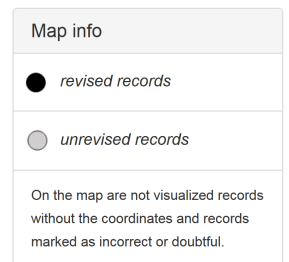
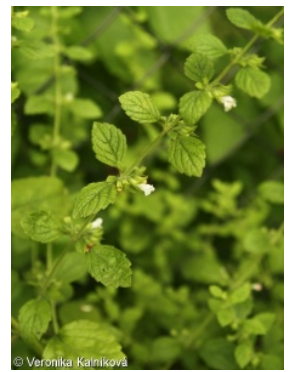
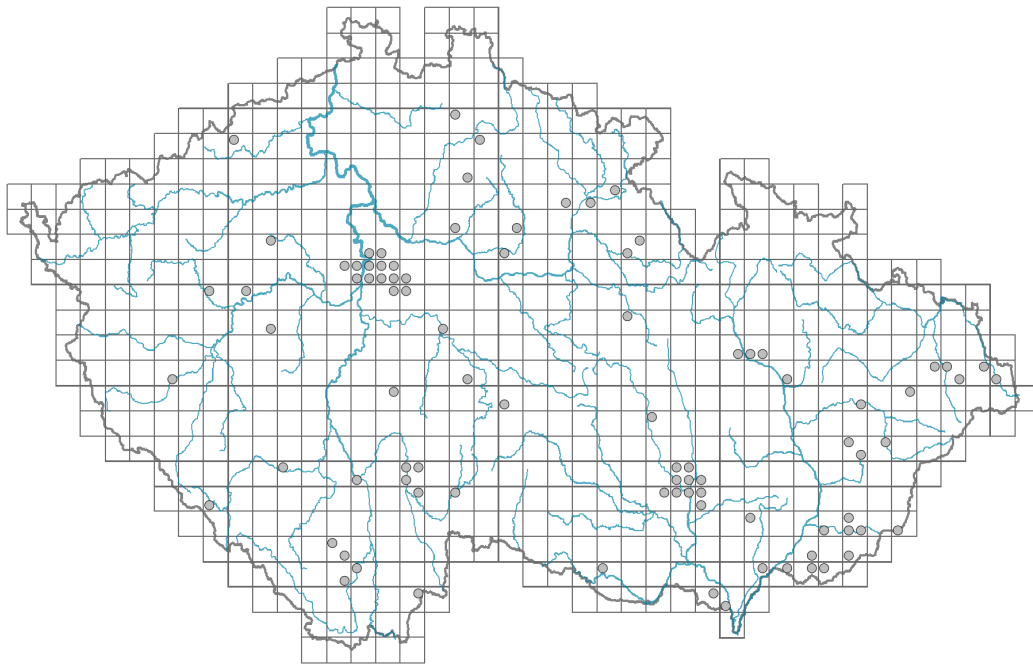


# Melissa officinalis

## Distribution



## Habitus and growth type

Height [m]: **0.3-0.8**

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

Life form: **hemicryptophyte**

Life strategy: **C - competitor**

## Leaf

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

Leaf arrangement (phyllotaxis): **opposite**

Leaf shape: **simple - entire**

Stipules: **absent**

Petiole: **present**

Leaf life span: **summer green**

Leaf anatomy: **mesomorphic, hygromorphic**

## Flower

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

Flower colour: **white**

Flower symmetry: **zygomorphic**

Perianth type: **calyx and corolla**

Perianth fusion: **fused**

Shape of the sympetalous corolla or syntepalous perianth: **bilabiate**

Calyx fusion: **synsepalous**

Inflorescence type: **pseudospica e verticillastris composita**

Dicliny: **synoecious, andromonoecious, gynodioecious**

Generative reproduction type: **mixed mating**

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



## Fruit, seed and dispersal

Fruit type: **dry fruit - cluster of four one-seeded nutlets**

Fruit colour: **brown**

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

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

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

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



## Belowground organs and clonality

Shoot metamorphosis: **rhizome-like pleiocorm**

Storage organ: **rhizome-like pleiocorm**

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

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

Primary root: **present**

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): **10**

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): **15**

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

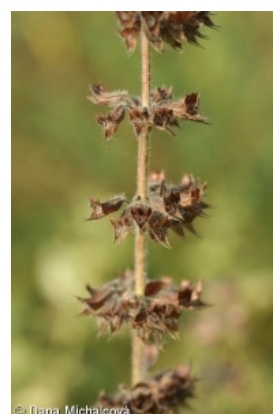
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## Trophic mode

Parasitism and mycoheterotrophy: **autotrophic**

Carnivory: **non-carnivorous**

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



## Karyology

Chromosome number (2n): **32 (64)**

Ploidy level (x): **4 (8)**

2C genome size [Mbp]: **1689.81**

1Cx monoploid genome size [Mbp]: **422.45**

Genomic GC content: **40.8 %**



## Taxon origin

Origin in the Czech Republic: **archaeophyte/neophyte**

Invasion status: **naturalized**

Geographic origin: **Mediterranean**

Year of the first record in the wild: **1872**

Period of introduction: **Late Middle Ages and Early Modern Period (merged category, 1200-1800)**

Introduction pathway: **intentional - ornamental, intentional - crops**

## 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: **6 - transition between values 5 and 7**

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

Reaction indicator value: **7 - indicator of slightly acidic to slightly basic conditions, never occurring in very acidic conditions**

Nutrient indicator value: **5 - occurring at moderately nutrient-rich sites, and less frequently at poor and rich sites**

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

## Habitat and sociology

Occurrence in habitats

11 Heathlands and scrub

11R Scrub and pioneer woodland of forests clearings: **1 - rare occurrence**

13 Anthropogenic vegetation

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

13E Perennial nitrophilous herbaceous vegetation of mesic sites: **2 - optimum**

Affinity to the forest environment

Affinity to the forest environment in Thermophyticum: **0 - taxon that does not spontaneously occur in Czech forests**

Affinity to the forest environment in Mesophyticum and Oreophyticum: **0 - taxon that does not spontaneously occur in Czech forests**

## Distribution and frequency

Floristic zone: **submeridional, meridional**

Floristic region: **Europe, Western Asia**

Continental degree: **7**

Distribution range extension along the continentality gradient: **5**

Occurrence frequency in the basic grid mapping cells and quadrants of the basic grid mapping cells: **71**

taxon.data.freq\_in\_quad: **91**

Commonness in vegetation plots from the Czech Republic

Occurrence frequency in vegetation plots: **0 %**

Occurrence frequency in vegetation plots with a cover above 5%: **0 %**

Occurrence frequency in vegetation plots with a cover above 25%: **0 %**

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

Mean percentage cover in vegetation plots: **2 %**

Maximum percentage cover in vegetation plots: **2 %**

Number of habitats with taxon occurrence in the Czech Republic

Number of narrow habitats in which the taxon occurs: **3**

Number of narrow habitats in which the taxon has its optimum: **1**

Number of broad habitats in which the taxon occurs: **2**

Number of broad habitats in which the taxon has its optimum: **1**

### **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**