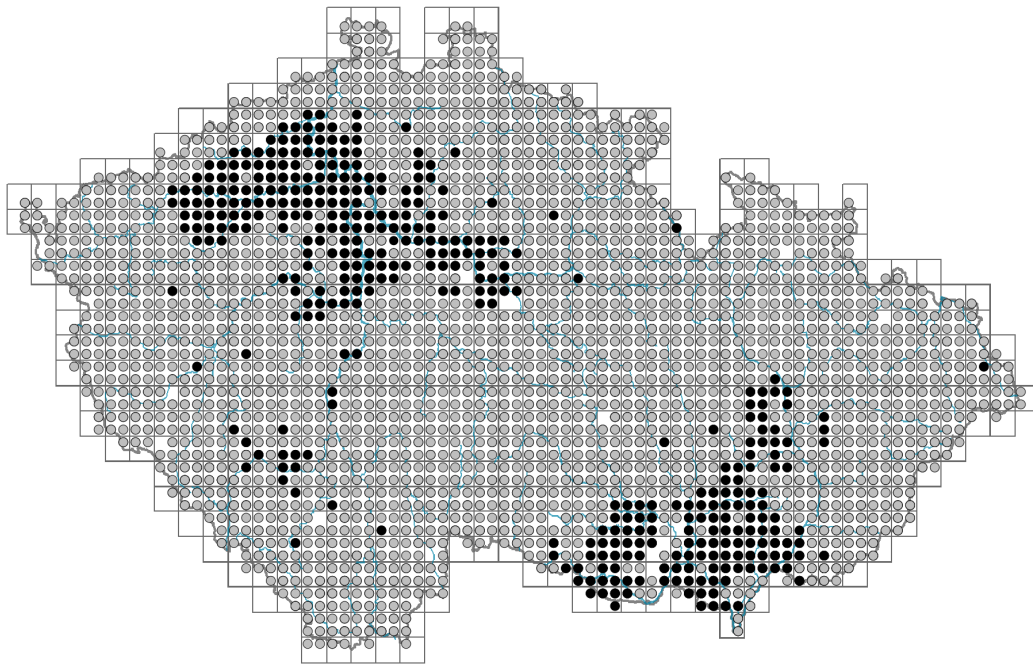


# *Achillea millefolium* agg.

## 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]: **0.1-1**

Growth form: **clonal herb**

Life form: **hemicryptophyte**

Life strategy: **C - competitor, CS - competitor/stress-tolerator**

Life strategy (Pierce method based on leaf traits): **S/CSR**

Life strategy (Pierce method, C-score): **22 %**

Life strategy (Pierce method, S-score): **58.8 %**

Life strategy (Pierce method, R-score): **19.2 %**



## Leaf

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

Leaf arrangement (phyllotaxis): **alternate**

Leaf shape: **simple - pinnately divided**

Stipules: **absent**

Petiole: **both present and absent**

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

Leaf anatomy: **scleromorphic, mesomorphic**



## Flower

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

Flowering phase: **6 Cornus sanguinea-Melica uniflora (start of early summer), 7 Ligustrum vulgare-Stachys sylvatica (end of early summer)**

Flower colour: **white, pink**

Flower symmetry: **actinomorphic, zygomorphic**

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

Perianth fusion: **fused**

Shape of the sympetalous corolla or syntepalous perianth: **ligulate, tubular**

Inflorescence type: **corymbothsus ex anthodiis compositus**

Dicliny: **gynomonoecious, gynodioecious**

Generative reproduction type: **allogamy self-incompatibility, facultative allogamy**

Pollination syndrome: **insect-pollination**

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

## Fruit, seed and dispersal

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

Fruit colour: **brown, grey**

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

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

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

Myrmecochory: **probably myrmecochorous, probably myrmecochorous nv**

## Belowground organs and clonality

Shoot metamorphosis: **stolon, rhizome-like pleiocorm**

Storage organ: **stolon, rhizome-like pleiocorm**

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: **5.6**

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

## 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): **1**

Size of the belowground bud bank (root buds excluded): **21**

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

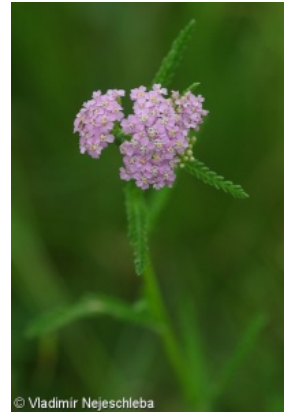
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Number of buds per shoot at a depth greater than 10 cm (root buds included): **1**

Size of the belowground bud bank (root buds included): **21**

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): **18, 36, 54, 72**

Ploidy level (x): **2, 4, 6, 8**

2C genome size [Mbp]: **11391.22**

1Cx monoploid genome size [Mbp]: **2320.28**



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

Moisture indicator value: **5 - indicator of fresh soils, focus on soils of average moisture, missing on wet and on soils that frequently dry out**

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: **-0.61**

Herb layer disturbance frequency indicator value: **-0.25**

Whole-community disturbance severity indicator value: **0.45**

Herb layer disturbance severity indicator value: **0.47**

Whole-community structure based disturbance indicator value: **0.56**

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**

1C Walls: **1 - rare occurrence**

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

2 Alpine and subalpine grasslands

2A Alpine grasslands on siliceous bedrock: **1 - rare occurrence**





- 2B Subalpine tall-forb and tall-grass vegetation: **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**
- 4G Tall-sedge beds: **1 - rare occurrence**
- 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**
- 4L Nitrophilous herbaceous fringes of lowland rivers: **1 - rare occurrence**
- 5 Vegetation of springs and mires
- 5C Alpine and subalpine soft-water springs: **1 - rare occurrence**
- 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: **2 - optimum**
- 6E Wet Cirsium meadows: **2 - optimum**
- 6F Intermittently wet Molinia meadows: **2 - optimum**
- 6G Vegetation of wet disturbed soils: **2 - optimum**
- 7 Acidophilous grasslands
- 7A Subalpine and montane acidophilous grasslands: **2 - optimum**
- 7B Submontane Nardus grasslands: **2 - optimum**
- 8 Dry grasslands
- 8A Hercynian dry grasslands on rock outcrops: **1 - rare occurrence, 2 - optimum**
- 8B Submediterranean dry grasslands on rock outcrops: **1 - rare occurrence, 2 - optimum**
- 8C Narrow-leaved sub-continental steppes: **2 - optimum**
- 8D Broad-leaved dry grasslands: **1 - rare occurrence, 2 - optimum**
- 8E Acidophilous dry grasslands: **1 - rare occurrence, 2 - optimum**
- 8F Thermophilous forest fringe vegetation: **1 - rare occurrence, 2 - optimum**
- 9 Sand grasslands and rock-outcrop vegetation
- 9B Open vegetation of acidic sands: **1 - rare occurrence**
- 9C Festuca grasslands on acidic sands: **1 - rare occurrence, 2 - optimum**
- 9D Pannonian sand steppes: **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, 2 - optimum**
- 10J Saline steppes: **1 - rare occurrence**
- 11 Heathlands and scrub
- 11A Dry lowland to subalpine heathlands: **1 - rare occurrence**
- 11D Subalpine acidophilous Pinus mugo 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, 2 - optimum**  
 11R Scrub and pioneer woodland of forests clearings: **1 - rare occurrence**

## 12 Forests

- 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**  
 12T Robinia pseudacacia plantations: **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: **1 - rare occurrence**

## 13 Anthropogenic vegetation

- 13A Annual vegetation of ruderal habitats: **1 - rare occurrence**  
 13B Annual vegetation of arable land: **1 - rare occurrence**  
 13C Annual vegetation of trampled habitats: **1 - rare occurrence**  
 13D Perennial thermophilous ruderal vegetation: **2 - optimum**  
 13E Perennial nitrophilous herbaceous vegetation of mesic sites: **1 - rare occurrence**  
 13F Herbaceous vegetation of forests clearings and Rubus scrub: **1 - rare occurrence**

## Constant taxon

Constant taxon of classes: [LE \*Erico-Pinetea\*](#), [TD \*Molinio-Arrhenatheretea\*](#)

Constant taxon of alliances: [LEA \*Erico carnea-Pinion\*](#), [TDA \*Arrhenatherion elatioris\*](#), [TDC \*Cynosurion cristati\*](#), [TDD \*Molinion caeruleae\*](#), [TDE \*Deschampsion cespitosae\*](#), [THF \*Bromion erecti\*](#), [THI \*Trifolion medii\*](#), [XCB \*Dauco carotae-Melilotion\*](#)

Constant taxon of associations: [KAB03 \*Salici purpureae-Myricarietum germanicae\*](#), [LCB02 \*Carici fritschii-Quercetum roboris\*](#), [LEA01 \*Thlaspio montani-Pinetum sylvestris\*](#), [MAB01 \*Centunculo minimi-Anthocerotum punctati\*](#), [TDA01 \*Pastinaco sativae-Arrhenatheretum elatioris\*](#), [TDA02 \*Ranunculo bulbosi-Arrhenatheretum elatioris\*](#), [TDA03 \*Poo-Trisetetum flavescens\*](#), [TDA04 \*Potentillo albae-Festucetum rubrae\*](#), [TDC01 \*Lolio perennis-Cynosuretum cristati\*](#), [TDC02 \*Anthoxantho odorati-Agrostietum tenuis\*](#), [TDD01 \*Molinietum caeruleae\*](#), [TDE04 \*Cnidio dubii-Deschampsietum cespitosae\*](#), [TDF07 \*Scirpo sylvatici-Cirsietum cani\*](#), [THE04 \*Plantagini maritimae-Caricetum flacca\*](#), [THF01 \*Carlino acaulis-Brometum erecti\*](#), [THF02 \*Brachypodio pinnati-Molinietum arundinaceae\*](#), [THI01 \*Trifolio medii-Agrimoniae eupatoria\*](#), [XCB01 \*Melilotetum albo-officinalis\*](#), [XCB07 \*Tanaceto vulgaris-Artemisietum vulgaris\*](#)

## Ecological specialization indices

Ecological specialization index for all vegetation types: **3.8**

Ecological specialization index for non-forest vegetation: **3.9**

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

## Colonization ability



Index of colonization success (ICS): **9**  
Index of colonization potential (ICP): **5**  
Optimum successional age [years]: **23**

## Distribution and frequency

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

Floristic region: **Europe, Western Asia, 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: **669**

taxon.data.freq\_in\_quad: **2458**

Commonness in vegetation plots from the Czech Republic

Occurrence frequency in vegetation plots: **15.8 %**

Occurrence frequency in vegetation plots with a cover above 5%: **9 %**

Occurrence frequency in vegetation plots with a cover above 25%: **0.6 %**

Occurrence frequency in vegetation plots with a cover above 50%: **0.1 %**

Mean percentage cover in vegetation plots: **3.3 %**

Maximum percentage cover in vegetation plots: **63 %**

Number of habitats with taxon occurrence in the Czech Republic

Number of narrow habitats in which the taxon occurs: **59**

Number of narrow habitats in which the taxon has its optimum: **10**

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

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

