
Leaf anatomy: **scleromorphic, helomorphic**

Flower

Flowering period [month]: **May–July**

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Flowering phase: **4 Fagus sylvatica-Galeobdolon (start of mid-spring)**
Flower colour: **black**
Perianth type: **flower achlamydeous**
Inflorescence type: **spica e spiculis composita**
Dicliny: **monoecious, andromonoecious**
Generative reproduction type: **allogamy**
Pollination syndrome: **wind-pollination**

Fruit, seed and dispersal

Fruit type: **dry fruit – nut enclosed in an utricle**
Fruit colour: **green, brown, black**
Reproduction type: **by seed/spores and vegetatively**
Dispersal unit (diaspore): **fruit, infrutescence or its part**
Dispersal strategy: **Sparganium (mainly autochory and hydrochory)**
Myrmecochory: **probably non-myrmecochorous**

Belowground organs and clonality

Shoot metamorphosis: **rhizome**
Storage organ: **rhizome, tuft**
Type of clonal growth organ: **hypogeogenous rhizome**
Freely dispersible organs of clonal growth: **absent**
Shoot life span (cyclicity): **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]: **4**
Number of clonal offspring: **1**
Lateral spreading distance by clonal growth [m]: **0.05**
Clonal index: **3**

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): **8**
Size of the belowground bud bank (root buds excluded): **28**
Depth of the belowground bud bank (root buds exluded) [cm]: **7**
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): **8**
Size of the belowground bud bank (root buds included): **28**
Depth of the belowground bud bank (root buds included) [cm]: **7**

Trophic mode

Parasitism and mycoheterotrophy: **autotrophic**
Carnivory: **non-carnivorous**
Symbiotic nitrogen fixation: **no nitrogen-fixing symbionts**

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Karyology

Chromosome number (2n): **74**
Ploidy level (x): **2**
2C genome size [Mbp]: **783.73**
1Cx monoploid genome size [Mbp]: **391.87**
Genomic GC content: **36.3 %**

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: **6x – transition between values 5 and 7 (generalist)**
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: **-0.92**
Herb layer disturbance frequency indicator value: **-0.74**
Whole-community disturbance severity indicator value: **0.17**
Herb layer disturbance severity indicator value: **0.21**
Whole-community structure based disturbance indicator value: **0.49**
Herb layer structure-based disturbance indicator value: **0.49**

Habitat and sociology

Occurrence in habitats

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**
4F Mesotrophic vegetation of muddy substrata: **2 – optimum**
4G Tall-sedge beds: **2 – optimum**

5 Vegetation of springs and mires

5E Acidic moss-rich fens and peatland meadows: **1 – rare occurrence**
5H Wet peat soils and bog hollows: **1 – rare occurrence**

11 Heathlands and scrub

11I Willow carrs: **1 – rare occurrence**

12 Forests

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12A Alder carrs: **2 – optimum**

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: **MCG *Magno-Caricion elatae***

Diagnostic taxon of associations: **MCG01 *Caricetum elatae*, MCG05 *Caricetum diandrae*, RBD02 *Sphagno recurvi-Caricetum lasiocarpae***

Constant taxon

Constant taxon of associations: **MCG01 *Caricetum elatae***

Dominant taxon

Dominant taxon of associations: **MCG01 *Caricetum elatae***

Ecological specialization indices

Ecological specialization index for all vegetation types: **4.3**

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

Ecological specialization index for forest vegetation: **5.7**

Colonization ability

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

Index of colonization potential (ICP): **5**

Optimum successional age [years]: **16.5**

Distribution and frequency

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

Floristic region: **Europe**

Continentality degree: **4**

Distribution range extension along the continentality gradient: **4**

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: 270

taxon.data.freq_in_quad: 482

Commonness in vegetation plots from the Czech Republic

Occurrence frequency in vegetation plots: **0.5 %**

Occurrence frequency in vegetation plots with a cover above 5%: **45 %**

Occurrence frequency in vegetation plots with a cover above 25%: **37.1 %**

Occurrence frequency in vegetation plots with a cover above 50%: **24.3 %**

Mean percentage cover in vegetation plots: **26.2 %**

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: **8**

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

Number of broad habitats in which the taxon occurs: **4**

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

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Threats and protection

Red List 2017 (national categories): **C2t – endangered taxon, declining**
Red List 2017 (IUCN categories): **VU – vulnerable**
Legal protection: **not protected by law**

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