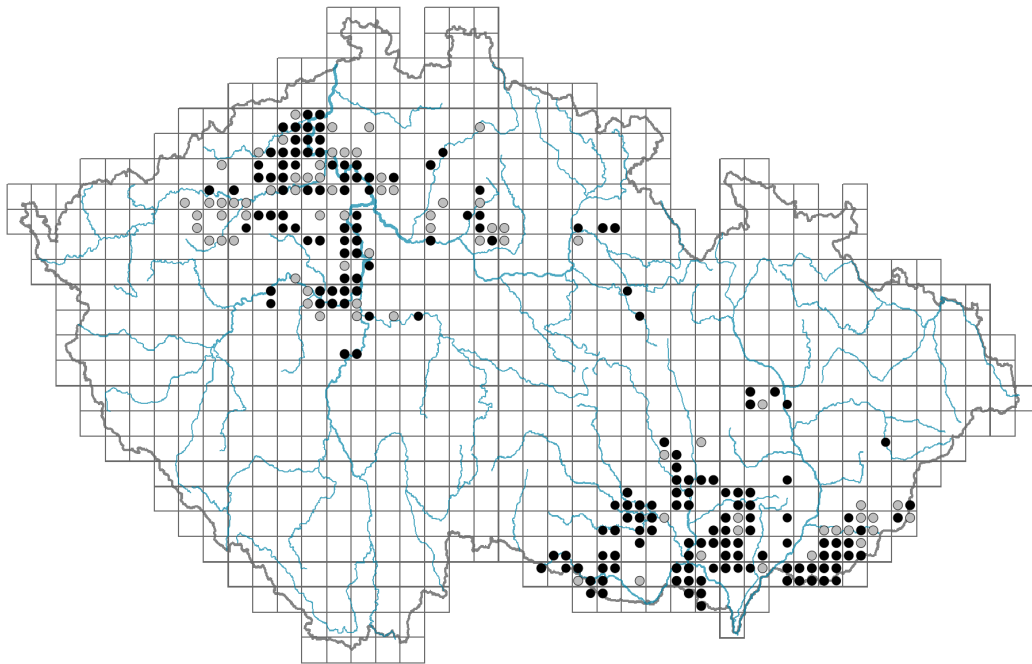


# *Inula hirta*

## Distribution



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### 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]: **0.15-0.4**Growth form: **clonal herb**Life form: **hemicryptophyte**Life strategy: **CS - competitor/stress-tolerator**Life strategy (Pierce method based on leaf traits): **S/CSR**Life strategy (Pierce method, C-score): **18.2 %**Life strategy (Pierce method, S-score): **65 %**Life strategy (Pierce method, R-score): **16.9 %**

## 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: **mesomorphic**

## Flower

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

Flowering phase: **7 Ligustrum vulgare-Stachys sylvatica (end of early summer)**  
 Flower colour: **yellow**  
 Flower symmetry: **actinomorphic, zygomorphic**  
 Perianth type: **calyx reduced, corolla present**  
 Perianth fusion: **fused**  
 Shape of the sympetalous corolla or syntepalous perianth: **ligulate, tubular**  
 Calyx fusion: **pappus**  
 Inflorescence type: **anthodium solitarium**  
 Dicliny: **gynomonoecious**  
 Generative reproduction type: **facultative allogamy**  
 Pollination syndrome: **insect-pollination**



## Fruit, seed and dispersal

Fruit type: **dry fruit - achene/cypsela/samara**  
 Fruit colour: **brown**  
 Reproduction type: **by seed/spores and vegetatively**  
 Dispersal unit (diaspore): **fruit, infrutescence or its part**  
 Dispersal strategy: **Epilobium (mainly anemochory and autochory)**  
 Myrmecochory: **probably myrmecochorous nv**

## Belowground organs and clonality

Shoot metamorphosis: **rhizome**  
 Storage organ: **rhizome**  
 Type of clonal growth organ: **hypogeogenous rhizome**  
 Freely dispersible organs of clonal growth: **absent**  
 Shoot life span (cyclicality): **monocyclic 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: **3.5**  
 Lateral spreading distance by clonal growth [m]: **0.07**  
 Clonal index: **5**

## 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): **15**  
 Number of buds per shoot at a depth greater than 10 cm (root buds included): **0**  
 Size of the belowground bud bank (root buds included): **20**  
 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): **16**

Ploidy level (x): **2**

2C genome size [Mbp]: **3287.27**

1Cx monoploid genome size [Mbp]: **1643.64**

Genomic GC content: **39.2 %**

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

Moisture indicator value: **3 - missing on damp soil**

Reaction indicator value: **8 - transition between values 7 and 9, occurring mostly in calcium-rich conditions**

Nutrient indicator value: **3 - occurring at nutrient-poor sites more frequently than at average sites and exceptionally at rich sites**

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

Indicator values for disturbance

Whole-community disturbance frequency indicator value: **-1.31**

Herb layer disturbance frequency indicator value: **-0.4**

Whole-community disturbance severity indicator value: **0.2**

Herb layer disturbance severity indicator value: **0.19**

Whole-community structure based disturbance indicator value: **0.35**

Herb layer structure-based disturbance indicator value: **0.43**

## Habitat and sociology

Occurrence in habitats

8 Dry grasslands

8A Hercynian dry grasslands on rock outcrops: **2 - optimum**

8B Submediterranean dry grasslands on rock outcrops: **2 - optimum**

8C Narrow-leaved sub-continental steppes: **2 - optimum**

8D Broad-leaved dry grasslands: **2 - optimum**

8F Thermophilous forest fringe vegetation: **2 - optimum**

11 Heathlands and scrub

11L Tall mesic and xeric shrub: **1 - rare occurrence**

11N Low xeric scrub: **1 - rare occurrence**

12 Forests



12H Peri-Alpidic basiphilous thermophilous oak forests: **2 - optimum**

12I Sub-continental thermophilous oak forests: **1 - rare occurrence**

12J Acidophilous thermophilous oak forests: **1 - rare occurrence**

12L Boreo-continental pine forests: **1 - rare occurrence**

12O Peri-Alpidic pine forests: **1 - rare occurrence**

Affinity to the forest environment

Affinity to the forest environment in Thermophyticum: **2.2 - taxon occurring partly in the forest, but mainly in open vegetation**

Affinity to the forest environment in Mesophyticum and Oreophyticum: **2.2 - taxon occurring partly in the forest, but mainly in open vegetation**

Diagnostic taxon

Diagnostic taxon of alliances: [LCA Quercion pubescenti-petraeae](#)

Diagnostic taxon of associations: [LCA01 Lathyro collini-Quercetum pubescentis](#), [LCA02 Lithospermo purpureocaerulei-Quercetum pubescentis](#), [THD06 Astragalo exscapi-Crambetum tatariae](#), [THE02 Cirsio pannonici-Seslerietum caeruleae](#), [THF02 Brachypodio pinnati-Molinietum arundinaceae](#)

Constant taxon

Constant taxon of associations: [LCA01 Lathyro collini-Quercetum pubescentis](#)

Dominant taxon

Dominant taxon of associations: [THH03 Geranio sanguinei-Peucedanetum cervariae](#)

Ecological specialization indices

Ecological specialization index for all vegetation types: **5.2**

Ecological specialization index for non-forest vegetation: **5.5**

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

Colonization ability

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

Index of colonization potential (ICP): **2**

Optimum successional age [years]: **13**

## Distribution and frequency

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

Floristic region: **Europe, Western Siberia**

Continental degree: **7**

Distribution range extension along the continentality gradient: **3**

Elevational belt in the Czech Republic: **lowlands, colline belt**

Occurrence frequency in the basic grid mapping cells and quadrants of the basic grid mapping cells: **150**

taxon.data.freq\_in\_quad: **305**

Commonness in vegetation plots from the Czech Republic

Occurrence frequency in vegetation plots: **0.3 %**

Occurrence frequency in vegetation plots with a cover above 5%: **18.6 %**

Occurrence frequency in vegetation plots with a cover above 25%: **5.2 %**

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

Mean percentage cover in vegetation plots: **5.3 %**

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

Number of habitats with taxon occurrence in the Czech Republic



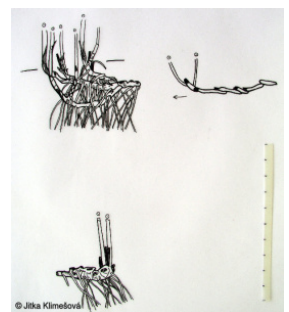
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Number of narrow habitats in which the taxon occurs: **12**

Number of narrow habitats in which the taxon has its optimum: **6**

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

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

### **Threats and protection**

Red List 2017 (national categories): **C3 - vulnerable taxon**

Red List 2017 (IUCN categories): **NT - near threatened**

Legal protection: **not protected by law**