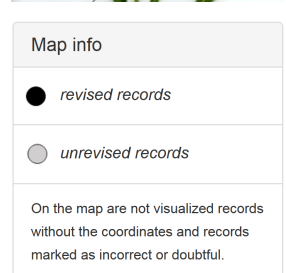
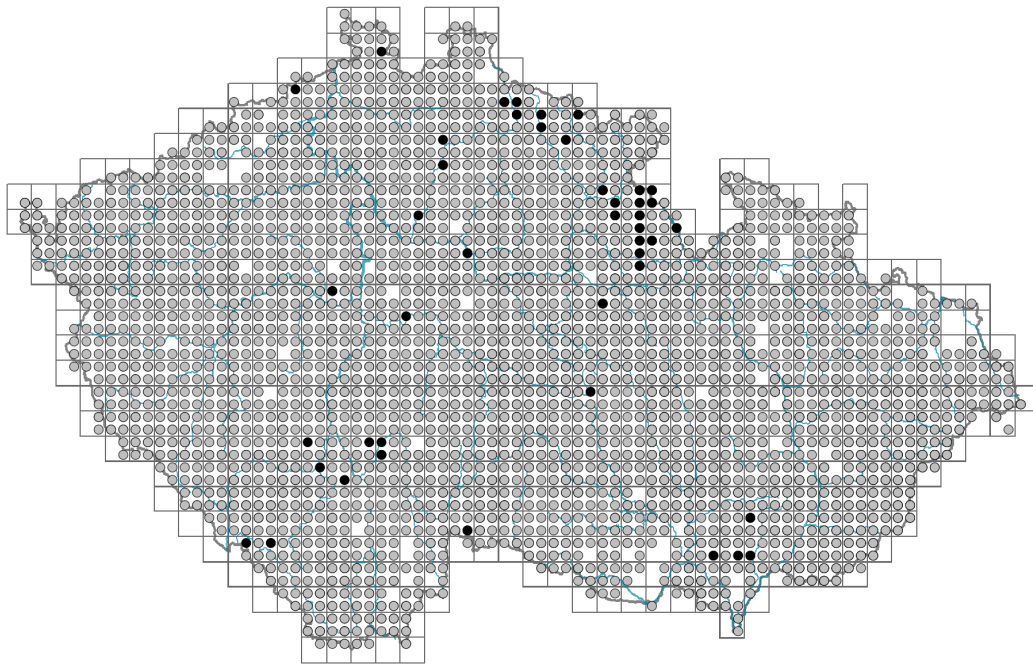


Knautia arvensis agg.

Distribution



Habitus and growth type

Height [m]: **0.25-1.1**

Growth form: **polycarpic perennial non-clonal herb**

Life form: **hemicryptophyte**

Life strategy: **C - competitor**

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

Life strategy (Pierce method, C-score): **70.3 %**

Life strategy (Pierce method, S-score): **5.7 %**

Life strategy (Pierce method, R-score): **24.1 %**

Leaf

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

Leaf arrangement (phyllotaxis): **opposite, rosulate**

Leaf shape: **simple - entire, simple - pinnately divided**

Stipules: **absent**

Petiole: **both present and absent, absent**

Leaf life span: **summer green, evergreen**

Leaf anatomy: **mesomorphic**

Flower

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



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

Flower colour: **yellow-white, yellow, pink, pink-violet, red-violet**

Flower symmetry: **zygomorphic**

Perianth type: **calyx reduced, corolla present**

Perianth fusion: **fused**

Shape of the sympetalous corolla or syntepalous perianth: **funnel-shaped, tubular**

Calyx fusion: **synsepalous**

Inflorescence type: **capitulum**

Dicliny: **gynodioecious**

Generative reproduction type: **facultative allogamy**

Pollination syndrome: **insect-pollination, selfing**

Pollinator spectrum: **honeybee, bumblebees, solitary bees, hoverflies, flies s. l., meat flies s. l., other Diptera, butterflies, beetles, nitidulids, other pollinators, unknown**



Fruit, seed and dispersal

Fruit type: **dry fruit - achene/cypsela/samara**

Fruit colour: **green, yellow, brown**

Reproduction type: **only by seed/spores**

Dispersal unit (diaspore): **fruit, infrutescence or its part**

Dispersal strategy: **Allium (mainly autochory)**

Myrmecochory: **myrmecochorous**

Belowground organs and clonality

Shoot metamorphosis: **pleiocorm**

Root metamorphosis: **primary storage root**

Storage organ: **pleiocorm, primary storage root**

Shoot life span (cyclicality): **monocyclic shoots prevailing, dicyclic or polycyclic shoots prevailing**

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

Primary root: **present**

Position of root buds: **primary root**

Role of root buds in life-history of a plant: **additive**

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): **0**

Size of the belowground bud bank (root buds excluded): **20**

Depth of the belowground bud bank (root buds excluded) [cm]: **4**

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): **17**

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): **29**

Depth of the belowground bud bank (root buds included) [cm]: **6**

Trophic mode

Parasitism and mycoheterotrophy: **autotrophic**

Carnivory: **non-carnivorous**

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

Karyology

Chromosome number (2n): **20**

Ploidy level (x): **2**

2C genome size [Mbp]: **6302.71**

1Cx monoploid genome size [Mbp]: **3151.36**

Genomic GC content: **38.1 %**

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: **6x - transition between values 5 and 7 (generalist)**

Moisture indicator value: **4 - transition between values 3 and 5**

Reaction indicator value: **6x - transition between values 5 and 7 (generalist)**

Nutrient indicator value: **4 - transition between values 3 and 5**

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

Indicator values for disturbance

Whole-community disturbance frequency indicator value: **-0.54**

Herb layer disturbance frequency indicator value: **-0.21**

Whole-community disturbance severity indicator value: **0.31**

Herb layer disturbance severity indicator value: **0.34**

Whole-community structure based disturbance indicator value: **0.54**

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

Habitat and sociology

Occurrence in habitats

1 Vegetation of cliffs, screes and walls

1A Calcareous cliffs: **1 - rare occurrence**

1B Siliceous cliffs and block fields: **1 - rare occurrence**

1D Mobile calcareous screes: **1 - rare occurrence**

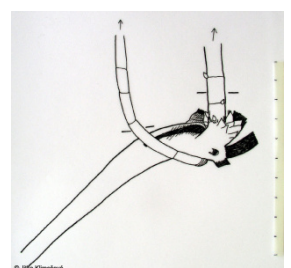
2 Alpine and subalpine grasslands

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

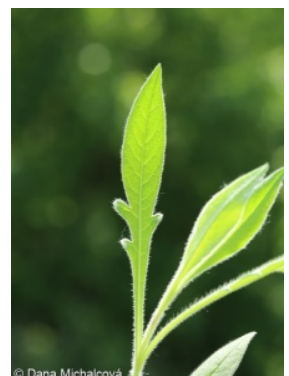
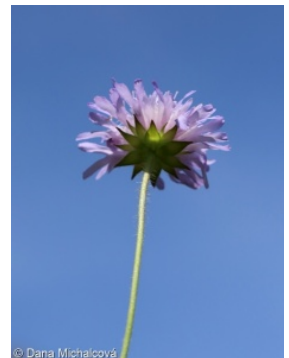
4 Wetland and riverine herbaceous vegetation

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

5 Vegetation of springs and mires



- 5D Calcareous fens: **1 - rare occurrence**
- 5E Acidic moss-rich fens and peatland meadows: **1 - rare occurrence**
- 6 Meadows and mesic pastures
- 6A Mesic Arrhenatherum meadows: **2 - optimum**
- 6B Montane mesic meadows: **2 - optimum**
- 6C Pastures and park grasslands: **2 - optimum**
- 6D Alluvial meadows of lowland rivers: **1 - rare occurrence**
- 6E Wet Cirsium meadows: **1 - rare occurrence**
- 6F Intermittently wet Molinia meadows: **1 - rare occurrence**
- 7 Acidophilous grasslands
- 7A Subalpine and montane acidophilous grasslands: **1 - rare occurrence**
- 7B Submontane Nardus grasslands: **2 - optimum**
- 8 Dry grasslands
- 8A Hercynian dry grasslands on rock outcrops: **1 - rare occurrence**
- 8B Submediterranean dry grasslands on rock outcrops: **1 - rare occurrence**
- 8C Narrow-leaved sub-continental steppes: **2 - optimum**
- 8D Broad-leaved dry grasslands: **2 - optimum**
- 8E Acidophilous dry grasslands: **2 - optimum**
- 8F Thermophilous forest fringe vegetation: **2 - optimum**
- 9 Sand grasslands and rock-outcrop vegetation
- 9C Festuca grasslands on acidic sands: **1 - rare occurrence**
- 9E Acidophilous vegetation of spring therophytes and succulents: **1 - rare occurrence**
- 9F Basiphilous vegetation of spring therophytes and succulents: **1 - rare occurrence**
- 10 Saline vegetation
- 10I Inland saline meadows: **1 - rare occurrence**
- 11 Heathlands and scrub
- 11A Dry lowland to subalpine heathlands: **1 - rare occurrence**
- 11H Subalpine deciduous scrub: **1 - rare occurrence**
- 11J Willow galleries of loamy and sandy river banks: **1 - rare occurrence**
- 11L Tall mesic and xeric shrub: **1 - rare occurrence**
- 11N Low xeric scrub: **1 - rare occurrence**
- 12 Forests
- 12B Alluvial forests: **1 - rare occurrence**
- 12C Oak-hornbeam forests: **1 - rare occurrence**
- 12D Ravine forests: **1 - rare occurrence**
- 12F Limestone beech forests: **1 - rare occurrence**
- 12H Peri-Alpidic basiphilous thermophilous oak forests: **1 - rare occurrence**
- 12I Sub-continental thermophilous oak forests: **1 - rare occurrence**
- 12J Acidophilous thermophilous oak forests: **1 - rare occurrence**
- 12K Acidophilous oak forests: **1 - rare occurrence**
- 12L Boreo-continental pine forests: **1 - rare occurrence**
- 12O Peri-Alpidic pine forests: **1 - rare occurrence**
- 12U Plantations of broad-leaved non-native trees: **1 - rare occurrence**
- 12V Spruce plantations: **1 - rare occurrence**
- 12W Pine and larch plantations: **2 - optimum**
- 13 Anthropogenic vegetation



13D Perennial thermophilous ruderal vegetation: **1 - rare occurrence**

13E Perennial nitrophilous herbaceous vegetation of mesic sites: **1 - rare occurrence**

13F Herbaceous vegetation of forests clearings and Rubus scrub: **1 - rare occurrence**

Diagnostic taxon

Diagnostic taxon of alliances: [TDA *Arrhenatherion elatioris*](#), [THF *Bromion erecti*](#)

Diagnostic taxon of associations: [TDA04 *Potentillo albae-Festucetum rubrae*](#), [THF01 *Carlino acaulis-Brometum erecti*](#)

Constant taxon

Constant taxon of alliances: [TDA *Arrhenatherion elatioris*](#), [THE *Cirsio-Brachypodium pinnati*](#), [THF *Bromion erecti*](#), [THI *Trifolium medii*](#)

Constant taxon of associations: [ACA01 *Saxifraga oppositifoliae-Festucetum versicoloris*](#), [TDA01 *Pastinaco sativae-Arrhenatheretum elatioris*](#), [TDA02 *Ranunculo bulbosi-Arrhenatheretum elatioris*](#), [TDA03 *Poo-Trisetetum flavescens*](#), [TDA04 *Potentillo albae-Festucetum rubrae*](#), [TDB01 *Geranio sylvatici-Trisetetum flavescens*](#), [TEC02 *Campanulo rotundifoliae-Dianthetum deltoidis*](#), [THE01 *Scabioso ochroleucae-Brachypodietum pinnati*](#), [THE03 *Polygalo majoris-Brachypodietum pinnati*](#), [THF01 *Carlino acaulis-Brometum erecti*](#), [THF02 *Brachypodio pinnati-Molinietum arundinaceae*](#), [THG03 *Viscario vulgaris-Avenuletum pratensis*](#), [THI01 *Trifolio medii-Agrimonieta eupatoria*](#)

Ecological specialization indices

Ecological specialization index for all vegetation types: **5**

Ecological specialization index for non-forest vegetation: **5**

Ecological specialization index for forest vegetation: **4.4**

Distribution and frequency

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

Floristic region: **Europe, Western Siberia**

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: **660**

taxon.data.freq_in_quad: **2395**

Commonness in vegetation plots from the Czech Republic

Occurrence frequency in vegetation plots: **5 %**

Occurrence frequency in vegetation plots with a cover above 5%: **2.8 %**

Occurrence frequency in vegetation plots with a cover above 25%: **0.1 %**

Occurrence frequency in vegetation plots with a cover above 50%: **0 %**

Mean percentage cover in vegetation plots: **2.4 %**

Maximum percentage cover in vegetation plots: **38 %**

Number of habitats with taxon occurrence in the Czech Republic

Number of narrow habitats in which the taxon occurs: **46**

Number of narrow habitats in which the taxon has its optimum: **9**

Number of broad habitats in which the taxon occurs: **12**

Number of broad habitats in which the taxon has its optimum: **4**

