The book deals with the results of the floristic inventory, taxonomical, biomorphological, geographical, ecological, sozological studies of the Desna Plateau flora and of its anthropogenic transformation condition. The Desna Plateau is situated in the north east part of Ukraine at the border line of Polissya (the forest-covered territory) and forest-steppes physical and geographical zones. According to our data the flora of the Desna Plateau includes 920 species of vascular plants belonging to 464 genera, 112 families. The synanthropic flora of studied region includes 337 species of vascular plants belonging to 220 genera, 51 families. The total number of vascular plant species, threatened with destruction as a result of the human activity impact, includes 85 species belonging to 32 families, 54 genera.

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## a comprehensive analysis and annotated list

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**Koval L.V., Horshkova L.M.**

# FLORA OF THE DESNA PLATEAU:

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**CONTENTS**

**Abstract**

The manuscript deals with the results of the floristic inventory, taxonomical, biomorphological, geographical, ecological, sozological studies of the Desna Plateau flora and of its anthropogenic transformation condition.

**Acknowledgements**

The author expresses heartfelt gratitude to the scientific editor Doctor of Biology, Full Professor Sergei L. Mosyakin, Doctor of Biology, Full Professor Vira V. Protopopova, Master of Biology, Senior Staff Scientist Myroslav V. Shevera, Doctor of Biology, Senior Staff Scientist Mykola M. Fedoronchuk (M.G. Kholodny Institute of Botany, National Academy of Sciences of Ukraine) for their help with determination and critical revision of taxa and comments of the manuscript.

## Introduction

One of the priorities of humanity today is to build a society of sustainable development. According to the goals and objectives of the Global Strategy for Plant Conservation for 2011-2020 studying and monitoring the alien, native, rare component of the regional flora turns out to be relevant (Global Strategy for Plant Conservation, 2002; 2011-2020; Anderson et al., 2005; Richter, 2001; Angelstam, 2013; Corlett, 2016). Biodiversity conservation is closely connected with the problems of plant invasions and biological contamination, which are integral feature of the present stage of anthropogenic transformation of nature. To solve the mentioned global problems the necessary condition is studying the dynamic changes of flora and vegetation condition both in Ukraine and separate territorial areas (Shelyag-Sosonko et al., 2004; Onyshchenko et al., 2017).

**Physical and geographical features of the Desna Plateau**

The territory of Desna Plateau is situated in the north east part of Ukraine at the border line of Polissya (the forest-covered territory) and forest-steppes physical and geographical zones. It's geographical position is N 51° 21′-51° 55′ (North latitude), E 33°10′-34°15′ (East longitude). In the orographic aspect the territory is made up by the western spurs of the Middle Russian Upland with the dismembered forms of the relief. According to geobotanical zonning it is Krolevet's-Hlukhiv geobotanical district (Andrienko, et al., 1977). The area under study consists of about 4 thousand square kilometers.


**Fig.1.** Location of the Desna Plateau on the territory of Ukraine

The studied territory belongs to Sumy administrative region (Marynych, et al.,1988). Hlukhiv, Krolevets, Putyvl are ones of oldest small towns of Ukraine where agriculture is developed (fig.2).


**Fig.2.** Location of the Desna Plateau (Krolevets-Hlukhiv geobotanical district) on the territory of Ukraine and schematic map of the study area

The remoteness of the region from administrative and research centers led to its fragmented, episodic studying as part of the Polissya flora and Forest-Steppe of Ukraine while the surrounding areas have been studied for several last decades (Poluyanov, 1997; Karpenko, 1999; Lukash, 1999; Honcharenko, 2001).

The climate of the region is temperate-continental with average temperatures +19,50C in July and –7,50C in January. Precipitation is 550-600 mm/year. The soils are mainly gray and dark gray forest, sod-podzolic under broadleaf oak-maple-linden forests; sandy soils under pineries forests. Under the influence of high erosion can be seen chalk outcrop. The river Seim and tributaries are proceeding by the research territory.

**Material and methods**

The floristic research of the territory of Desna Plateau was carried out in 2002-2006. Floristic research was executed with the field research method and the complex of accepted methods of comparative floristry. The list of species of vascular plants includes all species spontaneously growing in a region. Other sources of data were also additionally used: literature and herbarium materials (KW), we consulted with prof. Sergei L. Mosyakin, prof. Viera V. Protopopova, prof. Mycola M. Fedoronchuk, doctor Myroslav V. Shevera and with other experts in various taxonomic groups.

Taxonomic structure of studied flora has been analyzed (Tolmachev, 1974). In the process of comparative research of systematic structure we used Kendall's tau rank correlation coefficient.

We used the linear system of life forms (Holubev,1978) and the system of Raunkiaer's biotypes (Raunkiaer,1934) for the study of biomorphological structure. Species were divided into the ecological groups according to the relation of humidity for ecological analysis (Didukh, et al., 2000).

Ecocenotic groups are given according to the "Ecoflora of Ukraine" (Didukh, et al., 2000). The geographical analysis is based on the regionalization identified by TakhtajanA.L. (Takhtajan, 1978).

Non-native plants were analyzed according to traditional categorization by Kornaš J. (Kornaš, 1968). Floristic analysis also included the calculation of selected indexes of anthropogenic transformation of the studied flora (Jackowiak, (1990).

The species names are given according to "Vascular plants of Ukraine. A nomenclatural checklist" (Mosyakin & Fedoronchuk, 1999).

## Taxonomical analysis

According to our data the flora of the Desna Plateau includes 920 species of vascular plants belonging to 464 genera, 112 families, 6 classes and 5 divisions.

**Tab.1.** Quantitative distribution of taxonomic units and major proportions of the Desna Plateau flora

| Divisio, classis | Numder of families | | Number of genus | | Number of species | | Ratio family: genus:species | Generic coefficient |
|---|---|---|---|---|---|---|---|---|
| | | % | | % | | % | | |
| ***LYCOPODIOPHYTA*** | 2 | 1,79 | 2 | 0,43 | 3 | 0,32 | 1 : 1 : 1,5 | 1,5 |
| ***EQUISETOPHYTA*** | 1 | 0,89 | 1 | 0,22 | 6 | 0,65 | 1 : 1 : 6 | 6,0 |
| ***POLYPODIOPHYTA*** | 6 | 5,35 | 8 | 1,72 | 11 | 1,19 | 1 : 1,3 : 1,8 | 1,4 |
| ***PINOPHYTA*** | 2 | 1,79 | 3 | 0,65 | 3 | 0,32 | 1 : 1,5 : 1,5 | 1,0 |
| ***MAGNOLIOPHYTA*** | 101 | 90,18 | 450 | 96,9 | 897 | 97,5 | 1 : 4,5 : 8,88 | 2,0 |
| ***MAGNOLIOPSIDA*** | 78 | 69,64 | 361 | 77,9 | 700 | 76,1 | 1 : 4,6 : 8,97 | 1 9 |
| ***LILIOPSIDA*** | 23 | 20,53 | 89 | 19,2 | 197 | 21,4 | 1 : 3,9 : 8,6 | 2,2 |
| Total | 112 | 100 | 464 | 100 | 920 | 100 | 1 : 4,1 : 8,2 | 1,98 |

The leading families according to species richness are *Asteraceae* (120 species; 12,97%), *Poaceae* (79; 8,54%), *Cyperaceae* (43; 4,64%), *Fabaceae* (43; 4,67%), *Lamiaceae* (40; 4,32%), *Rosaceae* (41; 4,43%), *Caryophyllaceae* (40; 4,32%),

*Brassicaceae* (39; 4,23%), *Apiaceae*(33; 3,59 %), *Scrophulariaceae*(35; 3,78 %). Generally they consist of 518 species (55,76 %). The leading genera according to species richness are *Carex* (29; 3,13%), *Veronica* (14; 1,51%), *Campanula* (11;1,19%), *Salix, Ranunculus, Potentilla, Galium, Viola, Poa, Trifolium.*

**Tab.2.** Leading families and genera of the Desna Plateau flora

| Family | Number of species | % | Genus | Number of species | % |
|---|---|---|---|---|---|
| *Asteraceae* | 120 | 12,97 | *Carex* | 29 | 3,13 |
| *Poaceae* | 79 | 8,54 | *Veronica* | 14 | 1,51 |
| *Cyperaceae* | 43 | 4,64 | *Campanula* | 11 | 1,19 |
| *Fabaceae* | 43 | 4,64 | *Potentilla* | 11 | 1,19 |
| *Rosaceae* | 41 | 4,43 | *Galium* | 11 | 1,19 |
| *Lamiaceae* | 40 | 4,32 | *Salix* | 10 | 1,08 |
| *Caryophyllaceae* | 40 | 4,32 | *Viola* | 10 | 1,08 |
| *Brassicaceae* | 39 | 4,21 | *Poa* | 10 | 1,08 |
| *Apiaceae* | 38 | 4,1 | *Trifolium* | 9 | 0,97 |
| *Scrophulariaceae* | 35 | 3,78 | *Ranunculus* | 9 | 0,97 |
| Total | 518 | 56 | Total | 124 | 13,4 |

Higher position in the spectrum of leading families *Asteraceae, Poaceae, Cyperaceae* and of leading genera *Carex, Veronica, Potentilla, Viola, Poa, Trifolium, Ranunculus* indicate that the flora of region has boreal character. High position of *Fabaceae, Lamiaceae, Brassicaceae, Apiaceae* witnesseth about the considerable influence of thermophilic elements and aridity, which are conditioned with features of the area relief, the composition of soil and the anthropogenic impact.

The floristic indexes of taxonomic diversity (genus / family = 4,1), (species / family = 8,2), (species / genus = 1,98) are typically for Middle-European floristic region.

Our results indications that Desna Plateau flora are within the parameters' limits of central-europeaen floras and they belong to the Central European floristic region.

For comparison of the Desna Plateau (DP) flora's parameters with some other Ukrainian floras and Middle Russian Upland flora seven territorial separations were selected, which had been studied in the past decades. They are adjacent areas of the

lower reaches of Desna-Seym interfluves (DSI), Desna-Oster interfluves (DOI), Sumy geobotanic region (SGR), Left Bank Prydniprovya (LP), Kursk region (KR) Russia, and the territory of Kyiv Polissia (KP) and Kamyanets' Transnistria (KT).

**Tab. 3.** Comparing the richness of the Desna Plateau flora species with some other Ukrainian floras and the Middle Russian Upland flora

| Region | Area | Number of | | | Floristic indexes | Species/ genera |
|---|---|---|---|---|---|---|
| | [km$^2$] | families | genera | species | | |
| DP | 4000 | 112 | 464 | 920 | 1 : 4,1 : 8,2 | 1,98 |
| DSI | 1200 | 105 | 425 | 786 | 1 : 4 : 7,48 | 1,84 |
| DOI | 5000 | 109 | 421 | 836 | 1 : 3,8 : 7,6 | 1,98 |
| SGR | 8600 | 114 | 482 | 1160 | 1 : 4,2 : 10 | 2,4 |
| LP | 70000 | 127 | 577 | 1613 | 1 : 4,5 : 12,7 | 2,7 |
| KR | 48000 | 121 | 550 | 1338 | 1 : 4,5 : 11 | 2,43 |
| KP | 40000 | 118 | 542 | 1375 | 1 :4,6 : 11,7 | 2,53 |
| KT | 2000 | 111 | 505 | 1120 | 1 :4,4 : 9,9 | 2,21 |

Thus, the flora of the Desna Plateau according to the species and genera number is poorer than Kamyanets Transnistria's and it is close to local surroundings' floras, in particular Desna-Seim interfluves and Desna-Oster interfluves and Sumy geobotanic region. Compared with floras of larger areas, including Kursk region, Kyiv Polissya, Left Bank Prydniprovya, the proportional prevalence of their taxonomic categories as for the Desna Plateau flora was observed.

**Tab. 4.** Comparing the family spectrums structures of the different floras of Ukraine and the Middle Russian Upland

| Leading families | DP | DSI | DOI | SGR | LP | KR | KP | KT |
|---|---|---|---|---|---|---|---|---|
| *Asteraceae* | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| *Poaceae* | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| C*yperaceae* | 3 | 4 | 5 | 3 | 5 | 6 | 3 | (11) |
| *Fabaceae* | 4 | 5 | 6 | 4 | 3 | 8 | 9 | 4 |
| *Rosaceae* | 5 | 3 | 3 | 5 | 7 | 4 | 6 | 6 |
| *Lamiaceae* | 6 | 6 | 4 | 7 | 6 | 5 | 8 | 5 |
| *Caryophyllaceae* | 7 | 7 | 8 | 8 | 8 | 7 | 5 | 8 |
| *Brassicaceae* | 8 | 11 | 10 | 9 | 4 | 3 | 4 | 3 |
| *Scrophulariaceae* | 9 | 8 | 7 | 6 | 9 | 9 | 7 | 10 |
| *Apiaceae* | 10 | 9 | 9 | (11) | (11) | 10 | 10 | 9 |
| *Ranunculaceae* | 11 | 10 | (11) | 10 | 10 | (11) | (11) | 7 |
| Kendal index | | 0,82 | 0,72 | 0,87 | 0,75 | 0,63 | 0,54 | 0,42 |

Structural comparison of the family spectra of different Ukrainian floras and Middle Russian Upland, using the correlation rank coefficient by Kendal, made it possible to build a dendrite (fig.3) and select correlation pleiades, reflecting the degree of similarity of the floral spectra of leading families according to the number of species in the floras of Ukraine and the Middle Russian Upland. In the figure the dendrite is shown and the correlation pleiades that indicate a close relationship between DP and SGR, DSI floras are marked; the degree of similarity between them is 87 and 82. DSI and DOI floras associated with the degree of similarity 74. The degree of similarity 75 links DP flora with LP flora, which, although adjacent to the investigated region, but has 17 times larger area and extends to the southwestern direction from the region of study. LP is launching its own galaxy of floras of great local areas KP and KR with such degrees of similarity: 70 and 74. KT flora, linked with LP by the degree of similarity 61, occupies an isolated position on these two pleiades.

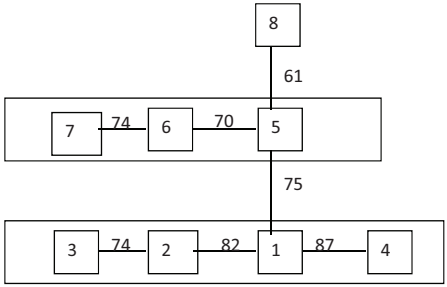


**Fig.3.** The dendrite and correlation pleiades of leading families in the floras of Ukraine and Middle Russian Upland measured by Kendall coefficient.

Explanations: 1 - DP, 2 – DSI, 3 – DOI, 4 – SGR, 5 – LP, 6 – KR, 7 – KP, 8 – KT.

### Biomorphological analysis

In the spectrum of the biomorphological structure in studied flora the most of plants is herbaceous – 833 (90,55%). Among them the herbaceous polycarps make up 584 (63,4%), monocarps – 165 (17,9%), biennial monocarps – 87 (9,35%). Other forms are: trees – 27 (2,93 %), shrubs – 45 (4,8 %), semi-shrubs – 7 (0,76 %), bushs and semi-bushs – 8 (0,87 %).

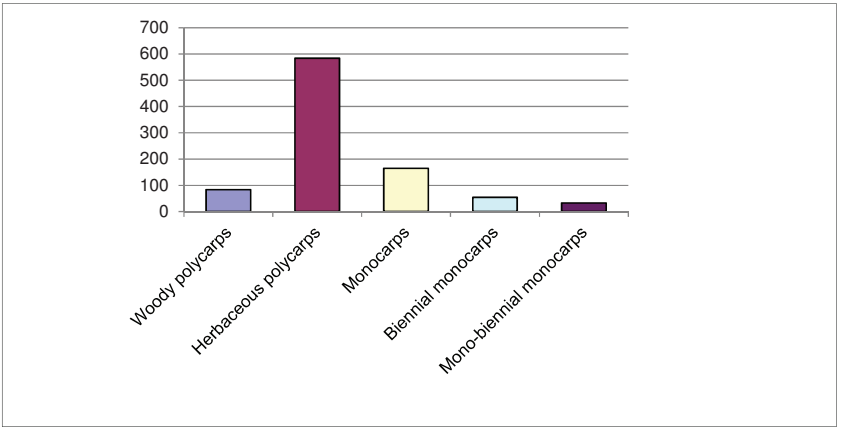


**Fig.4.** Distribution of the species of the Desna Plateau flora according to the duration of a large life cycle of plants

According to the types of root system the fibrous root type is prevailing – 462 (50,21%), the rest have taproots – 411 (44,67%).

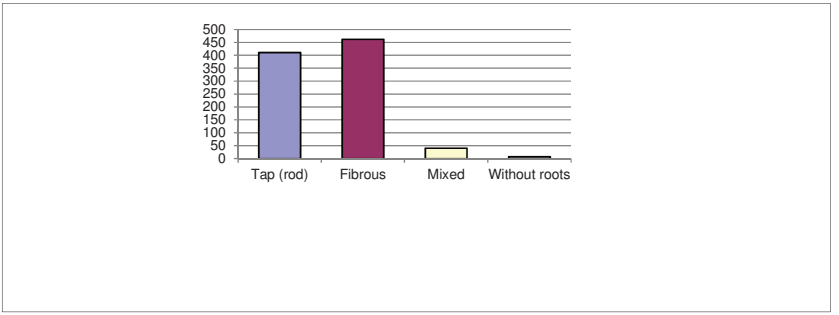


**Fig.5.** Distribution of the species of the Desna Plateau flora according to types of root systems

Among the types of underground shoots prevail plants whithout rhizome structure (322; 35%), short rhizomatous ( 242; 26%), caudex (144;16%) and long rhizomatous (137;15%).

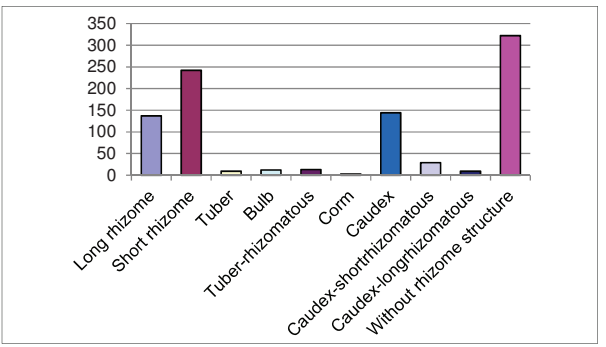


**Fig.6.** Distribution of the species of the Desna Plateau flora according to types of underground shoots

The results of biomorphological analysis of studied flora with domination of the herbaceous perennials with fibrous root system denotes its affiliation to the zonal flora of Forest and Forest-Steppe.

According to Raunkiaer's forms in the flora of the Desna Plateau hemicryptophytes prevail – 485 (52,7%), other forms have: phanerophytes –71 (7,71%), chamaephytes – 25 ( 2,71 %), cryptophytes (geophytes) – (115; 12,5 %), helophytes – 33 (3,58 %), hydrophytes – 26 (2,82%), terophytes – 165 (17,9%).

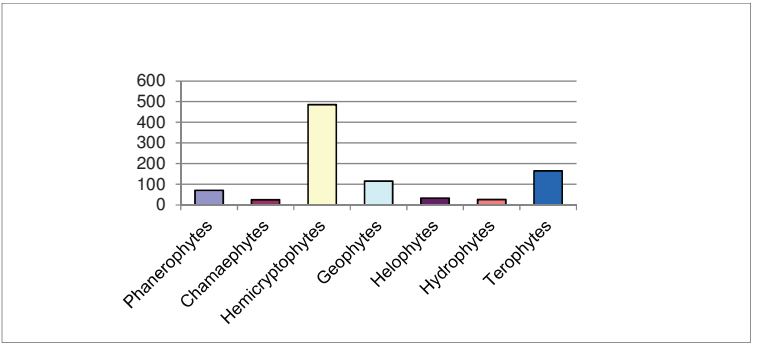


**Fig.7.** Distribution of flora of the Desna Plateau according to the Raunkiaer's forms

Thus, generally the results of biomorphological analysis of studied flora denotes its affiliation to the moderate Holarctic region flora. It is characterized with boreal character with the considerable influence of thermophilic and aridity features, which are conditioned with features of the area relief, the compound of soil formed species and the anthropogenic impact.

**Ecological and ecocoenotical analysis**

Among the native conditions for the vegetation the factor of the humidity plays a considerable role. According to our research the ecological spectrum of humidity of species studied flora is divided into 11 groups. The first place is occupied by mesophytes (404; 43,90 %). Other groups consist of: hygrophytes (123; 13,26%), xeromesophytes (120; 13,04%), mesoxerophytes (78; 8,47%) hygromesophytes (57;6,2%), xerophytes (55; 5,97%), mesohygrophytes (29;3,15%), hydrophytes (19; 2,06%), hygrohydrophytes (10; 1,08%), aerogidatophytes (17; 1,84%), gidatophytes (8; 0,86%).

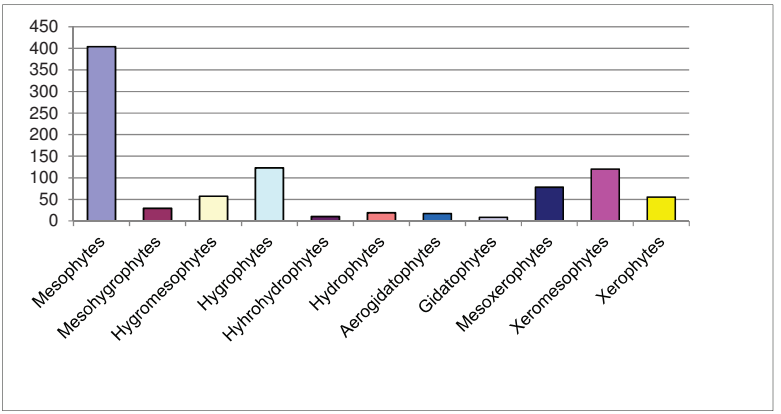


**Fig.8.** Distribution of flora of the Desna Plateau according to humidity

The considerable part of xerophytes (5,97%) and mesoxerophytes (8,47%) denote on the chalk outcrops in the relief of territory and considerable anthropogenic pressure.

On the territory of the Desna Plateau 16 ecocoenotic groups with plant species in their composition are noticed. The species are distributed among such groups as: coniferous forest (45;4,80%), deciduous forest (133; 14,45 %), mixed forest (25; 2,70%), forest edge (144; 15,7%), meadow (108; 11,70%), marsh (36; 3,90 %), meadow-marsh (41; 4,45%), meadow-steppe (29;3,15%), steppe (50; 5,43%), coastal (63; 6,84%), coastal-psammophytic ( 8; 0,86%), aquatic (46; 5,0 %), psammophytic (22; 2,39%), ruderal-segetal (39; 4,67%), ruderal (113; 12,30%), segetal (18;1,95%).

The distribution of species of flora on ecological groups according to humidity and to phytocoenotic complexes are fairly typical of moderately to Holarctic floras**.**

However, the location of the Desna Plateau on the border of the forest and forest-steppe zones, favorable hydrological conditions associated with the close occurrence of Cretaceous sediments and, consequently, groundwater, the presence of Cretaceous outcrops in the relief structure give specificity to the flora of the region.

**Geographical analysis**

The geographical spectrum of species areas of studied flora is divided into 5 types including 38 groups. The species with palearctic 320 (34,9%) and holarctic – 245 (26,73%) types are dominated. Other types make up: European – 151 (16,7%), pluri-regional – 114 (12,39%), European-Mediterranean – 90 (9,7%). Among the divided

groups the next are prevailing: Eurasian –151 (16,41%), Eurasian-Northern American – 106 (11,52%), European – 75 98,2%, hemicosmopolites – 66 (7,17%), cosmopolites – 48 (5,21%).

Generally the Desna Plateau flora has paleoarctic character with the significant share of European-Mediterranean elements.

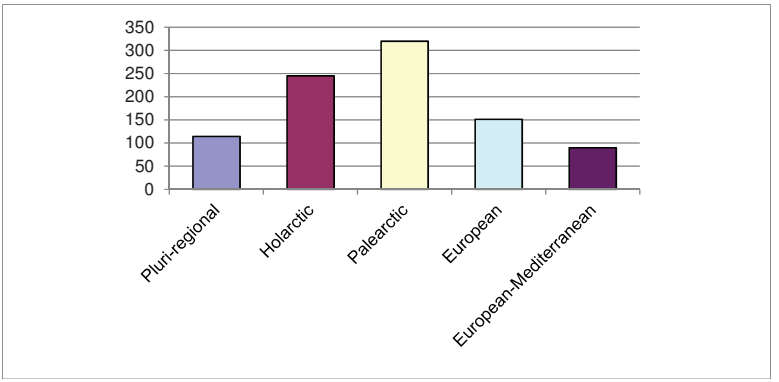


**Fig.9.** Distribution of flora of the Desna Plateau according to areals types

In the territory of the Desna Plateau there is one euendemic species – *Gagea praeciosa* L. and also 19 subendemic species: *Carduus thoermeri* Weinm., *Centaurea sumensis* Kalen, *C. pseudomaculosa* Dobrocz., *Jurinea calcarea* Klok., *J. pseudomollis* Klok., *Dianthus pseudosquarrosus* (Novak) Klok., *D. pineticola* Kleopow, *D. eugeniae* Kleopow, *Syrenia cana* L., *Taraxacum klokovii* Litvinenko, *Pilosella piloselliflora* (Najeg.& Peter) Sojak, *Thymus tschernjajevii* Klok. & Des.-Shost., *Urtica galeopsifolia* Wiersb. ex Opiz., *Polygala cretacea* Kotov, *Gladiolus tenuis* M. Bieb., *Iris pineticola* Klok., *Euphorbia stepposa* Zoz ex Prokh.

It is known that in the Quaternary Period Desna Plateau area was under the Riss and Wurm glaciation masses. Therefore, the pre-glacial flora elements are unlikely to have been preserved here, including the Tertiary period. Thus, low level of endemism testifies about the post-glacial young age of Desna Plateau flora.

**Sozological aspects of the Desna Plateau flora**

According to our studying the total number of vascular plant species, threatened with destruction as a result of the human activity impact, includes 85 species belonging to 32 families, 54 genera. Among them the prevailing families are the *Orchidaceae* (14

species), *Asteraceae, Ranunculaceae* (8 species each), *Iridaceae* (5), *Aspidiaceae*, *Cyperaceae* (4 species each).

The rare component of the studied flora is represented by 4 species included in the list of Convention on the Conservation of European Wildlife and Natural Habitats (Bern,1979) (*Dracocephalum ruyschiana* L., *Pulsatilla patens* (L.) Mill s.l., *Salvinia natans* L., *Ostericum palustre* (Bess) Bess ); 3 species on the Appendix of Convention CITES (*Adonis vernalis* L., *Cypripedium calceolus* L., *Orchis militaris* L.), 27 species listed on the Red Date Book of Ukraine, 49 species listed on the Red Date Book of Sumy Region.

In addition we propose to include 17 species to the Hlukhiv District Red List: *Sanquisorba officinalis* L., *Briza media* L., *Beckmania eruciformis* (L.) Host., *Melica nutans* L., *Coronilla varia* L., *Salvia nutans* L., *Scilla siberica* Haw., *Corydalis solida* (L.) Clairv., *Valeriana officinalis* L., *Vincetoxicum hirundinaria* Medic., *Menyanthes trifoliata* L., *Hesperis matronalis* L., *Naumburgia thyrsiflora* (L.) Rchb., *Thalictrum aquilegifolium* L., *T. minus* L., *Verbascum nigrum* L., *Polygonatum multiflorum* (L.) All.

In addition the scientific grounds for the establishment of the landscape reserve "Zvenyhorod" of local value with the total area of about 2 thousand hectares with granting of the status of a regional center of biodiversity was prepared and submitted to the State Office of Environmental Safety of Ukraine in Sumy region.

Landscapes of territory of wildlife preserve on the general background of the Middle Russian Uplands are typical and have unite in itself a naturally-landscape and a civilized manner-landscape value. The first one represents mixed forests of oak and maple, linden on dissected forms of relief, including ravines, gullies depth of 10 meters. Secondly, it is a landmark of the landscape with preserved traditional ethnic elements of Ancient Rus era.

Creating of wildlife reserve falls under the action of under the Convention on the protection and use of transboundary watercourses, and also under the Convention on World inheritance (The Convention on world heritage), adopted by the General Conference of UNESCO in 1972 (providing both cultural and natural heritage) (Koval, 2006; Koval et al.,2018).


**Fig.10.** Outline scheme of locality of rare species of plants (Red Data Book of Ukraine) on the territory of the Desna Plateau. Explanations: Au - *Allium ursinum* L.; Bh -*Betula humilis* Schrank; Cu - *Carex umbrosa* Host; Cl - *Cephalanthera longifolia* (L.) Fritsch; Cc - *Cypripedium calceolus* L.; Df - *Dactylorhiza fuchsii* (Druce) Soo; Di - *Dactylorhiza incarnata* (L.) Soo; Ea - *Epipactis atrorubens* (Hoffm.& Bernh.) Schult.; Eh -*Epipactis helleborine* (L.) Crantz; Gn - *Galanthus nivalis* L.; Gt - *Gladiolus tenuis* Bieb.; Hs - *Huperzia selago* (L.) Bernh.& Schrank; Lm - *Lilium martagon* L.; La - *Lycopodium annotinum* L.; Mn - *Malaxis monophyllos* (L.) Sw.; Nn - *Neottia nidus-avis* (L.) Rich; Om - *Orchis militaris* L.; Pb - *Platanthera bifolia* (L.) Rich; Pc - *Platanthera chlorantha* (Cust.) Rchb.; Pn - *Pulsatilla patens* (L.) Mill.; Sn - *Salvinia natans* L.; Sp - *Stipa pennata* L.

**Tab.5.** List of rare species of vascular plants of the Desna Plateau
Explanations: 1* - representation in the nature reserve fund; 2*- boundary-ranged species: N - northern boundary of distribution, S - southern boundary of distribution, E - eastern, W - western; 3* - category of protection: I - The Bern Convention, Appendices of the Convention CITES , II - Red Data Book of Ukraine, III - list of protection of the Sumy region.

| № | **Rare species** | 1* | 2* | 3* |
|---|---|---|---|---|
| 1 | Lycopodium annotinum L. | + | S | II |
| 2 | L. clavatum L. | + | - | III |
| 3 | Hyperzia selago (L.) Bernh.ex Schrank | + | - | II |
| 4 | Cystopteris fragilis (L.) Bernh. | + | - | IV |
| 5 | Dryopteris dilatata (Hoffm.) A. Gray | + | - | III |
| 6 | Dryopteris carthusiana (Vill.) H.P.Fuchs | + | - | III |
| 7 | Dryopteris cristata (L.) Gray | + | S | III |
| 8 | Gymnocarpium dryopteris (L.) Newn. | - | - | III |
| 9 | Matteuccia struthiopteris (L.) Tod. | + | - | III |
| 10 | Salvinia natans (L.) All | + | - | I |
| 11 | Juniperus communis L. | + | S | III |
| 12 | Nymphaea alba L. | + | - | III |
| 13 | Nymphaea candida J.et C. Presl | + | - | III |
| 14 | Actaea spicata L. | + | - | IV |
| 15 | Adonis vernalis L. | - | - | III |
| 16 | Aquilegia vulgaris L. | - | - | III |
| 17 | Anemone nemorosa L. | - | O | III |
| 18 | Anemone sylvestris L. | - | - | III |
| 19 | Clematis recta L. | + | - | III |
| 20 | Pulsatilla patens (L.) Mill. | + | - | III |
| 21 | Pulsatilla pratensis (L.) Mill. | + | - | II |
| 22 | Betula humilis Schrank. | + | S | II |
| 23 | Dianthus andrzejowskianus (Zapal.) Kulcz. | - | N | IV |
| 24 | Eremogone saxatilis (L.) Ikonn. | + | - | III |
| 25 | Gypsophilla paniculata L. | - | N | III |
| 26 | Viola epipsila Ledeb. | + | - | III |
| 27 | Helianthemum nummularium (L.) Mill. | - | - | III |
| 28 | Dentaria quinquefolia Bieb. | + | - | III |

| | | | | |
|---|---|---|---|---|
| 29 | Salix myrsinifolia Salisb. | + | O | III |
| 30 | Parnassia palustris L. | + | S | III |
| 31 | Drosera rotundifolia L. | + | - | III |
| 32 | Cerasus fruticosa (Pall.) Woron. | + | N | III |
| 33 | Linum flavum L. | - | N | III |
| 34 | Linum perenne L. | - | - | III |
| 35 | Polygala cretacea Kotov | - | - | IV |
| 36 | Ostericum palustre (Bess.) Bess. | - | - | I |
| 37 | Trinia multicaulis Schishk | - | N | III |
| 38 | Valeriana rossica P.Smirn. | + | N | III |
| 39 | Digitalis grandiflora Mill. | + | - | III |
| 40 | Pedicularis kaufmannii Pinzg. | - | - | III |
| 41 | Pedicularis sceptrum-carolinum L. | - | S | II |
| 42 | Dracocephalum ruyschiana L. | + | - | I |
| 43 | Prunella grandiflora (L.) Scholl. | + | - | III |
| 44 | Campanula cervicaria L. | + | - | III |
| 45 | Campanula persicifolia L. | + | - | IV |
| 46 | Aster amellus L. | - | N | III |
| 47 | Centaurea ruthenica Lam. | - | N | III |
| 48 | Centaurea sumensis Kalen. | - | - | III |
| 49 | Galatella linosyris (L.) Rchb. f. | - | N | III |
| 50 | Inula ensifolia L. | - | - | III |
| 51 | Jurinea arachnoidea Bunge | - | - | III |
| 52 | Jurinea calcarea Klok. | - | N | III |
| 53 | Jurinea charcoviensis Klok. | + | N | III |
| 54 | Bulbocodium versicolor (Ker. Gawl.) Spreng. | - | - | II |
| 55 | Lilium martagon L. | + | - | II |
| 56 | Veratrum lobelianum Bernh. | - | - | IV |
| 57 | Allium ursinum L. | - | - | II |
| 58 | Galanthus nivalis L. | - | O | II |
| 59 | Gladiolus imbricatus L. | + | O | I |
| 60 | Gladiolus tenuis Bieb. | + | N | I |
| 61 | Iris hungarica Waldst. et Kit. | + | - | III |
| 62 | Iris pineticola Klok. | + | - | III |
| 63 | Iris sibirica L. | + | - | III |
| 64 | Cephalanthera longifolia (L.) Fritsch | + | - | II |
| 65 | Cypripedium calceolus L. | + | S | I |
| 66 | Dactylorhiza fuchsii (Druce) Soo′ | - | - | II |

| | | | | |
|---|---|---|---|---|
| 67 | Dactylorhiza incarnata (L.) Soo′ | - | - | II |
| 68 | Epipactis atrorubens (Hoffm. ex Benh.) Schult. | + | - | II |
| 69 | Epipactis helleborine (L.) Crantz | + | - | II |
| 70 | Malaxis monophyllos (L.) Sw. | - | - | II |
| 71 | Neottiante cuculata (L.) Schlechter | - | - | I |
| 72 | Neottia nidus-avis (L.) Rich | + | - | II |
| 73 | Orchis laxiflora Lam. | - | - | II |
| 74 | Orchis militaris L. | + | - | I |
| 75 | Orchis morio L. | + | - | II |
| 76 | Platanthera bifolia (L.) Rich | + | - | II |
| 77 | Platanthera chlorantha (Cust.) Rchnb. | + | - | II |
| 78 | Carex brizoides L. | + | - | III |
| 79 | Carex limosa L. | + | - | III |
| 80 | Carex rhizina Blytt ex Lindb. | + | N | III |
| 81 | Carex umbrosa Host. | + | - | III |
| 82 | Scolochloa festucacea (Willd.) Link | - | - | III |
| 83 | Stipa pennata L. | + | - | II |
| 84 | Stipa tirsa Steven | - | N | II |
| 85 | Calla palustris L. | - | - | III |

## Anthropogenic transformation of the Desna Plateau flora

The synanthropic flora of studied region includes 337 species of vascular plants belonging to 220 genera, 51 families. The floristic indexes of taxonomic diversity of synanthropic flora are: genus / family = 4,3, species / family = 6,6, species / genus = 1,5.

The index of synanthropization of studied flora is

**Is**=S / Fx 100 % = 337 / 920 x 100 % = 36,6 %,

where: **Is** – index of synanthropization,

**S** – number of synanthropic species,

**F** – total number of flora species of the Desna Plateau

Thus, generally the index of synanthropization of the Desna Plateau flora according to our data is characterized by larger scale than synantropic flora of Ukraine (the index of synanthropization is 22,5 %).

Taxonomic spectrum of 10 leading places from the synanthropic flora includes *Asteraceae* (41genera, 69 species), *Brassicaceae* (22 genera, 31 species), *Poaceae* – 16; 24, *Fabaceae* – 12; 24, *Lamiaceae* – 13; 20, *Apiaceae* – 14; 18, *Chenopodiaceae* – 4; 16, *Boraginaceae* – 12; 13, *Caryophyllaceae* – 10; 12, *Rosaceae* – 9; 11.

Enhancing the role of the *Chenopodiaceae* family arid areas and arctic desert *Brassicaceae* family shows a high level of anthropogenic transformation of this territory. The leading ten families include 143 (65%) genera of synanthropic flora Desna Plateau.

Thus composition of the spectrum of leading families of the synanthropic flora of region is close to Mediterranean floras.

**Tab. 5.** The systematic spectrum restructuring of the Desna Plateau flora under the anthropogenic impact

| Leading families | The Desna Plateau flora | | The synanthropic flora | | The antropophytes fraction | | The aliens fraction | |
|---|---|---|---|---|---|---|---|---|
| | rank | Number of species | rank | Number of species | rank | Number of species | rank | Number of species |
| *Asteraceae* | 1 | 120 | 1 | 69 | 1 | 34 | 1 | 35 |
| *Poaceae* | 2 | 79 | 3 | 24 | 8 | 7 | 3 | 17 |
| *Cyperaceae* | 3 | 43 | - | - | - | - | - | - |
| *Fabaceae* | 4 | 43 | 4 | 24 | 2 | 12 | 4 | 12 |
| *Rosaceae* | 5 | 41 | 10 | 11 | 10 | 6 | 9 | 5 |
| *Lamiaceae* | 6 | 40 | 5 | 20 | 3 | 12 | 6 | 8 |
| *Caryophyllaceae* | 7 | 40 | 9 | 12 | 7 | 9 | - | 3 |
| *Brassicaceae* | 8 | 39 | 2 | 31 | 5 | 11 | 2 | 20 |
| *Apiaceae* | 9 | 38 | 6 | 18 | 4 | 12 | 8 | 6 |
| *Scrophulariaceae* | 10 | 35 | (11) | 10 | 6 | 10 | - | - |
| *Ranunculaceae* | (11) | - | (12) | 8 | (11) | 5 | - | 3 |
| *Chenopodiaceae* | - | - | 7 | 16 | (12) | 5 | 5 | 11 |
| *Boraginaceae* | - | - | 8 | 13 | (13) | 5 | 7 | 8 |
| *Amaranthaceae* | - | - | - | 5 | - | - | 10 | 5 |
| *Polygonaceae* | - | - | - | - | 9 | 7 | - | 1 |

The biggest after the amount of species is genus *Chenopodium* (7), genera *Atriplex* and *Vicia*, which have 6 species each; *Artemisia* and *Amaranthus* which have 5 species each; *Helianthus*, *Bidens, Trifolium, Plantago, Ranunculus, Bromus, Rumex* have 4 species each, 18 genera have 3 species, 35 genera have 2, the rest 156 genera are monotypic.

According to our data, the alien component includes 179 species which constitutes 19,4% of the total number of vascular plant species of the studied flora, and 52,3 % of synanthropic flora, the native component of which consists of 158 species (46,8 %). It

is known that the proportion of both fractions is an important indicator of the flora characteristics. Desna Plateau has the ratio of apophytes and alien fractions of synanthropic flora is 1: 1,13 in favor of alien species**.**

According to the time of immigration the non-native flora of the Desna Plateau is divided into archeophytes (migrated before the XV century) – 80 (44,7 %), kenophytes – (migrated during the XVI-XIX centuries) 64 (35,75 %) and eukenophytes (migrated during XX-XXI centuries) – 35 (19,55 %).

An important characteristic of alien species within flora is the degree of its naturalization.

Following Y.Kornaš, V.V. Protopopova (Kornaš, 1977; Protopopova, 1991) the next groups were allocated. Agriophytes – fully naturalized species in natural and semi-natural ecotops, are capable of forming stable populations. Gemiagriophytes – species that have become a mass component in several types of anthropogenic ecotops and have a pronounced tendency to further spread and consolidate under natural conditions natural habitats. Colonophytes – capable of forming colonies in separate localities, but do not show tendencies to spread. Epecophytes – permanent and stable components of anthropogenic ecotops. Ephemerophytes - unstable components of anthropogenic ecotops. The degree of naturalization among alien species of the Desna Plateau is dominated by epecophytes – 96 species (53,63%), second place by ephemerophytes 45 (25,1%), third position by colonophytes and agriophytes – by 13 (7,26%) species, hemiagriophytes are 12 species (6,7%).

Thus, the status of anthropogenic transformation of the studied flora is characterized according to Jackoviak indexes:

Index of anthropophysation (IAn) = 179/ 920 x 100 = 19,45 %

Index of archeophytisation (IArch) = 80/ (741+179) x 100 = 8,7%

Index of kenophytisation (ICen) = 99/ (741+179) x 100 = 10,76 %

Index of modernization (IMod) = 99/179 x 100 = 55,3 %

The analysis of the geographycal origin of the alien plant species showed their diversity. The largest number of species originates from Ancient Mediterranean: 47 (26,25%), Mediterranean-Iranian-Turanian – 27 (15,8%), Iran-Turanian – 10 (5,58%). An alien plants from the American continent are in the second position: North American species make up 29 (1,2%), South American – 5 (2,79%), Americans – 2 (1,1%). The an alien species of Asian origin: Southeast Asian – 6 (3,35%), Asian – 20 (11,2%), European-Asian – 2 (1,1%). Types of European origin in the smallest number: Central European – 4 (2,23%), Western European – 4 (2,23%), Southern European– 6 (3,35%), Central-Caucasian – 1, anthropogenic origin – 5 ( 2,79%), unknown – 7 (3,9%).

We fixed cases of becoming wild of some cultural plants:

*Rosa rugosa* Thunb., *Sorbaria sorbifolia* A. Br., *Symphoricarpos albus* (L.) S. F. Blake s.l., *Lupinus polyphyllus* Lindl.

Some alien species in the region are cited for the first time: *Impatiens glandulifera* Royle, *Heracleum mantegazzianum* Sommier et Levier, *Echinocystis lobata* (Michx) Torr. et A. Gray., *Thladiantha dubia* Bunge. (*L.V. KOVAL*, 2005).

As a result of researches we distinguished the group of invasive species that present a danger for natural ecosystems in case of further distribution: *Acer negundo* L., *Phalacroloma annuum* (L.) Dumort., *Impatiens parviflora* DC, *I. glandulifera* Royle, *Xanthium albinum* (Widd.) H. Scholz, *Echinocystis lobata* ( Michx ) Torr. B. A. Grey, *Bidens frondosa* L., *Iva xanthiifolia* Nutt., *Galingsoga parviflora* Cav.; *Sonchus arvensis* L., *S. oleraceus* L., *Chenopodium suecicum* J. Murr. and the quarantine weed *Ambrosia artemisiifolia* L.

The high indexes of synantropization (36,6) and anthropophysation (19,5%) indicate that the studied flora is under considerable anthropogenic pressure.

The spectrum of leading families specify that the synanthropic flora of region is close to Mediterranean floras.

The high index of modernization of flora – 55,3% testifies to strengthening of processes of migrations of plants in our time. Quarantine (1 species), invasive (12 species) were revealed as threatening phytodiversity conservation in the region**.**

## An annotated list of synanthropic species of the Desna Plateau flora

### Explanations

**1. Species**
**2. Status in region:**
a – indigenous
d – alien
**3. Frequency of occurrence** :
co – common
sp – sporadic
r – sparse
rr – rare
**4. Time of immigration**
Arch – archeophytes
Cen – cenophytes
Eu-c – eucenophytes
**5. Degree of naturalization**
Agr – agriophytes
Hagr – hemiagriophytes
Epec – epecophytes
Eph – ephemerophytes
Col – colonophytes
**6. Geographycal origin**
Antrop –antropogenic oridgin
n|a – unknown
Eu, eu – Europe
Am – American
As – Asian
Med – Mediterranean
AMed – ancient Mediterranean
Ir- tur – Irano-turanian
N – north
S – south
E – earth
W – western
Md – middle
C – central
Pont – pontic
Sarm – sarmatic
FAs – Front Asien
MAs – Minor Asien
Cs – Caucasian
Cr – Crimea
Balk – Balcan
Sib – Siberian
Atlant – atlantic
**7. Ways of immigration:**
Xn – xenophytes
Er – ergasiophytes
X-erg – xenoergasiophytes
**8. Relation to anthropopression and ecocenotical group:**
**Ar** – eventapophytes (unstable apophytes), species that are occasionally found in the composition of anthropogenic ecotopes
**Nar** – hemiapophytes, species that are equally common in anthropogenic and natural ecotopes
**Eu** – euapophytes, species that became part of anthropogenic ecotope
**S** – forest, **Pr** – meadow, **St** – steppe, **Z** – overgrowns, **Pa** – pasture,
**Hh** – coastal, **Ps** – psamophytic, **Hl** – halophytic

**An annotaded list of synanthropic species of the Desna Plateau flora**

| 1 | | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Equisetum | arvense L. | A | Co | | | | | Eu-Pr |
| Acer | negundo L. | Ad | Co | Cen | Agr | NAm | Ers | |
| Amaranthus | albus L. | Ad | Sp | Eu-c | Epec | NAm | Xn | |
| Amaranthus | blitoides S. Wats. | Ad | Sp | Eu-c | Epec | NAm | Xn | |
| Amaranthus | blitum L. | Ad | Sr | Cen | Eph | CSAm | Xn | |
| Amaranthus | cruentus L. | Ad | Sp | Eu-c | Eph | CSAm | Xn | |
| Amaranthus | retroflexus L. | Ad | Co | Cen | Epec | NAm | Xn | |
| Aegopodium | podagraria L. | A | Co | | | | | Ap-S |
| Aethusa | cynapium L. | Ad | Co | Arch | Epec | MdEu | | |
| Anthriscus | sylvestris L. | A | Co | | | | | Ap-S |
| Carum | carvi L. | Ad | Co | Cen | Eph | n\|a | Ers | |
| Chaerophyllum | bulbosum L. | A | Sp | | | | | Ap-S |
| Chaerophyllum | temulum L. | A | Co | | | | | Hap-S |
| Conium | maculatum L. | Ad | Co | Arch | Epec | Med-ir-tur | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Daucus | carota L. | A | Co | | | | | Eu-Pr |
| Eryngium | campestre L. | A | Sp | | | | | Hap-St |
| Eryngium | planum L. | A | Sp | | | | | Ap-Ps |
| Falcaria | vulgaris Bernh. | A | Sr | | | | | Hap-Z |
| Heracleum | mantegazzianum Sommier et Levier | Ad | Sr | Eu-c | Col | Cs | X-ers | |
| Heracleum | sibiricum L. | A | Co | | | | | Hap-Pr |
| Levisticum | officinalis Koch. | Ad | Sp | Arch | Eph | Ir | Ers | |
| Pastinaca | sativa L. | Ad | Co | Cen | Col | Med-CAs | Ers | |
| Pastinaca | sylvestris L. | A | Co | | | | | Hap-Pr |
| Pimpinella | saxifraga L. | A | Sp | | | | | Hap-Z |
| Torilis | japonica (Houtt.) DC. | A | Sr | | | | | Ap-S |
| Vinca | minor L. | Ad | Sr | Cen | Eph | Med | Ers | |
| Achillea | millefolium L. s.l. | A | Co | | | | | Hap-Pr |
| Ambrosia | artemisiifolia L. | Ad | Sr | Eu-c | Col | NAm | Xn | |
| Anthemis | cotula L. | Ad | Sp | Arch | Epec | Med | | |
| Anthemis | subtinctoria Dobrocz. | A | Sp | | | | | Ap-St |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Arctium | lappa L. | A | Co | | | | | Eu-Z |
| Arctium | minus (Hill.) Bernh. | A | Co | | | | | Eu-Z |
| Arctium | tomentosum Mill. | A | Co | | | | | Eu-Z |
| Artemisia | absinthium L. | Ad | Co | Arch | Epec | Ir-tur | | |
| Artemisia | annua L. | Ad | Co | Cen | Epec | EAs | Xn | |
| Artemisia | austriaca Jacq. | A | Co | | | | | Hap-St |
| Artemisia | scoparia Waldst. et Kit | A | Co | | | | | Eu-Z |
| Artemisia | vulgaris L. | A | Co | | | | | Eu-Pasc |
| Aster | nova-angliae L. | Ad | Sp | Cen | Eph | NAm | Ers | |
| Aster | salignus Willd. | Ad | Sp | Cen | Eph | NAm | Ers | |
| Bidens | cernua L. | A | Co | | | | | Ap-Hh |
| Bidens | frondosa L. | Ad | Co | Cen | Agr | NAm | Xn | |
| Bidens | radiata Thuill. | A | Co | | | | | Ap-Hh |
| Bidens | tripartita L. | A | Co | | | | | Hap-Hh |
| Calendula | officinalis L. | Ad | Sp | Cen | Eph | Med | Ers | |
| Carduus | acanthoides L. | Ad | Co | Arch | Epec | Med | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Carduus | crispus L. | A | Co | | | | | Hap-Z |
| Carduus | thoermeri Weinm. | A | Sr | | | | | Hap-St |
| Centaurea | cyanus L. | Ad | Co | Arch | Epec | Med | | |
| Centaurea | diffusa Lam. | Ad | Sr | Eu-c | Epec | Med-ir-tur | Xn | |
| Centaurea | pseudomaculosa Dobrocz. | A | Sr | | | | | Hap-St |
| Chamomilla | suaveolens (Pursh) Rydb. | Ad | Co | Cen | Epec | NAm | Xn | |
| Chondrilla | graminea M. Bieb. | A | Sr | | | | | Ap-Ps |
| Cichorium | intybus L. | Ad | Co | Arch | Hagr | Med-ir-tur | | |
| Cirsium | setosum (Willd.) Bess. | A | Co | | | | | Eu-Z |
| Cirsium | vulgare (Savi) Ten. | A | Co | | | | | Eu-Z |
| Conyza | canadensis (L.) Cronq. | Ad | Co | Cen | Epec | NAm | Xn | |
| Crepis | biennis L. | A | Sp | | | | | Hap-Pr |
| Crepis | tectorum L. | A | Co | | | | | Eu-Pr |
| Erigeron | acris L. s.l. | A | Co | | | | | Hap-Ps |
| Eupatorium | cannabinum L. | A | Co | | | | | Eu-Pr |
| Filago | arvensis L | A | Co | | | | | Hap-Ps |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Galinsoga | parviflora Cav. | Ad | Co | Cen | Epec | SAm | Xn | |
| Gnaphalium | uliginosum L. | A | Sp | | | | | Hap-Hh |
| Helianthus | annuus L. | Ad | Sp | Cen | Eph | NAm | Ers | |
| Helianthus | laetiflorus Pers. | Ad | Co | Eu-c | Eph | NAm | Ers | |
| Helianthus | subcanescens (A. Gray) E. E. Wats. | Ad | Co | Eu-c | Col | NAm | Ers | |
| Helianthus | tuberosus L. | Ad | Sp | Cen | Eph | NAm | Ers | |
| Inula | britannica L. | A | Co | | | | | Hap-Pr |
| Inula | helenium L. | Ad | Sp | Eu-c | Eph | n\|a | Ers | |
| Iva | xanthiifolia Nutt. | Ad | Co | Cen | Epec | NAm | Xn | |
| Lactuca | serriola L. | Ad | Co | Arch | Epec | Med-ir-tur | | |
| Lapsana | communis L. | A | Co | | | | | Ap-Z |
| Leontodon | autumnalis L. | A | Co | | | | | Hap-Pr |
| Matricaria | recutita L. | Ad | Sp | Arch | Epec | WEu | | |
| Onopordum | acanthium L. | Ad | Co | Arch | Epec | Med | | |
| Picris | hieracioides L. | A | Co | | | | | Hap-Z |
| Phalacroloma | annuum (L.) Dumort. | Ad | Sp | Cen | Agr | NAm | Xn | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Pulicaria | vulgaris Gaertn. | A | Co | | | | | Ap-Hh |
| Pyrethrum | parthenium (L.) Smith | Ad | Sp | Eu-c | Eph | WEu | Ers | |
| Senecio | jacobaea L. | A | Co | | | | | Hap-Z |
| Senecio | vernalis Waldst.& Kit. | A | Co | | | | | Eu-Ru |
| Senecio | vulgaris L. | Ad | Co | Arch | Epec | As | | |
| Solidago | canadensis L. | Ad | Sp | Cen | Col | NAm | Ers | |
| Sonchus | arvensis L. | Ad | Co | Arch | Epec | Med | | |
| Sonchus | asper (L.) Hill | Ad | Co | Arch | Epec | Med | | |
| Sonchus | oleraceus L. | Ad | Co | Arch | Epec | Med | | |
| Tanacetum | vulgare L. | A | Co | | | | | Ap-Z |
| Taraxacum | klokovii Litvinenko | Ad | Sp | Cen | Hagr | SEu | Xn | |
| Taraxacum | obliquum (Fr.) Dahlst. | A | Co | | | | | Hap-Pr |
| Taraxacum | officinale Wigg. aggr. | A | Co | | | | | Eu-Pr |
| Tripleurospermum | inodorum (L.) Sch. Bip. | Ad | Co | Arch | Epec | WAs | | |
| Tussilago | farfara L. | A | Co | | | | | Hap-Pr |
| Xanthium | albinum (Widd.) H.Scholz. | Ad | Co | Eu-c | Epec | MdEu | Xn | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Xanthium | spinosum L. | Ad | Sr | Cen | Epec | SAm | Xn | | |
| Impatiens | glandulifera Royle | Ad | Sp | Eu-c | Col | SEAs | Ers | | |
| Impatiens | parviflora DC. | Ad | Co | Cen | Agr | CAs | X-Ers | | |
| Anchusa | offinalis L. | Ad | Sp | Arch | Epec | Med | | | |
| Asperugo | procumbens L. | A | Sp | | | | | | Eu-Ru |
| Borago | officinalis L. | Ad | Sp | Cen | Eph | Med | X-Ers | | |
| Buglossoides | arvensis (L.) I.M.Johnst. | Ad | Co | Arch | Epec | Med-ir-tur | | | |
| Cynoglossum | officinale L. | Ad | Co | Arch | Epec | Med | | | |
| Echium | vulgare L. | A | Co | | | | | | Eu-St |
| Lappula | squarrosa (Retz.) Dumort. | Ad | Co | Arch | Epec | Med-ir-tur | | | |
| Lithospermum | officinale L. | A | Co | | | | | | Hap-Z |
| Lycopsis | arvensis L. | Ad | Co | Arch | Epec | Med | | | |
| Myosotis | arvensis (L.) Hill. | Ad | Co | Arch | Epec | Med-ir-tur | | | |
| Myosotis | sparsiflora J.C.Mikan ex Pohl | A | Co | | | | | | Ap-Z |
| Nonea | pulla DC. | A | Co | | | | | | Hap-Z |
| Symphytum | asperum Lepech. | Ad | Sp | Cen | Agr | Med | Ers | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Alliaria | petiolata (M.Bieb.) Cavara & Grande | A | Co | | | | | Eu-S |
| Alyssum | calycinum L. | A | Sr | | | | | Hap-St |
| Arabidopsis | thaliana (L.) Heynh. | Ad | Co | Cen | Epec | Med-ir-tur | Xn | |
| Armoracia | rusticana P. Gaertn., Mey. et Scherb. | Ad | Co | Arch | Eph | Ir-tur | | |
| Barbarea | arcuata (Opiz ex Presl) Hayek | A | Co | | | | | Hap-Hh |
| Barbarea | vulgaris R.Br. | A | Co | | | | | Hap-Ru |
| Berteroa | incana (L.) DC. | A | Co | | | | | Hap-Ps |
| Brassica | campestris L. | Ad | Co | Arch | Epec | CAs | | |
| Bunias | orientalis L. | Ad | Sp | Cen | Epec | Med | Xn | |
| Camelina | alyssum (Mill.) Thell. | Ad | Co | Arch | Epec | Atlant | | |
| Camelina | sativa (L.) Crantz | Ad | Sp | Arch | Eph | Antrop | | |
| Capsella | bursa-pastoris (L.) Med. | Ad | Co | Arch | Epec | n\|a | | |
| Cardaria | draba (L.) Desv. | Ad | Sp | Cen | Col | SEu-As | Xn | |
| Descurainia | sophia (L.) Webb ex Prantl | Ad | Co | Arch | Epec | Ir-tur | | |
| Diplotaxis | muralis (L.) DC. | Ad | Co | Cen | Epec | SEu | Xn | |
| Draba | nemorosa L. | A | Co | | | | | Ap-Z |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Erophila | verna (L.) Besser | A | Co | | | | | Hap-Ps |
| Erysimum | cheiranthoides L. | Ad | Co | Arch | Epec | n\|a | | |
| Hesperis | matronalis L. | Ad | Sr | Cen | Eph | As | Ers | |
| Lepidium | densiflorum Schrad. | Ad | Sp | Cen | Epec | NAm | Xn | |
| Lepidium | latifolium L. | A | Sp | | | | | Eu-Hal |
| Lepidium | ruderale L. | Ad | Co | Arch | Epec | Ir-Tur | | |
| Raphanus | raphanistrum L. | Ad | Co | Arch | Epec | Med | | |
| Rorippa | amphibia (L.) Besser | A | Co | | | | | Ap-Hh |
| Rorippa | brachycarpa (C.A.Mey.) Hayek | A | Sp | | | | | Hap-Hh |
| Rorippa | sylvestris (L.) Besser | A | Sp | | | | | Ap-Hh |
| Sinapis | arvensis L. | Ad | Co | Arch | Epec | Med | | |
| Sisymbrium | altissimum L. | Ad | Co | Cen | Epec | Med-ir-tur | Xn | |
| Sisymbrium | loeselii L. | Ad | Sp | Cen | Epec | Med-As | Xn | |
| Sisymbrium | officinale L. | Ad | Co | Arch | Epec | Med-As | | |
| Thlaspi | arvense L. | Ad | Co | Arch | Epec | Ir-tur | | |
| Campanula | rapunculoides L. | A | Co | | | | | Ap-Z |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Campanula | rapunculus L. | A | Co | | | | | Hap-Pr |
| Cannabis | ruderalis Janisch. | Ad | Sp | Arch | Epec | MdAs | | |
| Humulus | lupulus L. | A | Co | | | | | Hap-Hh |
| Lonicera | tatarica L. | Ad | Sp | Eu-c | Col | MdAs | Ers | |
| Sambucus | nigra L. | A | Co | | | | | Ap-S |
| Symphoricarpus | albus (L.) S. F. Blake | Ad | Sp | Eu-c | Eph | NAm | Ers | |
| Agrostemma | githago L. | Ad | Sp | Arch | Eph | Antrop | | |
| Cerastium | arvense L. | A | Sp | | | | | Ap-Ps |
| Gypsophilla | paniculata L. | A | Sp | | | | | Ap-St |
| Herniaria | glabra L. | A | Co | | | | | Eu-Ps |
| Herniaria | polygama J.Gay | A | Sp | | | | | Hap-Ps |
| Melandrium | album (Mill.) Garcke | A | Sp | | | | | Hap-Pr |
| Psammofiliella | muralis (L.) Ikonn. | A | Co | | | | | Hap-Hh |
| Saponaria | officinalis L. | Ad | Co | Cen | Col | Med | Ers | |
| Spergula | arvensis L. | Ad | Sp | Arch | Epec | Med | | |
| Spergularia | rubra (L.) J.Presl et C.Presl | A | Co | | | | | Eu-Ps |

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|---|---|---|---|---|---|---|---|---|
| Stellaria | graminea L. | A | Co | | | | | Eu-Pr |
| Stellaria | media (L.) Vill. | A | Co | | | | | Eu-S |
| Atriplex | hortensis L. | Ad | Sp | Cen | Eph | As | Ers | |
| Atriplex | oblongifolia Waldst.et Kit. | A | Co | | | | | Eu-Ru |
| Atriplex | patula L. | A | Co | | | | | Eu-Ru |
| Atriplex | prostrata Boucher ex DC. | Ad | Sp | Arch | Epec | Med-ir-tur | | |
| Atriplex | tatarica L. | Ad | Sp | Cen | Epec | Med-ir-tur | Xn | |
| Atriplex | sagittata Borkh. | Ad | Sp | Arch | Epec | Ir-tur | | |
| Chenopodium | album L.s.l. | A | Co | | | | | Eu-Ru |
| Chenopodium | botrys L. | Ad | Sp | Eu-c | Epec | Med-ir-tur | Xn | |
| Chenopodium | glaucum L. | A | Sp | | | | | Hap-Ru |
| Chenopodium | hybridum L. | Ad | Co | Arch | Epec | Med | | |
| Chenopodium | opulifolium Schrad.ex DC. | Ad | Sp | Arch | Epec | Med | | |
| Chenopodium | polyspermum L. | Ad | Sp | Arch | Epec | Med | | |
| Chenopodium | suecicum J.Murr | Ad | Co | Cen | Epec | n\|a | Xn | |
| Kochia | laniflora (S.G. Gmel.) Borbas | Ad | Sp | Cen | Epec | Med | Ers | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Kochia | scoparia (L.) Schrad. | Ad | Sp | Cen | Eph | Ir-tur | Xn | |
| Polycnemum | majus A.Br. | A | Sp | | | | | Hap-St |
| Convolvulus | arvensis L. | A | Co | | | | | Eu-Se |
| Ipomaea | purpurea (L.) Roth | Ad | Sp | Eu-c | Eph | SAm | Ers | |
| Bryonia | alba L. | Ad | Sr | Cen | Epec | Med-ir-tur | Xn | |
| Echinocystis | lobata (Michx.) Torr.et Gray | Ad | Co | Eu-c | Agr | NAm | X-ers | |
| Thladiantha | dubia Bunge | Ad | Sr | Eu-c | Col | SEAs | Ers | |
| Cuscuta | epilinum Weihe | Ad | Sp | Arch | Epec | Antrop | | |
| Cuscuta | europaea L. | A | Sp | | | | | Eu-Pr |
| Dipsacus | strigosus Willd.ex Roem.et Schult. | A | Sp | | | | | Ap-Z |
| Knautia | arvensis (L.) Coult. | A | Sp | | | | | Hap-Pr |
| Hippophae | rhamnoides L. | Ad | Sr | Cen | Eph | Antrop | Ers | |
| Euphorbia | cyparissias L. | A | Sp | | | | | Hap-Z |
| Euphorbia | peplus L. | Ad | Sp | Arch | Epec | Med | | |
| Astragalus | cicer L. | A | Sr | | | | | Ap-Z |
| Caragana | arborescens Lam. | Ad | Co | Eu-c | Eph | Sib | Ers | |

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|---|---|---|---|---|---|---|---|---|
| Coronilla | varia L. | A | Sp | | | | | Ap-Z |
| Lathyrus | pratensis L. | A | Co | | | | | Ap-Pr |
| Lathyrus | sativus L. | Ad | Sp | Eu-c | Eph | Med | Ers | |
| Lotus | corniculatus L. | A | Co | | | | | Hap-Pr |
| Lupinus | polyphyllus Lindl. | Ad | Co | Eu-c | Col | Wmed | Ers | |
| Medicago | lupulina L. | A | Co | | | | | Eu-Z |
| Medicago | sativa L. | Ad | Sp | Cen | Epec | FAs | Ers | |
| Melilotus | albus Medik | A | Co | | | | | Eu-Ps |
| Melilotus | officinalis (L.) Pall. | A | Co | | | | | Eu-Z |
| Onobrychis | arenaria (Kit.) DC. | Ad | Sr | Cen | Eph | WEu | Xn | |
| Onobrychis | vicifolia Scop. | Ad | Sr | Cen | Eph | SEu | Ers | |
| Robinia | pseudoacacia L. | Ad | Co | Eu-c | Eph | Am | Ers | |
| Trifolium | arvense L. | A | Co | | | | | Ap-Ps |
| Trifolium | campestre Schred. | A | Co | | | | | Hap-Pr |
| Trifolium | hybridum L. | Ad | Co | Eu-c | Eph | Med | Ers | |
| Trifolium | repens L. | A | Co | | | | | Eu-Pr |

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|---|---|---|---|---|---|---|---|---|
| Vicia | angustifolia Reichard | Ad | Sp | Cen | Agr | Med-ir-tur | Xn | |
| Vicia | cracca L. | A | Co | | | | | Hap-Pr |
| Vicia | hirsuta (L.) S.F.Gray. | Ad | Sp | Arch | Epec | Wmed | | |
| Vicia | sepium L. | A | Co | | | | | Hap-Z |
| Vicia | tetrasperma (L.) Schreb. | Ad | Sp | Arch | Epec | Med | | |
| Vicia | villosa Roth | Ad | Sr | Arch | Agr | Med | | |
| Quercus | rubra L. | Ad | Co | Eu-c | Hagr | NAm | Ers | |
| Fumaria | officinalis L. | Ad | Sr | Arch | Epec | Med | | |
| Erodium | cicutarium (L.) L' Her. | A | Co | | | | | Eu-St |
| Geranium | pratense L. | A | Co | | | | | Ap-Pr |
| Geranium | pusillum L. | Ad | Co | Arch | Epec | Ir-tur | | |
| Acinos | arvensis (Lam.) Dandy | A | Sp | | | | | Ap-Z |
| Ballota | nigra L. | Ad | Co | Arch | Epec | Med-ir-tur | | |
| Elsholzia | ciliata (Thunb.) Hyl. | Ad | Co | Eu-c | Epec | EAs | Xn | |
| Galeopsis | bifida Boenn. | A | Sp | | | | | Eu-Z |
| Galeopsis | ladanum L. | Ad | Co | Arch | Epec | NMed | | |

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|---|---|---|---|---|---|---|---|---|
| Galeopsis | speciosa Mill. | A | Sp | | | | | Hap-Z |
| Glechoma | hederacea L. | A | Co | | | | | Ap-S |
| Lamium | maculatum (L.) L. | A | Sp | | | | | Hap-Z |
| Lamium | purpureum L. | Ad | Sp | Arch | Epec | Med | | |
| Leonurus | villosus Desf. ex D'Urv. | A | Co | | | | | Eu-Ru |
| Lycopus | exaltatus L.f. | A | Co | | | | | Ap-Hh |
| Lycopus | europaeus L. | A | Co | | | | | Ap-Hh |
| Mentha | arvensis L. | A | Co | | | | | Ap-Hh |
| Mentha | spicata L. | Ad | Sp | Cen | Eph | Med | X-ers | |
| Nepeta | cataria L. | Ad | Sr | Arch | Epec | EMed | | |
| Prunella | vulgaris L. | A | Co | | | | | Ap-Pr |
| Salvia | nemorosa L. aggr. | A | Sr | | | | | Hap-St |
| Salvia | verticillata L. | Ad | Sr | Cen | Epec | SEu-FAs | Xn | |
| Salvia | viridis L. | Ad | Sr | Cen | Epec | Med-MAs | Xn | |
| Stachys | palustris L. | A | Sp | | | | | Hap-Pr |
| Althaea | officinalis L. | Ad | Sr | Arch | Agr | Ir-tur | | |

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|---|---|---|---|---|---|---|---|---|
| Lavathera | thuringiaca L. | A | Co | | | | | Hap-Z |
| Malva | neglecta Wallr. | Ad | Co | Arch | Epec | Ir-tur | | |
| Malva | pusilla Smith. | Ad | Co | Arch | Epec | As | | |
| Malva | sylvestris L. | Ad | Co | Arch | Hagr | Med | | |
| Syringa | vulgaris L. | Ad | Co | Cen | Eph | SEu | Ers | |
| Oenothera | biennis L. | Ad | Co | Cen | Epec | NAm | Xn | |
| Oenothera | rubricaulis Klebahn. | Ad | Co | Eu-c | Hagr | NAm | Xn | |
| Phelipanche | ramosa ( L.) Pomel | Ad | Sp | Cen | Eph | Med-CAs | Xn | |
| Xanthoxalis | stricta (L.) Small | Ad | Co | Cen | Hagr | NAm | Xn | |
| Chelidonium | majus L. | A | Co | | | | | Eu-S |
| Papaver | somniferum L. | Ad | Sr | Cen | Eph | Med | Ers | |
| Plantago | arenaria Waldst. & Kit. | Ad | Sp | Eu-c | Epec | Med | Xn | |
| Plantago | lanceolata L. | A | Co | | | | | Hap-Pr |
| Plantago | major L. | A | Co | | | | | Eu-S |
| Plantago | media L. | A | Co | | | | | Eu-Pr |
| Fallopia | convulvulus (L.) A. Love | Ad | Co | Arch | Epec | As | | |

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|---|---|---|---|---|---|---|---|---|
| Fallopia | dumetorum (L.) Holub | A | Sp | | | | | Eu-Z |
| Persicaria | hydropiper (L.) Delambre | A | Co | | | | | Eu-Hh |
| Polygonum | aviculare L. s.l. | A | Co | | | | | Eu-Pasc |
| Rumex | acetosella L. | A | Co | | | | | Eu-Ps |
| Rumex | confertus Willd. | A | Co | | | | | Hap-Pr |
| Rumex | crispus L. | A | Co | | | | | Eu-Pr |
| Rumex | obtusifolius L. | A | Co | | | | | Hap-S |
| Portulaca | oleracea L. | Ad | Sr | Arch | Epec | Med-ir-tur | | |
| Anagallis | arvensis L. | Ad | Sr | Arch | Epec | Med-ir-tur | | |
| Aquilegia | vulgaris L. | Ad | Sr | Cen | Eph | WEu | Ers | |
| Consolida | regalis S.F.Gray | Ad | Co | Arch | Epec | Med-ir-tur | | |
| Myosurus | minimus L. | A | Sp | | | | | Ap-Hh |
| Ranunculus | acris L. | Ad | Co | Arch | Epec | Med-ir-tur | | |
| Ranunculus | polyanthemos L. | A | Sr | | | | | Ap-Z |
| Ranunculus | repens L. | A | Co | | | | | Eu-Hh |
| Ranunculus | sceleratus L. | A | Sp | | | | | Ap-Z |

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|---|---|---|---|---|---|---|---|---|
| Thalictrum | minus L. | A | Sr | | | | | Ap-Z |
| Agrimonia | eupatoria L. | A | Co | | | | | Hap-Z |
| Amelanchier | canadensis (L.) Medik. | Ad | Sp | Eu-c | Eph | NAm | Ers | |
| Geum | urbanum L. | A | Co | | | | | Hap-S |
| Physocarpus | opulifolius (L.) Maxim. | Ad | Co | Eu-c | Eph | NAm | Ers | |
| Potentilla | anserina L. | A | Co | | | | | Hap-Hh |
| Potentilla | argentea L. s.l. | A | Co | | | | | Eu-Z |
| Potentilla | supina L. | A | Sp | | | | | Eu-Hh |
| Poterium | polygamum Waldst. ex Kit. | Ad | Sr | Eu-c | Col | SEu | Xn | |
| Rosa | rugosa Thunb. | Ad | Sp | Eu-c | Eph | Eu-As | Ers | |
| Sanquisorba | officinalis L. | A | Sp | | | | | Hap-Pr |
| Sorbaria | sorbifolia (L.) A.Br. | Ad | Sr | Eu-c | Eph | E-As | Ers | |
| Galium | aparine L. | A | Co | | | | | Eu-Z |
| Galium | rivale (Sibth.& Smith) Griseb. | A | Sp | | | | | Ap-S |
| Populus | deltoides Marsh. | Ad | Sp | Eu-c | Col | NAm | Ers | |
| Salix | fragilis L. | Ad | Sp | Arch | Agr | Med-CAs | | |

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|---|---|---|---|---|---|---|---|---|
| Linaria | vulgaris Mill. | A | Co | | | | | Eu-Z |
| Odontites | vulgaris Moench | A | Sp | | | | | Ap-Z |
| Rhinanthus | aestivalis (W.Zinger) Schischk.& Serg. | A | Sp | | | | | Hap-Pr |
| Rhinanthus | vernalis ( N.Zinger) Schischk.& Serg. | A | Co | | | | | Hap-Pr |
| Verbascum | lychnitis L. | A | Sp | | | | | Eu-Z |
| Verbascum | nigrum L. | A | Sr | | | | | Hap-St |
| Verbascum | phlomoides L. | A | Co | | | | | Ap-Ps |
| Veronica | dilenii Crantz | A | Sp | | | | | Eu-Ps |
| Veronica | serpyllifolia L. | A | Co | | | | | Ap-Pr |
| Veronica | verna L. | A | Sp | | | | | Eu-Ps |
| Datura | stramonium L. | Ad | Sr | Cen | Epec | SEAs | Xn | |
| Hyoscyamus | niger L. | Ad | Sr | Cen | Epec | Med-ir-tur | Xn | |
| Lycium | barbarum L. | Ad | Sp | Arch | Epec | EAs | | |
| Physalis | alkekengi L. | Ad | Sr | Eu-c | Eph | Med-ir-tur | Erg | |
| Solanum | nigrum L. | Ad | Co | Arch | Epec | Med | | |

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|---|---|---|---|---|---|---|---|---|
| Urtica | dioica L. | A | Co | | | | | Ap-Z |
| Urtica | urens L. | Ad | Co | Arch | Epec | Med | | |
| Viola | arvensis Murray | Ad | Co | Arch | Agr | Med | | |
| Parthenocissus | quinguefolia (L.) Planch. | Ad | Co | Eu-c | Eph | NAm | Ers | |
| Allium | oleraceum L | A | Sp | | | | | Ap-Z |
| Allium | schoenoprasum L. | Ad | Sr | Cen | Eph | MdEu | Ers | |
| Galanthus | nivalis L. | Ad | R | Eu-c | Eph | WMdEu | Ers | |
| Acorus | calamus L. | Ad | Co | Arch | Agr | SEAs | | |
| Elodea | canadensis Michx. | Ad | Co | Cen | Agr | Am | Xn | |
| Juncus | tenuis Willd. | Ad | Sr | Cen | Hagr | NAm | Xn | |
| Gagea | minima (L.) Ker. Gawl. | A | Sr | | | | | Ap-Z |
| Agrostis | gigantea Roth | A | Co | | | | | Eu-Pr |
| Anisantha | tectorum (L.) Nevski | Ad | Sp | Arch | Hagr | Med-Etur | | |
| Apera | spica-venti (L.) P. Beauv. | Ad | Co | Arch | Epec | n\|a | | |
| Avena | sativa L. | Ad | Sp | Arch | Eph | SEu | | |
| Bromus | arvensis L. | Ad | Co | Arch | Epec | Med | | |

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|---|---|---|---|---|---|---|---|---|---|
| Bromus | hordaceus L. | Ad | Co | Arch | Hagr | Nmed | | | |
| Bromus | japonicus Thunb. | Ad | Sr | Cen | Epec | Med | Xn | | |
| Bromus | squarrosus L. | Ad | Sp | Cen | Epec | Med-ir-tur | Xn | | |
| Dactylis | glomerata L. | A | Co | | | | | | Ap-Pr |
| Digitaria | ischaemum (Schreb.) Muehl. | Ad | Sr | Arch | Hagr | Med | | | |
| Digitaria | sanguinalis (L.) Scop. | Ad | Sr | Arch | Epec | SEAs | | | |
| Echinochloa | crusgalli (L.) P. Beauv. | Ad | Co | Arch | Epec | As | | | |
| Elytrigia | repens (L.) Nevski | A | Co | | | | | | Eu-Pr |
| Eragrostis | minor Host | Ad | Sp | Cen | Hagr | SEu | Xn | | |
| Eragrostis | pilosa (L.) P. Beauv. | Ad | Sp | Cen | Hagr | Med | Xn | | |
| Hordeum | vulgare L. | Ad | Sp | Cen | Eph | As | Ers | | |
| Lolium | perenne L. | A | Co | | | | | | Eu-Pr |
| Panicum | miliaceum L. | Ad | Sp | Cen | Eph | SEAs | Ers | | |
| Poa | annua L. | A | Co | | | | | | Eu-Pr |
| Poa | bulbosa L. | A | Sp | | | | | | Eu-St |
| Poa | compressa L. | A | Co | | | | | | Ap-Z |

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|---|---|---|---|---|---|---|
| Secale | cereale L. | Ad | Sp | Arch | Eph | FAs |
| Setaria | glauca (L.) Beauv. | Ad | Sp | Arch | Epec | SAs |
| Setaria | verticillata L. | Ad | Sr | Arch | Epec | SAs |
| Setaria | viridis (L.) P. Beauv. | Ad | Sp | Arch | Epec | Med-ir-tur |

**An annotated checklist of the vascular plants of the Desna Plateau**

**Explanations**

**1. Divisio, classis, families, genus**
**2. Species**
**3. Status in region**
a – indigenous
d – alien
**4. Frequency of occurrence**
co – common
sp – sporadic
r – sparse
rr – rare
**5. Areal**
cos – cosmopolitan
Hcos – hemicosmopolitan
hol – holarctic
bor – boreal
Eu, eu – Europe
Am – American
As – Asian
Med – Mediterranean
AMed – ancient Mediterranean
Ir- tur – Irano-turanian
N – north
S – south
E – earth
W – western
Md – middle
C – central
end – endem
Pan – pannonic
Pont – pontic
Sarm – sarmatic
FAs – Front Asien
MAs – Minor Asien
Cs – Caucasian
Cr – Crimea
Balk – Balcan
Sib – Siberian
Afr – African
Aut – Australian
**6. Types of plant biomorph**
a – arborescens
h – herbaceous
f – shrub
fr – bush
sf – semi-shrubs

**7. Raunkiaer's life forms**
ph – phanerophytes
ch – chamaephytes
hk – hemicryptophytes
k – cryptophytes (geophytes)
w – hydrophytes
hl – helophytes
t – terophytes
**8. Length of the vegetation period**
a – summer-greens
b – summer-winter-greens
c – evergreens
d – ephemeral
e – ephemeroid
**9. The duration of a large life cycle of plants**
pk – polycarps
hpk – herbaceous polycarps
mk – monocarps
1,2 – mono-biennial monocarps
2 – biennial monocarps

**10. Types of aboveground stems**
1 – with stem rosette
2 – with semi-rosette stem
3 – without stem rosette

**11. Types of underground shoots**

1 – long rhizome
2 – short rhizome
3 – tuber
4 – bulb
5 – caudex-short rhizomatous
6 – caudex- longrhizomatous
7 – caudex
8 – without rhizome structure
9 – tuber-rhizomatous
10 – corm

**12. Types of root systems:**

1 – rod
2 – fibrous
3 – mixed
4 – without roots

**13. Ecological groups (spectrum) regarding humidity:**

m – mesophytes
x – xerophytes
h – hygrophytes
a – aerogidatophytes (plants with floating leaves)
g – gidatophytes (aquatic plants, all or part of which are immersed in water)
w – hydrophytes
xm – xero-mesophytes
mx – meso-xerophytes
mh – meso-hygrophytes
hm – hygro-mesophytes
hw– hygro-hydrophytes

**14. Ecocoenotic groups (spectrum):**

b – coniferous forest
n – deciduous forest
bn – mixed forest
ef – forest edge
p – meadow
m – marsh (bog)
pm– meadow- marsh
g – прибережна coastal
w – aquatic
st – steppe
pt – meadow-steppe
ps – psammophytic

al – coastal-psammophytic
r – ruderal
rz – ruderal-segetal
z – segetal

| 1 | 2 | 3 | 4 | | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **LYCOPODIOPHYTA** | | | | | | | | | | | | | | |
| **LYCOPODIOPSIDA** | | | | | | | | | | | | | | |
| | ***LYCOPODIACEAE P. Beauv. ex Mirbel*** | | | | | | | | | | | | | |
| Lycopodium | annotinum L. | a | rr | Eu-bor | | h | ch | c | hpk | 3 | 8 | 2 | m | b |
| Lycopodium | clavatum L. | a | r | Eu-bor | | h | ch | c | hpk | 3 | 8 | 2 | m | bn |
| ***HYPERZIACEAE Rothm.*** | | | | | | | | | | | | | | |
| Huperzia | selago (L.) Bernh.ex Schrank & C.Mart. | a | rr | cos | | h | ch | c | hpk | 3 | 8 | 2 | m | b |
| **EQUISETOPHYTA** | | | | | | | | | | | | | | |
| **EQUISETOPSIDA** | | | | | | | | | | | | | | |
| ***EQUISETACEAE Rich. ex DC.*** | | | | | | | | | | | | | | |
| Equisetum | arvense L. | a | co | Eu-As-NAm | | h | k | a | hpk | 3 | 1 | 2 | m | p |
| Equisetum | fluviatile L. | a | co | Eu-As-NAm | | h | hk | a | hpk | 3 | 1 | 2 | h | g |
| Equisetum | hyemale L. | a | sp | Hol | | sf | ch | c | hpk | 3 | 1 | 2 | h | p |
| Equisetum | palustre L. | a | co | Eu-As-NAm | | h | k | a | hpk | 3 | 1 | 2 | h | pm |
| Equisetum | pratense Ehrh. | a | co | Eu-As-NAm | | h | k | a | hpk | 3 | 1 | 2 | hm | pm |
| Equisetum | sylvaticum L. | a | co | Eu-As-NAm | | h | k | a | hpk | 3 | 1 | 2 | hm | ef |
| **POLYPODIOPHYTA** | | | | | | | | | | | | | | |
| **POLYPODIOPSIDA** | | | | | | | | | | | | | | |
| ***ATHYRIACEAE Alston*** | | | | | | | | | | | | | | |
| Athyrium | filix-femina (L.) Roth. | a | co | Eu-As-NAm | | h | hk | a | hpk | 1 | 2 | 2 | m | bn |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cystopteris | fragilis (L.) Bernh. | a | r | cos | h | hk | a | hpk | 1 | 2 | 2 | m | bn |
| ***ASPIDIACEAE* Frank** | | | | | | | | | | | | | |
| Dryopteris | dilatata (Hoffm.) A. Gray | a | rr | Eu-Sib-NAm | h | hk | a | hpk | 1 | 2 | 2 | m | b |
| Dryopteris | cristata (L.) A.Gray | a | rr | Eu-Sib-NAm | h | hk | a | hpk | 1 | 2 | 2 | h | bm |
| Dryopteris | filix-mas (L.) Schott | a | co | Eu-As-NAm | h | hk | a | hpk | 1 | 2 | 2 | m | n |
| Dryopteris | carthusiana (Vill.) H.P.Fuchs | a | rr | Eu-Sib-NAm | h | hk | a | hpk | 1 | 2 | 2 | hm | bm |
| Gymnocarpium | dryopteris (L.) Newm. | a | r | Eu-As-NAm | h | k | a | hpk | 3 | 1 | 2 | hm | bn |
| ***HYPOLEPIDACEAE* Pic.Serm.** | | | | | | | | | | | | | |
| Pteridium | aquilinum (L.) Kuhn. | a | co | cos | h | k | a | hpk | 3 | 1 | 2 | hm | bn |
| ***ONOCLEACEAE Pichi-Serm.*** | | | | | | | | | | | | | |
| Matteuccia | struthiopteris (L.) Tod. | a | rr | Eu-As | h | hk | a | hpk | 1 | 2 | 2 | hm | bn |
| ***THELYPTERIDACEAE* Pichi-Serm.** | | | | | | | | | | | | | |
| Thelypteris | palustris Schott | a | co | Eu-As-NAm | h | hk | a | hpk | 1 | 1 | 2 | h | g |
| ***SALVINIACEAE* T. Lestlib.** | | | | | | | | | | | | | |
| Salvinia | natans L. | a | rr | Eu-As | h | w | a | hpk | 3 | 8 | 4 | w | w |
| **PINOPHYTA** | | | | | | | | | | | | | |
| **PINOPSIDA** | | | | | | | | | | | | | |
| ***CUPRESSACEAE* Rich. ex Bartl.** | | | | | | | | | | | | | |
| Juniperus | communis L. | a | rr | Eu-Sib | f | ph | c | pk | 3 | 8 | 1 | m | bn |
| ***PINACEAE* Lindl.** | | | | | | | | | | | | | |
| Picea | abies (L.) H.Karst. | a | sp | Eu-As | a | ph | c | pk | 3 | 8 | 1 | m | b |
| Pinus | sylvestris L. | a | co | Eu-As | a | ph | c | pk | 3 | 8 | 1 | m | bn |
| **MAGNOLOIPHYTA** | | | | | | | | | | | | | |
| **MAGNOLIOPSIDA** | | | | | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***ACERACEAE* Juss.** | | | | | | | | | | | | | |
| Acer | campestre L. | a | co | Eu-Med-ir | a | ph | a | pk | 3 | 8 | 1 | xm | ef |
| Acer | negundo L. | d | co | cos | a | ph | a | pk | 3 | 8 | 1 | xm | r |
| Acer | platanoides L. | a | co | Eu-Med | a | ph | a | pk | 3 | 8 | 1 | m | n |
| Acer | tataricum L. | a | sp | Eu-FAs | a | ph | a | pk | 3 | 8 | 1 | xm | ef |
| ***ADOXACEAE* Trautv.** | | | | | | | | | | | | | |
| Adoxa | moschatellina L. | a | sp | Eu-As-NAm | h | hk | e | hpk | 3 | 2 | 2 | m | n |
| ***AMARANTHACEAE* Juss.** | | | | | | | | | | | | | |
| Amaranthus | albus L. | d | sp | cos | h | t | a | mk | 3 | 8 | 1 | mx | r |
| Amaranthus | blitoides S. Wats. | d | sp | Hcos | h | t | a | mk | 3 | 8 | 1 | mx | rz |
| Amaranthus | blitum L. | d | r | cos | h | t | a | mk | 3 | 8 | 1 | xm | r |
| Amaranthus | cruentus L. | d | sp | Hol | h | t | a | mk | 3 | 8 | 1 | mx | r |
| Amaranthus | retroflexus L. | d | co | cos | h | t | a | mk | 3 | 8 | 1 | xm | rz |
| ***APIACEAE* Lindl.** | | | | | | | | | | | | | |
| Aegopodium | podagraria L. | a | co | Hol | h | hk | a | hpk | 3 | 1 | 2 | m | n |
| Aethusa | cynapium L. | d | co | Hol | h | t | a | mk | 3 | 8 | 1 | h | g |
| Angelica | sylvestris L. | a | co | Eu-Sib | h | hk | a | hpk | 2 | 7 | 1 | hm | n |
| Anthriscus | sylvestris L. | a | co | Eu-NAm | h | hk | a | hpk | 2 | 7 | 1 | m | n |
| Archangelica | officinalis Hoffm. | a | co | EEu-WSib | h | hk | a | 2 | 2 | 8 | 1 | h | g |
| Carum | carvi L. | d | co | Hcos | h | hk | b | 2 | 2 | 8 | 1 | xm | ef |
| Cenolophium | denudatum (Hornem.) Tutin | a | r | Eu-Sib-MAs | h | hk | a | hpk | 2 | 8 | 1 | h | al |
| Chaerophyllum | bulbosum L. | a | sp | Eu-NAm | h | hk | a | 2 | 2 | 8 | 1 | m | ef |
| Chaerophyllum | temulum L. | a | co | Eu-Balk | h | hk | a | 1,2 | 2 | 8 | 1 | m | n |
| Cicuta | virosa L. | a | co | Eu-As-bor | h | hk | a | hpk | 2 | 2 | 2 | w | w |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cnidium | dubium (Schkuhr.) Thell. | a | co | Eu-Sib-MAs | h | hk | a | hpk | 2 | 7 | 1 | hm | n |
| Conium | maculatum L. | d | co | Eu-Med-MAs-NAm | h | hk | b | 2 | 2 | 8 | 1 | m | r |
| Daucus | carota L. | a | co | Hcos | h | hk | b | 1,2 | 2 | 8 | 1 | mx | rz |
| Eryngium | campestrre L. | a | sp | Eu-Med-MAs | h | hk | a | hpk | 2 | 7 | 1 | x | ef |
| Eryngium | planum L. | a | sp | Eu-Sib-MdAs | h | hk | a | hpk | 2 | 7 | 1 | x | ef |
| Falcaria | vulgaris Bernh. | a | r | EEu | h | hk | b | 2 | 2 | 8 | 1 | mx | st |
| Heracleum | mantegazzianum Sommier et Levier | d | r | Eu-Cs | h | hk | a | hpk | 2 | 7 | 1 | m | r |
| Heracleum | sibiricum L. | a | co | EEu-WSib | h | hk | a | hpk | 2 | 7 | 1 | m | p |
| Laserpitium | prutenicum L. | a | co | Eu-Med | h | hk | a | hpk | 2 | 7 | 1 | m | n |
| Levisticum | officinalis Koch. | d | sp | Eu-As | h | hk | a | hpk | 2 | 7 | 1 | m | r |
| Oenanthe | aguatica (L.) Poir. | a | co | Eu-Sib-MdAs | h | k | a | hpk | 2 | 1 | 2 | w | w |
| Ostericum | palustre (Bess.) Bess. | a | rr | Eu-WSib | h | hk | a | 2 | 2 | 8 | 1 | h | m |
| Pastinaca | sativa L. | d | co | cos | h | hk | a | hpk | 2 | 7 | 1 | m | r |
| Pastinaca | sylvestris L. | a | co | cos | h | hk | a | hpk | 2 | 7 | 1 | m | p |
| Peucedanum | cervaria (L.) Lapeyr. | a | r | Eu-Med | h | hk | a | hpk | 2 | 7 | 1 | m | ef |
| Peucedanum | palustre (L.) Moench. | a | sp | Eu-WSib | h | hk | a | hpk | 2 | 7 | 1 | h | pm |
| Pimpinella | saxifraga L. | a | sp | Eu-Med-ir-Sib | h | hk | a | hpk | 2 | 7 | 1 | xm | pt |
| Selinium | carvifolia (L.) L. | a | co | Eu-WSib-NAm | h | hk | a | hpk | 2 | 7 | 1 | m | ef |
| Seseli | annuum L. | a | co | Eu-Med | h | hk | a | mk | 2 | 7 | 1 | m | ef |
| Seseli | libanotis (L.) W.D.J. Koch. | a | r | Eu-Sib-EAs | h | hk | a | hpk | 2 | 7 | 1 | x | n |
| Sium | latifolium L. | a | co | Eu-Med-Sib-Aut | h | hk | a | hpk | 2 | 2 | 2 | w | w |
| Sium | sisaroideum DC. | a | sp | EEu-MdAs | h | hk | a | hpk | 2 | 1 | 2 | w | w |
| Torilis | japonica (Houtt.) DC. | a | r | Eu-Med-EAs | h | t | a | mk | 2 | 8 | 1 | xm | ef |
| Trinia | multicaulis Schischk. | a | rr | MdEEu | h | hk | a | hpk | 2 | 7 | 1 | xm | st |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***APOCYNACEAE* Juss.** | | | | | | | | | | | | | |
| Vinca | minor L. | d | r | Eu-Med | h | ch | b | hpk | 3 | 2 | 2 | xm | r |
| ***ARISTOLOCHIACEAE* Juss.** | | | | | | | | | | | | | |
| Aristolochia | clematitis L. | a | sp | Eu | h | hk | a | hpk | 3 | 1 | 2 | h | g |
| Asarum | europaeum L. | a | co | Eu-WSib | h | hk | b | hpk | 3 | 1 | 2 | mh | n |
| ***ASCLEPIADACEAE* R. Br.** | | | | | | | | | | | | | |
| Vincetoxicum | hirundinaria Medik. | a | sp | Eu | h | k | a | hpk | 3 | 2 | 2 | mx | ef |
| ***ASTERACEAE* Dumort.** | | | | | | | | | | | | | |
| Achillea | inundata Kondr. | a | r | SEEu | h | hk | a | hpk | 2 | 2 | 2 | m | ef |
| Achillea | millefolium L. s.l. | a | co | eu | h | hk | a | hpk | 2 | 2 | 2 | m | p |
| Achyrophorus | maculatus (L.) Scop. | a | sp | Eu-Sib | h | hk | a | hpk | 2 | 7 | 1 | mx | n |
| Ambrosia | artemisiifolia L. | d | r | cos | h | t | a | mk | 3 | 8 | 1 | xm | r |
| Antennaria | dioica (L.) Gaertn. | a | sp | Eu-As | h | k | a | hpk | 2 | 1 | 2 | m | bn |
| Anthemis | cotula L. | d | sp | Hcos | h | t | a | mk | 2 | 8 | 1 | m | r |
| Anthemis | subtinctoria Dobrocz. | a | sp | Eu-FAs | h | hk | a | hpk | 2 | 2 | 2 | x | st |
| Arctium | lappa L. | a | co | Eu-As | h | hk | a | 2 | 2 | 8 | 1 | m | r |
| Arctium | minus (Hill.) Bernh. | a | co | Eu | h | hk | a | 2 | 2 | 8 | 1 | m | r |
| Arctium | nemorosum Lej. | a | co | Eu | h | hk | a | 2 | 2 | 8 | 1 | m | ef |
| Arctium | tomentosum Mill. | a | co | Eu-As | h | hk | a | 2 | 2 | 8 | 1 | m | r |
| Artemisia | absinthium L. | d | co | Hol | h | hk | a | hpk | 2 | 2 | 2 | xm | r |
| Artemisia | annua L. | d | co | Hol | h | t | a | mk | 2 | 8 | 1 | xm | r |
| Artemisia | austriaca Jacq. | a | co | Eu-Sib-MAs | h | hk | a | hpk | 2 | 1 | 2 | x | st |
| Artemisia | campestris L. | a | sp | end SPont | h | hk | a | 2 | 2 | 8 | 1 | xm | ef |
| Artemisia | scoparia Waldst. et Kit | a | co | Eu-As-bor | h | hk | a | 2 | 2 | 8 | 1 | xm | r |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Artemisia | vulgaris L. | a | co | Hol | h | hk | a | hpk | 2 | 2 | 2 | m | r |
| Aster | amellus L. | a | rr | Eu-Med-WSib | h | hk | a | hpk | 3 | 2 | 2 | xm | st |
| Aster | nova-angliae L. | d | sp | Eu-Am | h | hk | a | hpk | 2 | 2 | 2 | m | r |
| Aster | salignus Willd. | d | sp | Hol | h | hk | a | hpk | 2 | 2 | 2 | m | r |
| Bidens | cernua L. | a | co | Eu-As-NAm | h | t | a | mk | 3 | 8 | 1 | h | g |
| Bidens | frondosa L. | d | co | Hol | h | t | a | mk | 3 | 8 | 1 | m | r |
| Bidens | radiata Thuill. | a | co | Eu-As | h | t | a | mk | 3 | 8 | 1 | h | ph |
| Bidens | tripartita L. | a | co | cos | h | t | a | mk | 3 | 8 | 1 | h | ph |
| Calendula | officinalis L. | d | sp | Hol | h | t | a | mk | 2 | 8 | 1 | m | r |
| Carduus | acanthoides L. | d | co | SEEu | h | t | a | mk | 2 | 8 | 1 | xm | r |
| Carduus | crispus L. | a | co | Eu-As-bor | h | hk | a | 2 | 2 | 8 | 1 | m | r |
| Carduus | thoermeri Weinm. | a | r | end Pont-kasp-st | h | hk | a | 2 | 2 | 8 | 1 | x | st |
| Centaurea | cyanus L. | d | co | Eu-As-NAm | h | t | a | mk | 2 | 8 | 1 | m | rz |
| Centaurea | diffusa Lam. | d | r | Eu-MAs-NAm | h | hk | a | 2 | 2 | 8 | 1 | x | st |
| Centaurea | jacea L. | a | co | Eu-Balk | h | k | a | hpk | 2 | 7 | 1 | m | ef |
| Centaurea | phrygia L. | a | r | Eu-WSib | h | k | a | hpk | 2 | 7 | 1 | m | ef |
| Centaurea | pseudophrygia C.A.Mey. | a | r | Eu | h | hk | a | hpk | 2 | 7 | 1 | m | ef |
| Centaurea | pseudomaculosa Dobrocz. | a | r | end EEu-WSib | h | hk | a | 2 | 2 | 8 | 1 | xm | st |
| Centaurea | ruthenica Lam. | a | U | Pan-Pont-As | h | hk | a | hpk | 2 | 7 | 1 | xm | st |
| Centaurea | sumensis Kalen. | a | r | end Sarm-Pont | h | k | a | hpk | 2 | 7 | 1 | xm | bs |
| Chamomilla | suaveolens (Pursh) Rydb. | d | co | cos | h | t | a | mk | 2 | 8 | 1 | m | p |
| Chondrilla | juncea L. | a | r | Eu-AMed | h | hk | a | 2 | 2 | 7 | 1 | x | st |
| Chondrilla | graminea M. Bieb. | a | r | Eu-Med-ir-tur | h | k | a | 2 | 2 | 7 | 1 | mx | bs |
| Cichorium | intybus L. | d | co | Eu-As-NAm | h | hk | a | hpk | 2 | 7 | 1 | m | r |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cirsium | oleraceum (L.) Scop. | a | co | Eu-WSib | h | hk | a | hpk | 2 | 7 | 1 | h | ph |
| Cirsium | palustre (L.) Scop. | a | co | Eu-WSib | h | hk | a | hpk | 2 | 7 | 1 | h | m |
| Cirsium | rivulare (Jacq.) All. | a | sp | EEu | h | hk | a | hpk | 2 | 7 | 1 | h | pm |
| Cirsium | setosum (Willd.) Bess. | a | co | EEu-Sib | h | hk | a | hpk | 2 | 7 | 1 | m | rz |
| Cirsium | vulgare (Savi) Ten. | a | co | Hol | h | hk | a | 2 | 2 | 8 | 1 | m | r |
| Conyza | canadensis (L.) Cronq. | d | co | cos | h | hk | a | 1,2 | 2 | 8 | 1 | m | r |
| Crepis | biennis L. | a | sp | Eu | h | hk | a | 1,2 | 2 | 8 | 1 | m | r |
| Crepis | praemorsa ( L.) Tausch | a | sp | Eu-As | h | hk | a | hpk | 2 | 7 | 1 | m | ef |
| Crepis | tectorum L. | a | co | Eu-As | h | hk | a | 1,2 | 2 | 7 | 1 | xm | rz |
| Echinops | ruthenicus M. Bieb. | a | sp | Eu-As | h | hk | a | hpk | 2 | 7 | 1 | x | r |
| Echinops | sphaerocephallus L. | a | sp | Eu-Med-As | h | hk | a | hpk | 2 | 7 | 1 | mx | ef |
| Erigeron | acris L. s.l. | a | co | Eu-As | h | hk | a | 1,2 | 2 | 8 | 1 | m | p |
| Eupatorium | cannabinum L. | a | co | Eu-Nafr-Aut | h | hk | a | hpk | 3 | 7 | 1 | h | g |
| Filago | arvensis L | a | co | Eu-As | h | t | a | mk | 2 | 8 | 1 | mx | bs |
| Galatella | linosyris (L.) Less | a | r | Eu-Med | h | k | a | hpk | 2 | 2 | 2 | x | st |
| Galinsoga | parviflora Cav. | d | co | Eu-NAm | h | t | a | mk | 2 | 8 | 1 | m | rz |
| Gnaphalium | sylvaticum L. | a | sp | Hol | h | hk | a | hpk | 2 | 2 | 2 | m | n |
| Gnaphalium | uliginosum L. | a | sp | Hol | h | t | a | mk | 2 | 8 | 1 | h | g |
| Helianthus | annuus L. | d | sp | Hol | h | t | a | mk | 3 | 8 | 1 | xm | r |
| Helianthus | laetiflorus Pers. | d | co | Eu-As-NAm | h | hk | a | hpk | 3 | 2 | 2 | m | r |
| Helianthus | subcanescens (A. Gray) E. E. Wats. | d | co | Eu-As-NAm | h | k | a | hpk | 3 | 3 | 2 | m | r |
| Helianthus | tuberosus L. | d | sp | Hol | h | k | a | hpk | 3 | 3 | 2 | m | r |
| Helichrysum | arenarium (L.) Moench | a | sp | Eu-As | h | hk | a | hpk | 2 | 2, 7 | 3 | x | bs |
| Hieracium | laevigatum Willd. | a | sp | Eu-Med-MAs | h | hk | a | hpk | 3 | 2 | 2 | m | bs |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hieracium | umbellatum L. | a | co | Hol | h | hk | a | hpk | 2 | 1 | 2 | m | n |
| Hieracium | virgultorum Jord. | a | sp | Eu-Med-MAs | h | k | a | hpk | 3 | 2 | 2 | m | ef |
| Hypochoeris | radicata L. | a | sp | Eu-NAm | h | hk | a | hpk | 2 | 2 | 2 | mx | ef |
| Inula | aspera Poir. | a | r | Sarm-Pont-MAs | h | k | a | hpk | 2 | 1 | 2 | xm | pt |
| Inula | britannica L. | a | co | Eu-Med-As | h | k | a | hpk | 2 | 2 | 2 | m | p |
| Inula | helenium L. | d | sp | Eu-As | h | k | a | hpk | 2 | 2 | 2 | m | r |
| Inula | salicina L. | a | sp | Eu-Med-As | h | hk | a | hpk | 2 | 7 | 1 | m | ef |
| Iva | xanthiifolia Nutt. | d | co | Hol | h | t | a | mk | 2 | 8 | 1 | xm | r |
| Jurinea | arachnoidea Bunge | a | rr | EEu | h | hk | a | hpk | 2 | 7 | 1 | x | st |
| Jurinea | calcarea Klok. | a | rr | Pont | h | hk | a | hpk | 2 | 7 | 1 | x | st |
| Jurinea | cyanoides (L.) Rchb.s.l. | a | sp | NMdEu | h | hk | a | hpk | 2 | 7 | 1 | x | bs |
| Jurinea | pseudomollis Klok. | a | r | end NPont | h | hk | a | hpk | 2 | 7 | 1 | x | st |
| Lactuca | serriola L. | d | co | Eu-AMed | h | t | a | 1,2 | 2 | 8 | 1 | xm | rz |
| Lapsana | communis L. | a | co | Eu-Med-As | h | t | a | mk | 2 | 8 | 1 | m | ef |
| Leontodon | autumnalis L. | a | co | Hol | h | hk | a | hpk | 1 | 2 | 2 | m | p |
| Leontodon | danubialis Jacq | a | r | Eu | h | hk | a | hpk | 2 | 2 | 2 | m | ef |
| Leucanthemum | vulgare Lam. | a | co | cos | h | hk | b | hpk | 2 | 2 | 2 | m | p |
| Matricaria | recutita L. | d | sp | cos | h | t | a | mk | 2 | 8 | 1 | xm | rz |
| Mycelis | muralis (L.) Dumort. | a | co | Eu-Cs | h | hk | a | hpk | 2 | 2 | 2 | m | n |
| Onopordum | acanthium L. | d | co | Eu-MAs-NAm | h | hk | a | 2 | 2 | 8 | 1 | mx | r |
| Petasites | hybridus (L.) P. Gaertn., B. Mey.ex Scherb. | a | co | Eu-MAs | h | k | a | hpk | 2 | 1 | 2 | h | g |
| Petasites | spurius (Retz.) Rchb. | a | sp | Eu-As | h | hk | a | hpk | 2 | 1 | 2 | h | al |
| Picris | hieracioides L. | a | co | cos | h | hk | a | hpk | 2 | 7 | 1 | m | r |
| Phalacroloma | annuum (L.) Dumort. | d | sp | Eu-NAm | h | t | a | mk | 2 | 8 | 1 | m | ef |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pilosella | arvicola (Naeg. & Peter) Sojak | a | sp | MdEEu | h | k | a | hpk | 2 | 2 | 2 | m | ef |
| Pilosella | caespitosa (Dumort.) P.D. Sell & C. West | a | r | Scd-Eu | h | hk | a | hpk | 2 | 2 | 2 | m | ef |
| Pilosella | collina (Gochn.) Sojak | a | sp | Eu-WAs | h | hk | a | hpk | 2 | 2 | 2 | m | b |
| Pilosella | cymosa (L.) F. Schultz & Sch.Bip | a | r | Eu-Sib-MAs | h | hk | a | hpk | 2 | 2 | 2 | xm | ef |
| Pilosella | officinarum F. Schultz et Sch. Bip. | A | co | Eu-As | h | hk | a | hpk | 2 | 8 | 2 | xm | ef |
| Pilosella | piliselliflora (Naeg.& Peter) Sojak | a | sp | end Sarm-Pont | h | hk | a | hpk | 2 | 2 | 2 | xm | ps |
| Pilosella | plicatula (Zahn) Schljak | a | sp | MdEEu | h | hk | a | hpk | 2 | 2 | 2 | xm | p |
| Pilosella | thaumasia (Peter) Dostal | a | sp | Eu-Balk | h | hk | a | hpk | 2 | 2 | 2 | mh | pm |
| Ptarmica | cartilaginea (Ledeb. & Rchb.) Ledeb. | a | sp | Eu-Sib | h | hk | a | hpk | 2 | 2 | 2 | hm | ph |
| Pulicaria | vulgaris Gaertn. | a | co | Eu-As | h | t | a | mk | 2 | 8 | 1 | hm | g |
| Pyrethrum | parthenium (L.) Smith | d | sp | Hcos | h | hk | a | hpk | 2 | 2 | 2 | mx | r |
| Scorzonera | purpurea L. | a | r | Eu-Sib-EAs | h | hk | a | hpk | 2 | 7 | 1 | m | n |
| Senecio | jacobaea L. | a | co | Hol | h | hk | a | hpk | 2 | 7 | 1 | m | ef |
| Senecio | tataricus Less. | a | sp | Eu-WSib | h | hk | a | hpk | 2 | 7 | 1 | h | g |
| Senecio | vernalis Waldst.& Kit. | a | co | Eu-Med-As | h | t | a | mk | 2 | 8 | 1 | xm | rz |
| Senecio | vulgaris L. | d | co | Eu-As-NAm | h | t | a | mk | 2 | 8 | 1 | xm | r |
| Serratula | tinctoria L. | a | r | EEu | h | hk | a | hpk | 2 | 7 | 1 | xm | ef |
| Solidago | canadensis L. | d | sp | Eu-NAm | h | hk | a | hpk | 2 | 2 | 2 | xm | r |
| Solidago | virgaurea L. | a | sp | Eu-WSib | h | hk | a | hpk | 2 | 1 | 2 | m | ef |
| Sonchus | arvensis L. | d | co | Hcos | h | hk | a | hpk | 2 | 1 | 2 | m | rz |
| Sonchus | asper (L.) Hill | d | co | cos | h | t | a | mk | 2 | 8 | 1 | m | rz |
| Sonchus | oleraceus L. | d | co | cos | h | t | a | mk | 2 | 8 | 1 | m | rz |
| Sonchus | palustris L. | a | co | Eu-Sib-MdAs | h | hk | a | hpk | 2 | 2 | 2 | h | m |
| Tanacetum | vulgare L. | a | co | Eu-WAs | h | hk | a | hpk | 2 | 2 | 2 | m | p |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Taraxacum | klokovii Litvinenko | d | sp | end Pont | h | hk | a | hpk | 1 | 7 | 1 | xm | pt |
| Taraxacum | obliquum (Fr.) Dahlst. | a | co | Eu | h | hk | a | hpk | 1 | 7 | 1 | m | p |
| Taraxacum | officinale Wigg. aggr. | a | co | Hcos | h | hk | a | hpk | 1 | 7 | 1 | m | p |
| Tephroseris | integrifolia (L.) Holub | a | sp | EEu | h | hk | a | hpk | 2 | 2 | 2 | m | ef |
| Tephroseris | palustris (L.) Fourr. | a | co | Eu-As-NAm | h | hk | a | hpk | 2 | 2 | 2 | h | pm |
| Tragopogon | major Jacq. | a | co | MdEEu | h | hk | a | 2 | 2 | 8 | 1 | m | pt |
| Tripleurospermum | inodorum (L.) Sch. Bip. | d | co | Eu-As-NAm | h | hk | a | 1,2 | 2 | 8 | 1 | m | rz |
| Tussilago | farfara L. | a | co | Hol | h | k | a | hpk | 1 | 1 | 2 | mh | ph |
| Xanthium | albinum (Widd.) H.Scholz.? | d | co | cos | h | t | a | mk | 3 | 8 | 1 | xm | r |
| Xanthium | spinosum L. | d | r | cos | h | t | a | mk | 3 | 8 | 1 | x | r |
| ***BALSAMINACEAE* A. Rich.** | | | | | | | | | | | | | |
| Impatiens | glandulifera Royle | d | sp | Eu-As | h | t | a | mk | 3 | 8 | 1 | h | r |
| Impatiens | noli-tangere L. | a | sp | Eu-As | h | t | a | mk | 3 | 8 | 1 | h | n |
| Impatiens | parviflora DC. | d | co | Eu-As | h | t | a | mk | 3 | 8 | 1 | hm | ef |
| ***BERBERIDACEAE* Juss.** | | | | | | | | | | | | | |
| Berberis | vulgaris L. | a | sp | Eu | f | ph | a | pk | 3 | 8 | 1 | m | ef |
| ***BETULACEAE* S.F. Gray** | | | | | | | | | | | | | |
| Alnus | glutinosa (L.) P.Gaertn. | a | co | Eu-MAs-NAm | a | ph | a | pk | 3 | 8 | 1 | h | m |
| Betula | humilis Schrank | a | rr | Eu-Sib-bor | f | ph | a | pk | 3 | 8 | 1 | h | pm |
| Betula | pendula Roth. | a | co | Eu-WSib | a | ph | a | pk | 3 | 8 | 1 | m | bn |
| Betula | pubescens Ehrh. | a | sp | Eu-WSib | a | ph | a | pk | 3 | 8 | 1 | h | m |
| ***BORAGINACEAE* Juss.** | | | | | | | | | | | | | |
| Anchusa | offinalis L. | d | sp | Eu-Med | h | hk | a | 2 | 2 | 8 | 1 | mx | r |
| Asperugo | procumbens L. | a | sp | Hol | h | t | a | mk | 2 | 8 | 1 | xm | r |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Borago | officinalis L. | d | sp | Eu-As | h | t | a | mk | 2 | 8 | 1 | xm | r |
| Buglossoides | arvensis (L.) I.M.Johnst. | d | co | Eu-As-NAm | h | t | a | mk | 2 | 8 | 1 | xm | r |
| Cynoglossum | officinale L. | d | co | Eu-As-NAm | h | hk | a | 2 | 2 | 8 | 1 | xm | rz |
| Echium | russicum J.F.Gmel | a | rr | EEu-MdAs | h | hk | a | 2 | 2 | 8 | 1 | x | ef |
| Echium | vulgare L. | a | co | Hol | h | hk | a | 2 | 2 | 8 | 1 | mx | st |
| Lappula | squarrosa (Retz.) Dumort. | d | co | Hol | h | t | a | mk | 2 | 8 | 1 | xm | r |
| Lithospermum | officinale L. | a | co | Eu-As-NAm | h | hk | a | hpk | 3 | 1 | 2 | xm | n |
| Lycopsis | arvensis L. | d | co | Eu-Med-ir-tur | h | t | a | mk | 3 | 8 | 1 | xm | r |
| Myosotis | arvensis (L.) Hill. | d | co | Eu-As | h | hk | a | 1,2 | 2 | 8 | 1 | xm | p |
| Myosotis | caespitosa K.F.Schultz | a | co | Eu-As-NAm | h | k | a | hpk | 2 | 2 | 2 | h | ph |
| Myosotis | micrantha Pall.ex Lehm. | a | co | Eu-As-NAm | h | hk | a | 1,2 | 2 | 8 | 1 | x | ef |
| Myosotis | nemorosa Besser | a | co | Eu-As | h | hk | a | hpk | 2 | 2 | 2 | h | n |
| Myosotis | popovii Dobrocz. | a | co | Sarm-Pont-MdAs | h | hk | a | hpk | 2 | 2 | 2 | m | ef |
| Myosotis | scorpioides L. | a | co | Hol | h | k | a | hpk | 2 | 1 | 2 | h | ph |
| Myosotis | sparsiflora J.C.Mikan ex Pohl | a | co | Eu-As | h | hk | a | 1,2 | 2 | 8 | 1 | m | n |
| Nonea | pulla DC. | a | co | Eu | h | hk | a | hpk | 3 | 7 | 1 | x | r |
| Pulmonaria | angustifolia L. | a | sp | Scd-Eu | h | hk | b | hpk | 2 | 2 | 2 | m | bn |
| Pulmonaria | obscura Dumort. | a | co | Eu-WSib | h | k | b | hpk | 2 | 2 | 2 | m | n |
| Symphytum | asperum Lepech. | d | sp | Eu-NAm | h | hk | a | hpk | 2 | 2 | 2 | m | r |
| Symphytum | officinale L. | a | co | Eu-As-NAm | h | k | a | hpk | 2 | 2 | 2 | h | ph |
| ***BRASSICACEAE* Burnett** | | | | | | | | | | | | | |
| Alliaria | petiolata (M.Bieb.) Cavara & Grande | a | co | Eu-FAs-NAm | h | hk | a | 2 | 3 | 8 | 1 | m | n |
| Alyssum | calycinum L. | a | r | Eu-Med | h | t | a | mk | 2 | 8 | 1 | mx | st |
| Arabidopsis | thaliana (L.) Heynh. | d | co | Hol | h | hk | a | 1,2 | 2 | 8 | 1 | xm | r |

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| Arabis | nemorensis (Hoffm.) W.D.J.Koch | a | sp | Eu-As-NAm | h | hk | a | 1,2 | 2 | 8 | 1 | m | p |
| Arabis | sagittata (Bertol.) DC. | a | sp | Eu-As-NAm | h | hk | a | 1,2 | 2 | 8 | 1 | mx | p |
| Armoracia | rusticana P. Gaertn., Mey. et Scherb. | d | co | Eu-NAm | h | hk | a | hpk | 2 | 7 | 1 | m | r |
| Barbarea | arcuata (Opiz ex Presl) Hayek | a | co | Hcos | h | hk | a | 2 | 2 | 8 | 1 | m | r |
| Barbarea | vulgaris R.Br. | a | co | Hcos | h | hk | a | 2 | 2 | 8 | 1 | mx | z |
| Berteroa | incana (L.) DC. | a | co | Eu-As | h | t | a | mk | 2 | 8 | 1 | mx | r |
| Brassica | campestris L. | d | co | Eu-As | h | t | a | mk | 3 | 8 | 1 | mx | rz |
| Bunias | orientalis L. | d | sp | Eu-Med-WSib | h | hk | a | 1,2 | 2 | 8 | 1 | xm | r |
| Camelina | alyssum (Mill.) Thell. | d | co | Eu | h | hk | a | 2 | 2 | 8 | 1 | xm | z |
| Camelina | sativa (L.) Crantz | d | sp | Hol | h | t | a | mk | 2 | 8 | 1 | xm | r |
| Capsella | bursa-pastoris (L.) Med. | d | co | cos | h | hk | a | 1,2 | 2 | 8 | 1 | mx | r |
| Cardamine | amara L. | a | co | Eu-Sib-MAs | h | hk | a | hpk | 2 | 2 | 2 | mh | pm |
| Cardamine | dentata Schult. | a | sp | Eu-As | h | hk | a | hpk | 2 | 2 | 2 | h | g |
| Cardaminopsis | arenosa (L.) Hayek | a | sp | Eu | h | hk | a | 2 | 2 | 8 | 1 | x | ps |
| Cardaria | draba (L.) Desv. | d | sp | Hol | h | hk | a | hpk | 2 | 7 | 1 | xm | r |
| Dentaria | bublifera (L.) | a | sp | Eu-FAs | h | k | a | hpk | 2 | 2 | 2 | m | bn |
| Descurainia | sophia (L.) Webb ex Prantl | d | co | Hol | h | t | a | mk | 2 | 8 | 1 | xm | r |
| Diplotaxis | muralis (L.) DC. | d | co | Eu-Med | h | hk | a | 1,2 | 2 | 8 | 1 | xm | r |
| Draba | nemorosa L. | a | co | Eu-As-NAm | h | t | a | mk | 2 | 8 | 1 | xm | p |
| Erophila | verna (L.) Besser | a | co | Eu-Med-As | h | t | d | mk | 2 | 8 | 1 | xm | ps |
| Erysimum | cheiranthoides L. | d | co | Eu-As-NAm | h | t | a | mk | 2 | 8 | 1 | xm | rz |
| Hesperis | matronalis L. | d | r | Eu-WAs | h | hk | a | 2 | 3 | 8 | 1 | m | r |
| Hesperis | sibirica L. | a | r | Eu-WAs | h | hk | a | 2 | 3 | 8 | 1 | mh | n |
| Lepidium | densiflorum Schrad. | d | sp | Hcos | h | t | a | mk | 2 | 8 | 1 | x | r |

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| Lepidium | latifolium L. | a | sp | Eu-AMed | h | hk | b | hpk | 2 | 7 | 1 | mh | p |
| Lepidium | ruderale L. | d | co | cos | h | t | a | mk | 2 | 8 | 1 | xm | r |
| Raphanus | raphanistrum L. | d | co | Eu-As-NAm | h | t | a | mk | 3 | 8 | 1 | xm | z |
| Rorippa | amphibia (L.) Besser | a | co | Eu-Med-As | h | hl | a | hpk | 2 | 2 | 2 | w | w |
| Rorippa | brachycarpa (C.A.Mey.) Hayek | a | sp | end Sarm-Pont-MdAs | h | hk | a | hpk | 2 | 2 | 2 | h | ph |
| Rorippa | sylvestris (L.) Besser | a | sp | Eu-Med-NAm | h | hk | a | hpk | 2 | 2 | 2 | h | ph |
| Sinapis | arvensis L. | d | co | Eu-As-NAm | h | t | a | mk | 3 | 8 | 1 | xm | z |
| Sisymbrium | altissimum L. | d | co | Eu-As-NAm | h | hk | a | 1,2 | 2 | 8 | 1 | mx | rz |
| Sisymbrium | loeselii L. | d | sp | Hol | h | hk | a | 1,2 | 2 | 8 | 1 | mx | r |
| Sisymbrium | officinale L. | d | co | Hcos | h | t | a | mk | 2 | 8 | 1 | xm | r |
| Syrenia | cana L. | a | sp | end Pan | h | hk | a | 2 | 2 | 7 | 1 | x | ps |
| Thlaspi | arvense L. | d | co | Eu-As-NAm | h | t | a | mk | 2 | 8 | 1 | m | rz |
| Turritis | glabra L. | a | sp | Hcos | h | t | a | mk | 2 | 8 | 1 | mx | ef |
| ***CALLITRICHACEAE* Link** | | | | | | | | | | | | | |
| Callitriche | hermafrodica L. | a | sp | Eu-As-NAm | h | t | a | mk | 3 | 8 | 1 | g | w |
| Callitriche | palustris L. | a | sp | Hcos | h | t | a | mk | 3 | 8 | 1 | a | w |
| ***CAMPANULACEAE* Juss.** | | | | | | | | | | | | | |
| Adenophora | liliifolia (L.) Ledeb. ex A.DC. | a | sp | Eu-Sib-MdAs | h | hk | a | hpk | 3 | 7 | 1 | m | ef |
| Campanula | bononiensis L. | a | sp | Eu-WSib | h | hk | a | hpk | 2 | 7 | 1 | m | ef |
| Campanula | cervicaria L. | a | rr | Eu-Sib | h | t | a | mk | 2 | 8 | 1 | m | n |
| Campanula | glomerata L. | a | sp | SEEu | h | k | a | hpk | 2 | 2 | 2 | mx | ef |
| Campanula | latifolia L. | a | co | Eu-Sib-MAs | h | hk | a | hpk | 2 | 7 | 1 | m | n |
| Campanula | patula L. | a | co | Eu-WSib | h | hk | a | 2 | 2 | 8 | 1 | m | ef |
| Campanula | persicifolia L. | a | sp | Eu-WSib | h | hk | a | hpk | 2 | 2 | 2 | m | n |

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| Campanula | rapunculoides L. | a | co | Hol | h | hk | a | hpk | 2 | 1 | 2 | m | n |
| Campanula | rapunculus L. | a | co | Eu | h | hk | a | 2 | 2 | 2 | 2 | m | ef |
| Campanula | rotundifolia L. | a | co | Eu-As-NAm | h | hk | a | hpk | 2 | 2 | 2 | m | ef |
| Campanula | sibirica L.s.l. | a | r | Eu-WSib | h | hk | a | 2 | 2 | 8 | 1 | m | p |
| Campanula | trachelium L. | a | sp | Eu-WSib | h | hk | a | hpk | 2 | 7 | 1 | m | ef |
| Jasione | montana L. | a | sp | Eu-MAs-NAm | h | hk | a | 2 | 3 | 8 | 1 | m | bs |
| ***CANNABACEAE* Eudl.** | | | | | | | | | | | | | |
| Cannabis | ruderalis Janisch. | d | sp | Eu-Med-As | h | t | a | mk | 3 | 8 | 1 | xm | rz |
| Humulus | lupulus L. | a | co | Eu-WAs | h | hk | a | hpk | 3 | 1 | 2 | h | g |
| ***CAPRIOPHOLIACEAE* Juss.** | | | | | | | | | | | | | |
| Lonicera | tatarica L. | d | sp | Eu-Sib-MdAs | f | ph | a | pk | 3 | 8 | 1 | m | n |
| Sambucus | nigra L. | a | co | Eu-Med-MAs | f | ph | a | pk | 3 | 8 | 1 | m | n |
| Sambucus | racemosa L. | a | sp | Eu | f | ph | a | pk | 3 | 8 | 1 | m | n |
| Symphoricarpus | albus (L.) S. F. Blake | d | sp | Eu-NAm | f | ph | a | pk | 3 | 8 | 1 | h | r |
| Viburnum | opulus L. | a | sp | Eu-FAs | f | ph | a | pk | 3 | 8 | 1 | m | ef |
| ***CARYOPHYLLACEAE* Juss.** | | | | | | | | | | | | | |
| Agrostemma | githago L. | d | sp | Eu-As | h | t | b | mk | 3 | 8 | 1 | mx | z |
| Arenaria | uralensis Pall. ex Spreng. | a | co | Eu-As | h | hk | a | 2 | 3 | 8 | 1 | xm | ps |
| Cerastium | arvense L. | a | sp | Eu-Med | h | hk | b | hpk | 3 | 2 | 3 | m | ef |
| Cerastium | semidecandrum L. | a | co | Eu | h | t | a | mk | 3 | 8 | 1 | m | ps |
| Coccyganthe | flos-cuculi (L.) Fourr. | a | co | Eu-WSib | h | hk | a | hpk | 2 | 7 | 1 | h | pm |
| Cucubalus | baccifer L. | a | co | Eu-As | h | hk | a | hpk | 3 | 7 | 1 | h | n |
| Dianthus | andrzejowskianus (Zapal.) Kulcz. | a | rr | Eu-WSib | h | hk | a | hpk | 2 | 7 | 1 | mx | st |
| Dianthus | armeria L. | a | sp | MdSEu | h | hk | a | 2 | 2 | 8 | 1 | m | ef |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dianthus | borbasii Vandas | a | sp | Eu | h | hk | a | hpk | 2 | 7 | 1 | mx | bs |
| Dianthus | deltoides L. | a | co | Eu-WSib | h | hk | a | hpk | 3 | 3 | 3 | m | ef |
| Dianthus | eugeniae Kleop. | a | r | End Sarm | h | hk | a | hpk | 2 | 7 | 1 | mx | pt |
| Dianthus | pineticola Kleopow | a | r | Eu | h | hk | a | hpk | 2 | 7 | 1 | m | n |
| Dianthus | pseudosquarrosus (Novak) Klokov | a | r | end Sarm | sf | ch | a | pk | 2 | 2 | 3 | m | ps |
| Eremogone | micradenia (P.Smirn.) Ikonn | a | co | Eu | h | hk | b | hpk | 2 | 7 | 3 | m | ef |
| Gypsophilla | fastigiata L. | a | sp | Eu | h | ch | b | hpk | 3 | 7 | 1 | xm | n |
| Gypsophilla | oligosperma A.Krasnova | a | sp | EEu | sf | ch | a | pk | 3 | 7 | 1 | x | st |
| Gypsophilla | paniculata L. | a | sp | Eu-WSib | h | hk | a | hpk | 3 | 7 | 1 | xm | st |
| Herniaria | glabra L. | a | co | Eu-WAs | h | hk | b | 2 | 3 | 8 | 1 | mx | ps |
| Herniaria | polygama J.Gay | a | sp | Eu-WSib | h | t | a | mk | 3 | 8 | 1 | x | b |
| Melandrium | album (Mill.) Garcke | a | sp | Eu-As | h | hk | a | 2 | 3 | 3 | 3 | m | p |
| Moehringia | trinervia (L.) Clairv. | a | sp | Eu-WAs | h | hk | a | 1,2 | 3 | 8 | 1 | hm | n |
| Oberna | behen (L.) Ikonn. | a | co | Eu-As | h | ch | a | hpk | 3 | 7 | 1 | m | ef |
| Otites | borysthenica (Grun.) Klok. | a | co | Eu-As | h | hk | a | 2 | 2 | 8 | 1 | xm | ps |
| Otites | chersonensis (Zapal.) Klokov | a | r | EEu | h | hk | a | 2 | 2 | 8 | 1 | xm | st |
| Psammofiliella | muralis (L.) Ikonn. | a | co | Eu-As | h | t | a | mk | 3 | 7 | 1 | m | ps |
| Sagina | nodosa (L.) Fonzl. | a | co | Hcos | h | hk | a | hpk | 2 | 3 | 3 | hm | n |
| Sagina | procumbens L. | a | co | Hcos | h | ch | a | hpk | 2 | 7 | 3 | m | p |
| Saponaria | officinalis L. | d | co | Eu-WSib | h | t | a | mk | 3 | 8 | 1 | m | ef |
| Scleranthus | perennis L. | a | co | MdEu | h | hk | a | hpk | 2 | 7 | 1 | m | b |
| Silene | nutans L. | a | co | Eu-WSib | h | hk | a | hpk | 2 | 7 | 1 | m | p |
| Silene | tatarica (L.) Pers. | a | sp | Eu | h | hk | a | hpk | 3 | 7 | 1 | m | ef |
| Spergula | arvensis L. | d | sp | Eu-WAs | h | t | a | mk | 3 | 8 | 1 | m | ps |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Spergularia | rubra (L.) J.Presl et C.Presl | a | co | Eu-As | h | hk | a | 1,2 | 3 | 8 | 1 | m | ps |
| Stellaria | graminea L. | a | co | Eu-As | h | hk | a | hpk | 3 | 1 | 2 | m | p |
| Stellaria | hippoctona (Czern.) Klokov | a | co | Eu-As | h | hk | a | hpk | 3 | 1 | 2 | hm | ph |
| Stellaria | holostea L. | a | co | Eu-WSib | h | ch | a | hpk | 3 | 1 | 2 | m | n |
| Stellaria | media (L.) Vill. | a | co | cos | h | hk | b | 1,2 | 3 | 8 | 1 | hm | p |
| Stellaria | palustris Retz. | a | co | Eu-As | h | hk | a | hpk | 3 | 1 | 2 | h | pm |
| Stellaria | nemorum L. | a | r | Eu | h | hk | a | hpk | 3 | 1 | 2 | hm | n |
| Steris | viscaria (L.) Raf. | a | co | Eu-WSib | h | hk | a | hpk | 2 | 7 | 1 | m | ef |
| ***CELASTRACEAE* R.Br.** | | | | | | | | | | | | | |
| Euonymus | europaea L. | a | co | Eu-MAs | f | ph | a | pk | 3 | 8 | 1 | m | n |
| Euonymus | verrucosa Scop. | a | co | Eu-MAs | f | ph | a | pk | 3 | 8 | 1 | m | ef |
| ***CERATOPHYLLACEAE* S.F. Gray** | | | | | | | | | | | | | |
| Ceratophyllum | demersum L. | a | co | cos | h | w | a | hpk | 3 | 8 | 1 | w | w |
| Ceratophyllum | submersum L. | a | r | Eu-As | h | w | a | hpk | 3 | 8 | 1 | g | w |
| ***CHENOPODIACEAE* Vent.** | | | | | | | | | | | | | |
| Atriplex | hortensis L. | d | sp | Eu-As | h | t | a | mk | 3 | 8 | 1 | m | rz |
| Atriplex | oblongifolia Waldst.et Kit. | a | co | Eu-As-NAm | h | t | a | mk | 3 | 8 | 1 | xm | rz |
| Atriplex | patula L. | a | co | Hol | h | t | a | mk | 3 | 8 | 1 | xm | rz |
| Atriplex | prostrata Boucher ex DC. | d | sp | Hol | h | t | a | mk | 3 | 8 | 1 | mx | rz |
| Atriplex | tatarica L. | d | sp | Hcos | h | t | a | mk | 3 | 8 | 1 | mx | r |
| Atriplex | sagittata Borkh. | d | sp | Eu-As | h | t | a | mk | 3 | 8 | 1 | mx | r |
| Chenopodium | album L.s.l. | a | co | Hcos | h | t | a | mk | 3 | 8 | 1 | xm | rz |
| Chenopodium | botrys L. | d | sp | Eu-Med-ir-tur | h | t | a | mk | 3 | 8 | 1 | m | r |
| Chenopodium | glaucum L. | a | sp | cos | h | t | a | mk | 3 | 8 | 1 | h | rz |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chenopodium | hybridum L. | d | co | Hol | h | t | a | mk | 3 | 8 | 1 | xm | r |
| Chenopodium | opulifolium Schrad.ex DC. | d | sp | Eu-AMed-EAs | h | t | a | mk | 3 | 8 | 1 | mx | rz |
| Chenopodium | polyspermum L. | d | sp | Eu-Sib-FAs | h | t | a | mk | 3 | 8 | 1 | m | ps |
| Chenopodium | suecicum J.Murr | d | co | Eu-As-NAm | h | t | a | mk | 3 | 8 | 1 | m | rz |
| Corispermum | marschallii Steven | a | sp | Eu-AMed | h | t | a | mk | 3 | 8 | 1 | hm | al |
| Kochia | laniflora (S.G. Gmel.) Borbas | d | sp | Eu-As | h | t | a | mk | 3 | 8 | 1 | m | bs |
| Kochia | scoparia (L.) Schrad. | d | sp | Eu-As | h | t | a | mk | 3 | 8 | 1 | mx | r |
| Polycnemum | majus A.Br. | a | sp | Eu-Med | h | t | a | mk | 3 | 8 | 1 | x | ps |
| Salsola | tragus L. s. str. | a | r | Eu-AMed | h | t | a | mk | 3 | 8 | 1 | m | ps |
| ***CISTACEAE* Juss.** | | | | | | | | | | | | | |
| Helliantheum | nummularium (L.) Mill. | a | rr | Eu-Balk-Cs | h | hk | a | hpk | 2 | 7 | 1 | mx | st |
| ***CLUSIACEAE* Lindl.** | | | | | | | | | | | | | |
| Hypericum | elegans Stephan ex Willd. | a | sp | Eu-WSib | h | hk | a | hpk | 3 | 7 | 1 | x | st |
| Hypericum | maculatum Crantz | a | sp | Eu-WSib | h | hk | a | hpk | 3 | 7 | 1 | m | ef |
| Hypericum | montanum L. | a | sp | Eu-Cs | h | hk | a | hpk | 3 | 7 | 1 | m | n |
| Hypericum | perforatum L. | a | co | Eu-AMed-NAm | h | hk | a | hpk | 3 | 7 | 1 | xm | ef |
| Hypericum | tetrapterum Fr. | a | rr | Eu-WSib | h | hk | a | hpk | 3 | 7 | 1 | h | ph |
| ***CORNACEAE* Dumort.** | | | | | | | | | | | | | |
| Swida | sanguinea (L.) Opiz. | a | r | Eu-Cs | f | ph | a | pk | 3 | 8 | 1 | m | n |
| ***CORYLACEAE* Mirbel** | | | | | | | | | | | | | |
| Corylus | avellana L. | a | co | eu | a | ph | a | pk | 3 | 8 | 1 | m | n |
| ***CONVOLVULACEAE* Juss.** | | | | | | | | | | | | | |
| Calystegia | sepium (L.) R.Br. | a | co | cos | h | k | a | hpk | 3 | 1 | 2 | mh | g |
| Convolvulus | arvensis L. | a | co | cos | h | k | a | hpk | 3 | 3 | 3 | mx | rz |

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| Ipomoea | purpurea (L.) Roth | d | sp | Hcos | h | t | a | mk | 3 | 8 | 1 | m | r |
| ***CRASSULACEAE* DC.** | | | | | | | | | | | | | |
| Sedum | acre L. | a | co | Eu-MAs | h | hk | a | hpk | 3 | 2 | 2 | x | bs |
| Sedum | ruprechtii (Jalas) Omelcz. | a | rr | Scd-EEu | h | k | a | hpk | 3 | 2 | 2 | x | n |
| Sempervivum | ruthenicum Schnittsp. & C.B. Lehm. | a | r | Eu | h | hk | a | hpk | 2 | 1 | 2 | m | bs |
| ***CUCURBITACEAE* Juss.** | | | | | | | | | | | | | |
| Bryonia | alba L. | d | r | Eu-Cr-Cs | h | k | a | hpk | 3 | 7 | 1 | xm | r |
| Echinocystis | lobata (Michx.) Torr.et Gray | d | co | Hol | h | t | a | mk | 3 | 8 | 1 | hm | g |
| Thladiantha | dubia Bunge | d | r | Eu-As | h | hk | a | hpk | 3 | 1 | 2 | m | r |
| ***CUSCUTACEAE* Dumort.** | | | | | | | | | | | | | |
| Cuscuta | epilinum Weihe | d | sp | Hol | h | t | a | mk | 3 | 8 | 1 | xm | z |
| Cuscuta | europaea L. | a | sp | Hol | h | t | a | mk | 3 | 8 | 1 | m | z |
| ***DIPSACACEAE* Juss.** | | | | | | | | | | | | | |
| Dipsacus | strigosus Willd.ex Roem.et Schult. | a | sp | EEu-FAs | h | hk | a | 2 | 2 | 7 | 1 | x | r |
| Knautia | arvensis (L.) Coult. | a | sp | Eu-As | h | hk | a | hpk | 2 | 7 | 1 | xm | ef |
| Scabiosa | ochroleuca L. | a | sp | Eu-As | h | hk | a | hpk | 2 | 7 | 1 | xm | pt |
| Succisa | pratensis Moench. | a | sp | Eu-Nafr-Sib | h | hk | a | hpk | 2 | 2 | 2 | m | ef |
| ***DROSERACEAE* Salisb.** | | | | | | | | | | | | | |
| Drosera | rotundifolia L. | a | rr | Hol | h | hk | a | hpk | 2 | 2 | 2 | h | m |
| ***ELAEAGNACEAE* Juss.** | | | | | | | | | | | | | |
| Hippophae | rhamnoides L. | d | r | Eu-As | f | ph | a | pk | 3 | 8 | 1 | x | Cu |
| ***ELATINACEAE* Dumort.** | | | | | | | | | | | | | |
| Elatine | alsinastrum L. | a | sp | Eu-As | h | t | a | mk | 3 | 8 | 2 | w | w |
| Elatine | hydropiper L. | a | sp | Eu-WSib-MAs | h | t | a | mk | 3 | 8 | 2 | w | w |

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| ***ERICACEAE* Juss.** | | | | | | | | | | | | | |
| Calluna | vulgaris (L.) Hull | a | sp | Eu-WSib-MAs | fr | ch | c | pk | 3 | 1 | 2 | m | b |
| Ledum | palustre L. | a | sp | Hol-bor | fr | ch | c | pk | 3 | 1 | 2 | hm | bs |
| Oxycoccus | palustris Pers. | a | sp | Hol-bor | fr | ch | c | pk | 3 | 1 | 2 | h | m |
| Vaccinium | vitis-idaea L. | a | sp | Hol-bor | fr | ch | c | pk | 3 | 1 | 2 | m | b |
| Vaccinium | myrtillus L. | a | co | Eu-Sib-NAm | fr | ch | a | pk | 3 | 1 | 2 | m | b |
| ***EUPHORBIACEAE* Juss.** | | | | | | | | | | | | | |
| Euphorbia | cyparissias L. | a | sp | Eu-SAm | h | hk | a | hpk | 3 | 7 | 1 | x | bn |
| Euphorbia | palustris L. | a | co | Eu-MAs | h | hk | a | hpk | 3 | 7 | 1 | hm | pm |
| Euphorbia | peplus L. | d | sp | Eu-Med-EAs-NAm | h | t | a | mk | 3 | 8 | 1 | xm | rz |
| Euphorbia | seguieriana Neck. | a | co | Eu-WAs | h | hk | a | hpk | 3 | 7 | 1 | mx | st |
| Euphorbia | stepposa Zoz ex Prokh. | a | r | end Pont | h | hk | a | hpk | 3 | 7 | 1 | x | st |
| Euphorbia | stricta L. | a | sp | Eu-Med-MAs-NAm | h | hk | a | 1,2 | 3 | 8 | 1 | m | n |
| Mercurialis | perennis L. | a | co | Eu | h | hk | a | hpk | 3 | 2 | 2 | m | n |
| ***FABACEAE* Lindl.** | | | | | | | | | | | | | |
| Anthyllis | macrocephala Wender | a | r | Eu-Cs | h | hk | a | hpk | 3 | 3 | 3 | xm | st |
| Astragalus | arenarius L. | a | sp | Eu | h | hk | a | hpk | 3 | 7 | 1 | xm | bs |
| Astragalus | cicer L. | a | r | Eu-Med | h | hk | a | hpk | 3 | 3 | 3 | x | st |
| Astragalus | glycyphyllos L. | a | sp | Eu-MAs | h | hk | a | hpk | 3 | 7 | 1 | m | n |
| Caragana | arborescens Lam. | d | co | Eu-Sib-MdAs | f | ph | a | pk | 3 | 8 | 1 | mx | r |
| Chamaecytisus | ruthenicus (Fisch.ex Wol.) Klaskova | a | sp | Eu-WSib | f | ph | a | pk | 3 | 8 | 1 | x | st |
| Chamaecytisus | zingeri (Nenuk.) Klaskova | a | sp | EEu-WSib | f | ph | a | pk | 3 | 8 | 1 | xm | bs |
| Coronilla | varia L. | a | sp | Eu-WAs | h | hk | b | hpk | 3 | 3 | 3 | m | p |
| Genista | tinctoria L. | a | co | Eu-WSib | f | ph | a | pk | 3 | 8 | 1 | m | ef |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lathyrus | niger (L.) Bernh. | a | r | Eu-Med | h | hk | a | hpk | 3 | 1 | 2 | m | ef |
| Lathyrus | palustris L. | a | co | Eu-As | h | hk | a | hpk | 3 | 2 | 2 | hm | pm |
| Lathyrus | pratensis L. | a | co | Hcos | h | hk | a | hpk | 3 | 1 | 2 | m | ef |
| Lathyrus | sativus L. | d | sp | Eu-MdAs | h | t | a | mk | 3 | 8 | 1 | m | r |
| Lathyrus | sylvestris L. | a | co | Eu-Cs | h | hk | a | hpk | 3 | 3 | 3 | m | ef |
| Lathyrus | vernus (L.) Bernh. | a | co | Eu-Sib | h | hk | a | hpk | 3 | 2 | 2 | m | n |
| Lotus | corniculatus L. | a | co | cos | h | hk | a | hpk | 3 | 3 | 3 | m | p |
| Lupinus | polyphyllus Lindl. | d | co | Eu-MdAs-NAm | h | hk | a | hpk | 3 | 7 | 1 | m | ef |
| Medicago | falcata L. Aggr | a | sp | end Sarm-Pont | h | hk | a | hpk | 3 | 7 | 1 | xm | st |
| Medicago | lupulina L. | a | co | Eu-As | h | hk | a | 1,2 | 3 | 8 | 1 | m | ef |
| Medicago | sativa L. | d | sp | Hcos | h | hk | a | hpk | 3 | 3 | 3 | m | r |
| Melilotus | albus Medik | a | co | cos | h | hk | a | 1,2 | 3 | 8 | 1 | m | ef |
| Melilotus | officinalis (L.) Pall. | a | co | cos | h | hk | a | 2 | 3 | 8 | 1 | m | ef |
| Onobrychis | arenaria (Kit.) DC. | d | r | MdEu | h | hk | a | hpk | 3 | 7 | 1 | mx | ef |
| Onobrychis | tanaitica Spreng. | a | sp | Eu-Sib-MdAs | h | hk | a | hpk | 3 | 7 | 1 | mx | st |
| Onobrychis | vicifolia Scop. | d | r | Eu | h | hk | a | hpk | 3 | 7 | 1 | xm | r |
| Ononis | arvensis L. | a | sp | Eu-Sib | h | hk | a | hpk | 3 | 7 | 1 | m | p |
| Robinia | pseudoacacia L. | d | co | Hcos | a | ph | a | pk | 3 | 8 | 1 | mx | r |
| Trifolium | alpestre L. | a | sp | Eu | h | hk | a | hpk | 3 | 3 | 3 | m | ef |
| Trifolium | arvense L. | a | co | Eu-As-NAm | h | t | a | mk | 3 | 8 | 1 | xm | pt |
| Trifolium | campestre Schred. | a | co | Eu-Med-ir-tur | h | t | a | mk | 3 | 8 | 1 | xm | p |
| Trifolium | hybridum L. | d | co | Eu-Med | h | hk | a | hpk | 3 | 3 | 3 | m | ef |
| Trifolium | medium L. | a | co | Eu-Med-As | h | hk | a | hpk | 3 | 3 | 3 | m | p |
| Trifolium | montanum L. | a | sp | Eu-WSib-MdAs | h | k | a | hpk | 2 | 3 | 3 | xm | ef |

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| Trifolium | pratense L. | a | co | Eu-AMed | h | hk | a | hpk | 3 | 2 | 3 | hm | ph |
| Trifolium | repens L. | a | co | Hol | h | hk | a | hpk | 2 | 2 | 3 | m | p |
| Trifolium | sativum (Schreb.) Crome | a | co | Eu | h | hk | a | hpk | 2 | 7 | 1 | m | r |
| Vicia | angustifolia Reichard | d | sp | Eu-Sib-AMed | h | t | a | mk | 3 | 8 | 1 | m | z |
| Vicia | cassubica L. | a | sp | Eu-Med | h | hk | a | hpk | 3 | 2 | 3 | xm | ef |
| Vicia | cracca L. | a | co | Eu-As-NAm | h | hk | a | hpk | 3 | 2 | 3 | m | ef |
| Vicia | hirsuta (L.) S.F.Gray. | d | sp | Eu-Med-As | h | t | a | mk | 3 | 8 | 1 | xm | n |
| Vicia | sepium L. | a | co | Eu-As | h | hk | a | hpk | 3 | 2 | 3 | m | ef |
| Vicia | tetrasperma (L.) Schreb. | d | sp | Eu-As-NAm | h | t | a | mk | 3 | 8 | 1 | xm | z |
| Vicia | villosa Roth | d | r | Eu-Med-MdAs | h | hk | a | 1,2 | 3 | 7 | 1 | mx | z |
| ***FAGACEAE* Dumort.** | | | | | | | | | | | | | |
| Quercus | robur L. | a | co | Eu-Cs | a | ph | a | pk | 3 | 8 | 1 | m | n |
| Quercus | rubra L. | d | co | Eu-NAm | a | ph | a | pk | 3 | 8 | 1 | m | n |
| ***FUMARIACEAE* DC.** | | | | | | | | | | | | | |
| Corydalis | cava (L.) Schweigg. & Korte | a | r | eu | h | k | e | hpk | 2 | 3 | 2 | m | n |
| Corydalis | solida (L.) Clairv. | a | sp | Eu-MdAs | h | k | e | hpk | 2 | 3 | 2 | m | bn |
| Fumaria | officinalis L. | d | r | Eu-Med | h | t | a | mk | 2 | 8 | 1 | xm | r |
| ***GENTIANACEAE* Juss.** | | | | | | | | | | | | | |
| Centaurium | pulchellum (Sw.) Druce | a | sp | Eu-WAs | h | t | a | mk | 2 | 8 | 1 | hm | ph |
| Centaurium | uliginosum L. | a | sp | Eu-MdAs | h | hk | a | 2 | 2 | 8 | 1 | h | m |
| ***GERANIACEAE* Juss.** | | | | | | | | | | | | | |
| Erodium | cicutarium (L.) L' Her. | a | co | cos | h | t | a | mk | 2 | 8 | 1 | xm | n |
| Geranium | palustre L. | a | sp | Eu-WSib | h | hk | a | hpk | 3 | 2 | 2 | h | pm |
| Geranium | pratense L. | a | sp | Eu-Med-WSib | h | k | a | hpk | 2 | 2 | 2 | m | bs |

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| Geranium | pusillum L. | d | co | Hol | h | t | a | mk | 2 | 8 | 1 | xm | rz |
| Geranium | sanquineum L. | a | sp | Eu-Med-WSib | h | k | a | hpk | 2 | 2 | 2 | m | bs |
| Geranium | robertianum L. | a | r | Eu-As-Am | h | t | a | mk | 2 | 8 | 1 | m | n |
| Geranium | sylvaticum L. | a | co | Eu-As-NAm | h | hk | a | hpk | 2 | 2 | 2 | m | n |
| **GROSSULARIACEAE DC.** | | | | | | | | | | | | | |
| Ribes | nigrum L. | a | sp | Eu-Sib-NAm | f | ph | a | pk | 3 | 8 | 1 | hm | n |
| Grossularia | reclinata (L.) Mill | a | sp | Eu-Sib-NAm | f | ph | a | pk | 3 | 8 | 1 | m | n |
| ***HALORAGACEAE* R.Br.** | | | | | | | | | | | | | |
| Myriophyllum | spicatum L. | a | co | Hcos | h | w | a | hpk | 3 | 1 | 2 | a | w |
| Myriophyllum | verticillatum L. | a | co | Hcos | h | w | a | hpk | 3 | 1 | 2 | a | w |
| ***HIPPURIDACEAE* Link** | | | | | | | | | | | | | |
| Hippuris | lanceolata Retz. | a | co | Hcos | h | w | a | hpk | 3 | 1 | 2 | w | w |
| ***LAMIACEAE* Lindl.** | | | | | | | | | | | | | |
| Acinos | arvensis (Lam.) Dandy | a | sp | Eu-MAs | h | t | a | mk | 3 | 7 | 1 | x | st |
| Ajuga | genevensis L. | a | sp | Eu-FAs | h | hk | a | hpk | 2 | 3 | 3 | m | ef |
| Ballota | nigra L. | d | co | Eu-Med-ir-tur | h | hk | b | hpk | 3 | 7 | 1 | x | r |
| Betonica | officinalis L. s.l | a | sp | EEu | h | hk | a | hpk | 2 | 7 | 1 | m | n |
| Clinopodium | vulgare L. | a | co | Eu-AMed-NAm | h | hk | a | hpk | 3 | 7 | 1 | m | ef |
| Dracocephalum | ruyschiana L. | a | rr | Eu-As | h | t | a | mk | 3 | 8 | 1 | m | n |
| Elsholtzia | ciliata (Thunb.) Hyl. | d | co | Hol | h | t | a | mk | 3 | 8 | 1 | hm | r |
| Galeopsis | bifida Boenn. | a | sp | Eu-As | h | t | a | mk | 3 | 8 | 1 | m | rz |
| Galeopsis | ladanum L. | d | co | Eu-Sib-FAs | h | t | a | mk | 3 | 8 | 1 | m | z |
| Galeopsis | speciosa Mill. | a | sp | Eu-Sib | h | t | a | mk | 3 | 8 | 1 | m | z |
| Glechoma | hederacea L. | a | co | Eu-As-NAm | h | hk | b | hpk | 3 | 2 | 2 | m | ef |

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| Glechoma | hirsuta Waldst. & Kit. | a | co | eu | h | hk | b | hpk | 3 | 2 | 2 | m | n |
| Lamium | galeobdolon (L.) L. | a | r | Eu-Cs | h | hk | a | hpk | 3 | 1 | 2 | m | n |
| Lamium | maculatum (L.) L. | a | sp | Eu-FAs-NAm | h | hk | a | hpk | 3 | 1 | 2 | m | n |
| Lamium | purpureum L. | d | sp | Eu-As-NAm | h | hk | a | 1,2 | 2 | 8 | 1 | xm | rz |
| Leonurus | villosus Desf. ex D'Urv. | a | co | Eu-WSib | h | hk | a | hpk | 3 | 2 | 2 | x | r |
| Lycopus | exaltatus L.f. | a | co | Eu-FAs | h | k | a | hpk | 3 | 1 | 2 | h | g |
| Lycopus | europaeus L. | a | co | cos | h | k | a | hpk | 3 | 1 | 2 | h | g |
| Mentha | arvensis L. | a | co | Eu-As-NAm | h | k | a | hpk | 3 | 1 | 2 | hm | g |
| Mentha | aquatica L. | a | co | Hcos | h | hl | a | hpk | 3 | 8 | 2 | h | g |
| Mentha | spicata L. | d | sp | Eu-As | h | hk | a | hpk | 3 | 2 | 2 | m | p |
| Nepeta | cataria L. | d | r | Eu-FAs | h | hk | a | hpk | 3 | 3 | 3 | m | ef |
| Origanum | vulgare L. | a | sp | Eu-MdAs | h | hk | a | hpk | 3 | 7 | 1 | m | ef |
| Phlomis | tuberosa L. | a | sp | Eu-As-NAm | h | hk | a | hpk | 2 | 2 | 2 | m | ef |
| Prunella | grandiflora (L.) Scholl. | a | rr | Eu-MAs | h | k | a | hpk | 2 | 2 | 2 | xm | ef |
| Prunella | vulgaris L. | a | co | cos | h | hk | a | hpk | 2 | 2 | 2 | m | p |
| Salvia | nemorosa L. aggr. | a | r | MdEu | h | hk | a | hpk | 2 | 7 | 1 | m | pt |
| Salvia | nutans L. | a | r | Pan-Pont | h | hk | a | hpk | 2 | 7 | 1 | x | st |
| Salvia | pratensis L. | a | sp | Eu-Cs | h | hk | a | hpk | 2 | 7 | 1 | xm | pt |
| Salvia | verticillata L. | d | r | Eu-FAs | h | k | a | hpk | 2 | 3 | 3 | xm | r |
| Salvia | viridis L. | d | r | Eu-Med-MAs | h | t | a | mk | 1 | 8 | 1 | x | r |
| Scutellaria | galericulata L. | a | sp | Eu-As | h | k | a | hpk | 3 | 2 | 2 | h | g |
| Scutellaria | hastifolia L. | a | co | eu | h | hk | a | hpk | 3 | 2 | 2 | h | g |
| Stachys | palustris L. | a | sp | Hol | h | hk | a | hpk | 3 | 2 | 2 | hm | g |
| Stachys | recta L. | a | sp | MdEEu | h | k | a | hpk | 3 | 2 | 2 | xm | n |

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| Stachys | sylvatica L. | a | sp | Eu-As | h | k | a | hpk | 3 | 1 | 2 | m | n |
| Thymus | marschallianus Willd. | a | sp | Eu-As | sf | ch | a | hpk | 3 | 3 | 3 | x | st |
| Thymus | pulegioides L. s.l. | a | sp | eu | sf | ch | a | pk | 3 | 3 | 3 | m | ef |
| Thymus | serpyllum L. s.l. | a | co | eu | sf | ch | b | pk | 3 | 3 | 3 | mx | bs |
| Thymus | tschernjajevii Klok.& Des.- Shost. | a | co | end Npont | sf | ch | b | pk | 3 | 3 | 3 | mx | bs |
| ***LENTIBULARIACEAE* Rich.** | | | | | | | | | | | | | |
| Urticularia | intermedia Hayne | a | sp | Eu-As-NAm | h | hk | a | hpk | 3 | 8 | 4 | h | m |
| Utricularia | vulgaris L. | a | sp | Hol | h | hk | a | hpk | 3 | 8 | 4 | hw | m |
| ***LINACEAE* DC. ex S.F.Gray** | | | | | | | | | | | | | |
| Linum | catharticum L. | a | sp | Eu-Med-MAs | h | t | a | mk | 3 | 8 | 1 | m | n |
| Linum | flavum L. | a | rr | Eu-Med-MAs | h | hk | a | hpk | 3 | 7 | 1 | mx | st |
| Linum | perenne L. | a | rr | Eu-As | h | hk | a | hpk | 3 | 7 | 1 | mx | st |
| ***LORANTHACEAE* Juss.** | | | | | | | | | | | | | |
| Viscum | album L. | a | co | Eu-As | f | ph | c | pk | 3 | 8 | 4 | m | n |
| ***LYTHRACEAE* J.Sit.-Hil.** | | | | | | | | | | | | | |
| Lythrum | hyssopifolia L. | a | sp | cos | h | t | a | mk | 3 | 8 | 1 | hm | al |
| Lythrum | salicaria L. | a | co | Hcos | h | k | a | hpk | 3 | 1 | 2 | h | g |
| Lythrum | virgatum L. | a | co | Eu-As | h | k | a | hpk | 3 | 1 | 2 | h | m |
| Peplis | portula L. | a | co | Eu-Nafr | h | t | a | mk | 3 | 8 | 3 | m | al |
| ***MALVACEAE* Juss.** | | | | | | | | | | | | | |
| Althaea | officinalis L. | d | r | Hol | h | hk | a | hpk | 3 | 2 | 2 | hm | g |
| Lavathera | thuringiaca L. | a | co | Eu-MAs | h | hk | a | hpk | 3 | 7 | 1 | m | ef |
| Malva | neglecta Wallr. | d | co | Hcos | h | hk | a | hpk | 3 | 7 | 1 | mx | r |
| Malva | pusilla Smith. | d | co | Hcos | h | t | a | mk | 3 | 7 | 1 | m | rz |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Malva | sylvestris L. | d | co | Hcos | h | hk | a | 2 | 3 | 8 | 1 | m | ef |
| ***MENYANTHACEAE* Dumort.** | | | | | | | | | | | | | |
| Menyanthes | trifoliata L. | a | sp | Eu-As-NAm | h | hl | a | hpk | 3 | 1 | 2 | w | m |
| ***NYMPHAEACEAE* Salisb.** | | | | | | | | | | | | | |
| Nuphar | lutea (L.) Smith | a | co | Eu-MdAs-NAm | h | w | a | hpk | 3 | 2 | 2 | a | w |
| Nymphaea | alba L. | a | sp | Eu-Med-MAs-NAm | h | w | a | hpk | 3 | 2 | 2 | a | w |
| Nymphaea | candida J.et C.Presl | a | r | Eu-WSib-MdAs | h | w | a | hpk | 3 | 2 | 2 | a | w |
| ***OLEACEAE* Hoffsgg.& Link** | | | | | | | | | | | | | |
| Fraxinus | excelsior L. | a | co | eu | a | ph | a | pk | 3 | 8 | 1 | m | n |
| Syringa | vulgaris L. | d | co | eu | f | ph | a | pk | 3 | 8 | 1 | m | r |
| **ONAGRACEAE Juss.** | | | | | | | | | | | | | |
| Oenothera | biennis L. | d | co | Eu-FEAs-NAm | h | hk | a | 2 | 2 | 7 | 1 | mx | r |
| Oenothera | rubricaulis Klebahn. | d | co | Eu-FEAs-NAm | h | hk | a | 2 | 2 | 7 | 1 | mx | r |
| Chamaerion | angustifolium (L.) Holub | a | co | Eu-As-NAm | h | hk | a | hpk | 3 | 1 | 2 | m | ps |
| Circaea | lutetiana L. | a | r | Eu-AMed-NAm | h | hk | a | hpk | 3 | 1 | 2 | hm | n |
| Epilobium | hirsutum (L.) | a | co | Hol | h | hk | a | hpk | 3 | 7 | 1 | h | ph |
| Epilobium | palustre L. | a | co | Eu-As-NAm | h | ch | a | hpk | 3 | 2 | 2 | h | pm |
| Epilobium | parviflorum Schreb. | a | sp | Eu-Med-WAs-NAm | h | k | a | hpk | 3 | 2 | 2 | h | g |
| ***OROBANCHACEAE* Vent.** | | | | | | | | | | | | | |
| Orobanche | alba Stephan ex Willd. | a | sp | Eu-WAs | h | k | a | hpk | 3 | 8 | 4 | x | st |
| Phelipanche | ramosa ( L.) Pomel | d | sp | Eu-Med-WAs-NAm | h | k | a | hpk | 3 | 8 | 4 | m | rz |
| ***OXALIDACEAE* R.Br.** | | | | | | | | | | | | | |
| Oxalis | acetosella L. | a | sp | Hol | h | k | a | hpk | 2 | 2 | 2 | m | bn |
| Xanthoxalis | stricta (L.) Small | d | co | Hol | h | hk | a | 1,2 | 3 | 7 | 1 | xm | n |

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| ***PAPAVERACEAE* Juss.** | | | | | | | | | | | | | |
| Chelidonium | majus L. | a | co | Hol | h | hk | b | hpk | 2 | 7 | 1 | m | ef |
| Papaver | somniferum L. | d | r | cos | h | t | a | mk | 2 | 8 | 1 | m | r |
| ***PARNASSIACEAE* S.F.Gray** | | | | | | | | | | | | | |
| Parnassia | palustris L. | a | rr | Eu-As-NAm | h | hk | a | hpk | 1 | 2 | 2 | hm | pm |
| ***PLANTAGINACEAE* Juss.** | | | | | | | | | | | | | |
| Plantago | arenaria Waldst. & Kit. | d | sp | Eu-Sib-MAs | h | t | a | mk | 2 | 8 | 1 | mx | ps |
| Plantago | lanceolata L. | a | co | cos | h | hk | a | hpk | 1 | 7 | 1 | mx | p |
| Plantago | major L. | a | co | Hcos | h | hk | a | 1,2 | 1 | 8 | 2 | m | r |
| Plantago | media L. | a | co | Eu-As | h | hk | a | hpk | 1 | 7 | 1 | m | p |
| ***POLYGALACEAE* R.Br.** | | | | | | | | | | | | | |
| Polygala | comosa Schkuhr | a | sp | eu | h | hk | a | hpk | 3 | 7 | 1 | m | pt |
| Polygala | cretacea Kotov | a | rr | end Pont-MdAs | h | hk | a | hpk | 3 | 7 | 1 | x | st |
| Polygala | vulgaris L. | a | sp | eu | h | hk | a | hpk | 3 | 7 | 1 | m | p |
| ***POLYGONACEAE* Juss.** | | | | | | | | | | | | | |
| Bistorta | officinalis Delambre | a | sp | Eu-Sib | h | k | a | hpk | 3 | 1 | 2 | h | ph |
| Fallopia | convulvulus (L.) A. Love | d | co | Hcos | h | t | a | mk | 3 | 8 | 1 | xm | z |
| Fallopia | dumetorum (L.) Holub | a | sp | Hol | h | t | a | mk | 3 | 8 | 1 | m | r |
| Persicaria | amphibia (L.) Delambre | a | co | Hcos | h | w | a | hpk | 3 | 1 | 2 | a | w |
| Persicaria | hydropiper (L.) Delambre | a | co | Hol | h | t | a | mk | 3 | 8 | 1 | hm | g |
| Persicaria | lapathifolia (L.) Delarbre | a | sp | Eu-As | h | t | a | mk | 3 | 8 | 1 | hm | ps |
| Persicaria | maculosa S. F. Gray | a | co | Eu-As-NAm | h | t | a | mk | 3 | 8 | 1 | h | g |
| Persicaria | minor (Huds.) Opiz | a | sp | Eu-Med-As | h | t | a | mk | 3 | 8 | 1 | hm | pm |
| Polygonum | aviculare L. s.l. | a | co | cos | h | t | a | mk | 3 | 8 | 1 | mx | r |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Rumex | acetosa L. | a | co | Eu-As-NAm | h | hk | a | hpk | 2 | 2 | 2 | m | p |
| Rumex | acetosella L. | a | co | cos | h | k | a | hpk | 2 | 1 | 2 | m | ef |
| Rumex | confertus Willd. | a | co | Eu-MAs | h | hk | a | hpk | 2 | 7 | 1 | m | p |
| Rumex | crispus L. | a | co | Eu-FAs-NAm | h | hk | a | hpk | 3 | 2 | 2 | m | p |
| Rumex | hydrolapathum Huds. | a | co | Eu-Med-MAs | h | hl | b | hpk | 2 | 3 | 2 | hw | w |
| Rumex | maritimus L. | a | sp | Eu-As | h | hk | a | hpk | 3 | 7 | 1 | hm | g |
| Rumex | obtusifolius L. | a | co | Eu-MAs-NAm | h | hk | a | hpk | 3 | 7 | 1 | m | n |
| Rumex | thyrsiflorus Fingerh. | a | sp | Eu-NAs | h | hk | a | hpk | 2 | 7 | 1 | mh | g |
| ***POLEMONIACEAE* Juss.** | | | | | | | | | | | | | |
| Polemonium | caeruleum L. | a | rr | Eu-Sib | h | hk | a | hpk | 3 | 7 | 1 | m | ef |
| ***PORTULACACEAE* Juss.** | | | | | | | | | | | | | |
| Portulaca | oleracea L. | d | r | Eu-FAs | h | t | a | mk | 3 | 8 | 1 | xm | z |
| ***PRIMULACEAE* Vent.** | | | | | | | | | | | | | |
| Anagallis | arvensis L. | d | r | Eu-AMed-NAm | h | t | a | mk | 3 | 8 | 1 | xm | rz |
| Hottonia | palustris L. | a | r | Eu-Med-MAs | h | w | a | hpk | 1 | 1 | 2 | a | w |
| Lysimachia | nummularia L. | a | co | Eu-Med-MAs-NAm | h | k | a | hpk | 3 | 2 | 2 | mh | ph |
| Lysimachia | vulgaris L. | a | co | Eu-Sib-MdAs | h | k | a | hpk | 3 | 2 | 2 | mh | g |
| Naumburgia | thyrsiflora (L.) Rchb. | a | sp | Eu-As-NAm | h | hl | a | hpk | 3 | 1 | 2 | h | g |
| Primula | veris L. | a | sp | eu | h | hk | a | hpk | 1 | 2 | 2 | m | ef |
| Trientalis | europaea L. | a | sp | Eu-As-NAm | h | k | a | hpk | 3 | 3 | 2 | m | n |
| ***PYROLACEAE* Dumort.** | | | | | | | | | | | | | |
| Chimaphila | umbellata (L.) W.Barton | a | rr | Eu-As-NAm-bor | h | hk | c | hpk | 1 | 2 | 2 | mx | b |
| Ortilia | secunda (L.) House | a | rr | Eu-As-NAm | h | hk | c | hpk | 1 | 2 | 2 | mx | bn |
| Pyrola | minor L. | a | sp | Eu-As-NAm | h | hk | c | hpk | 1 | 2 | 2 | m | bn |

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| Pyrola | rotundifolia L. | a | sp | Eu-As-NAm | h | hk | c | hpk | 1 | 2 | 2 | m | bn |
| ***RANUNCULACEAE* Juss.** | | | | | | | | | | | | | |
| Aconitum | nemorosum Bieb.ex Rchb. | a | rr | eu | h | k | a | hpk | 3 | 3 | 2 | m | ef |
| Actaea | spicata L. | a | sp | Eu-As-NAm | h | hk | a | hpk | 2 | 2 | 2 | m | n |
| Adonis | vernalis L. | a | r | Eu-Sib | h | hk | a | hpk | 3 | 2 | 2 | xm | st |
| Anemone | nemorosa L. | a | sp | eu | h | k | a | hpk | 3 | 1 | 2 | m | ef |
| Anemone | ranunculoides L. | a | sp | Eu-Med | h | hk | a | hpk | 3 | 1 | 2 | m | n |
| Anemone | sylvestris L. | a | sp | Eu-As | h | k | a | hpk | 2 | 2 | 2 | mx | st |
| Aquilegia | vulgaris L. | d | r | Eu-NAm-bor | h | hk | a | hpk | 2 | 7 | 1 | m | n |
| Batrachium | aquatile (L.) Dumort. | a | sp | Eu-MdAs-Am | h | w | a | hpk | 2 | 2 | 2 | a | w |
| Batrachium | cincinatum (Sibth.) Spach | a | co | Eu-As | h | w | a | hpk | 2 | 2 | 2 | g | w |
| Batrachium | trichophyllum (Chaix) Bosch | a | sp | Hcos | h | w | a | hpk | 2 | 2 | 2 | a | w |
| Caltha | palustris L. | a | co | Eu-As-NAm | h | k | a | hpk | 2 | 2 | 2 | h | pm |
| Clematis | recta L. | a | rr | WMdEu | h | hk | a | hpk | 2 | 2 | 2 | xm | n |
| Consolida | regalis S.F.Gray | d | co | Eu-WSib-NAm | h | t | a | mk | 2 | 8 | 1 | x | z |
| Ficaria | verna Huds. aggr. | a | sp | Eu-Sib-MdAs | h | k | a | hpk | 2 | 2 | 2 | m | n |
| Myosurus | minimus L. | a | sp | Hcos | h | t | a | mk | 1 | 8 | 2 | h | ps |
| Pulsatilla | patens (L.) Mill.s.l. | a | rr | eu | h | hk | a | hpk | 2 | 7 | 1 | m | n |
| Pulsatilla | pratensis (L.) Mill. s.l. | a | rr | eu | h | hk | a | hpk | 1 | 7 | 1 | m | bs |
| Ranunculus | acris L. | d | co | Eu-WSib-MdAs | h | hk | a | hpk | 2 | 2 | 2 | m | ef |
| Ranunculus | auricomus L. | a | sp | Eu-Sib | h | hk | a | hpk | 2 | 2 | 2 | m | ef |
| Ranunculus | cassubicus L. | a | sp | Eu-Sib-CAs | h | hk | a | hpk | 2 | 2 | 2 | m | n |
| Ranunculus | flammula L. | a | r | Eu-WSib | h | hk | a | hpk | 2 | 2 | 2 | h | pm |
| Ranunculus | lanuginosus L. | a | sp | Eu-Cs | h | hk | a | hpk | 2 | 2 | 2 | m | n |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ranunculus | lingua L. | a | sp | Eu-Sib-MdAs | h | hk | a | hpk | 2 | 2 | 2 | mx | st |
| Ranunculus | polyanthemos L. | a | r | Eu-Sib-MdAs | h | hk | a | hpk | 2 | 2 | 2 | m | ef |
| Ranunculus | repens L. | a | co | Eu-As-NAm | h | hk | a | hpk | 2 | 2 | 2 | hm | p |
| Ranunculus | sceleratus L. | a | sp | Hol | h | t | a | mk | 2 | 8 | 2 | h | g |
| Thalictrum | aquilegifolium L. | a | r | MdEEu | h | hk | a | hpk | 3 | 2 | 2 | m | ef |
| Thalictrum | lucidum L. | a | sp | eu | h | hk | a | hpk | 3 | 2 | 2 | m | p |
| Thalictrum | minus L. | a | r | Eu-As-NAm | h | hk | a | hpk | 3 | 1 | 2 | mx | st |
| Thalictrum | simplex L. | a | co | Eu-As | h | hk | a | hpk | 3 | 2 | 2 | m | p |
| ***RHAMNACEAE* Juss.** | | | | | | | | | | | | | |
| Frangula | alnus Mill. | a | co | Eu-Sib-AMed | f | ph | a | pk | 3 | 8 | 1 | m | n |
| Rhamnus | cathartica L. | a | sp | Eu-Sib-AMed | f | ph | a | pk | 3 | 8 | 1 | m | ef |
| ***ROSACEAE* Juss.** | | | | | | | | | | | | | |
| Agrimonia | eupatoria L. | a | co | Eu-Med | h | hk | a | hpk | 2 | 2 | 2 | m | ef |
| Alchemilla | gracilis Opiz | a | sp | eu | h | k | a | hpk | 2 | 2 | 2 | m | ef |
| Alchemilla | propinqua Lindb.fil.ex Juz. | a | sp | Scd-Eu | h | k | a | hpk | 2 | 2 | 2 | m | p |
| Alchemilla | subcrenata Bus. | a | r | EEu-WSib | h | k | a | hpk | 2 | 2 | 2 | m | n |
| Amelanchier | canadensis (L.) Medik. | d | sp | Eu-NAm | f | ph | a | pk | 3 | 8 | 1 | m | r |
| Cerasus | fruticosa (Pall.) Woronov | a | r | eu | f | ph | a | pk | 3 | 8 | 1 | x | pt |
| Crataegus | curvisepala Lindm. | a | sp | Scd-Eu | f | ph | a | pk | 3 | 8 | 1 | m | ef |
| Crataegus | pentagyna Waldst.& Kit. | a | sp | Eu-Balk-Cs | f | ph | a | pk | 3 | 8 | 1 | m | ef |
| Filipendula | ulmaria (L.) Maxim. | a | co | Eu-NAm | h | k | a | hpk | 2 | 2 | 2 | mh | ph |
| Filipendula | vulgaris Moench | a | sp | Eu-Sib-NAm | h | k | a | hpk | 2 | 2 | 2 | xm | pt |
| Fragaria | vesca L. | a | co | Eu-Med-MAs-NAm | h | hk | a | hpk | 2 | 8 | 2 | m | n |
| Fragaria | viridis Duchesne | a | sp | Eu-Med | h | hk | a | hpk | 2 | 8 | 2 | m | pt |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Geum | rivale L. | a | co | Eu-Med-As | h | hk | b | hpk | 2 | 2 | 2 | mh | g |
| Geum | urbanum L. | a | co | Eu-Med-As | h | hk | b | hpk | 2 | 2 | 2 | m | n |
| Malus | praecox (Pall.) Borkh. | a | co | end Sarm-Pont | f | ph | a | pk | 3 | 8 | 1 | m | n |
| Malus | sylvestris Mill. | a | co | Eu-Cs | f | ph | a | pk | 3 | 8 | 1 | m | n |
| Padus | avium Mill. | a | co | Eu-As | f | ph | a | pk | 3 | 8 | 1 | m | n |
| Physocarpus | opulifolius (L.) Maxim. | d | co | Eu-NAm | f | ph | a | pk | 3 | 8 | 1 | m | r |
| Potentilla | alba L. | a | sp | eu | h | hk | a | hpk | 2 | 1 | 2 | m | n |
| Potentilla | anserina L. | a | co | Hcos | h | hk | a | hpk | 2 | 2 | 2 | mh | ph |
| Potentilla | argentea L. s.l. | a | co | Scd-MdEEu | h | hk | a | hpk | 2 | 7 | 1 | mx | p |
| Potentilla | erecta (L.) Raeusch. | a | sp | Scd-Eu | h | hk | a | hpk | 2 | 1 | 2 | mh | bm |
| Potentilla | humifusa Willd.ex Schlecht. | a | co | Sarm-Pont-MAs | h | hk | a | hpk | 2 | 3 | 3 | xm | ps |
| Potentilla | incana P. Gaertn., B.Mey. & Scherb. | a | r | eu | h | hk | a | hpk | 2 | 1 | 2 | x | st |
| Potentilla | neglecta Baumg. | a | co | Eu-AMed-NAm | h | hk | a | hpk | 2 | 1 | 2 | x | st |
| Potentilla | obscura Willd. | a | co | Eu-AMed | h | hk | a | hpk | 2 | 3 | 2 | m | n |
| Potentilla | palustris (L.) Scop. | a | co | Eu-As-NAm | h | hk | a | hpk | 2 | 1 | 2 | hw | m |
| Potentilla | reptans L. | a | co | Eu-Med-As | h | hk | a | hpk | 2 | 2 | 2 | hm | p |
| Potentilla | supina L. | a | sp | Hol | h | hk | a | 1,2 | 2 | 7 | 1 | hm | g |
| Poterium | polygamum Waldst. ex Kit. | d | r | Eu-Med-ir-tur | h | hk | a | hpk | 2 | 7 | 1 | xm | r |
| Pyrus | communis L. | a | co | Eu-FAs | f | ph | a | pk | 3 | 8 | 1 | m | ef |
| Rosa | biserrata Merat | a | sp | Eu-Med-MAs | f | ph | a | pk | 3 | 8 | 2 | m | p |
| Rosa | majalis Herrm. | a | sp | Eu-WSib | f | ph | a | pk | 3 | 8 | 2 | m | ef |
| Rosa | pomifera Herrm. | a | sp | Eu-Med-MAs | f | ph | a | pk | 3 | 8 | 2 | m | ef |
| Rosa | rugosa Thunb. | d | sp | Eu-Sib-MdAs | f | ph | a | pk | 3 | 8 | 2 | m | r |
| Rubus | caesius L. | a | co | Eu-WSib-MdAs | fr | ch | a | pk | 2 | 2 | 2 | m | n |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Rubus | idaeus L. | a | co | Eu-Sib-MAs | f | ph | a | pk | 3 | 2 | 2 | m | n |
| Rubus | saxatilis L. | a | sp | Eu-As-NAm | fr | ch | a | pk | 3 | 2 | 2 | m | n |
| Sanquisorba | officinalis L. | a | sp | Eu-As-NAm | h | hk | a | hpk | 2 | 2 | 2 | mh | p |
| Sorbaria | sorbifolia (L.) A.Br. | d | r | Eu-As | f | ph | a | pk | 3 | 8 | 1 | m | r |
| Sorbus | aucuparia L. | a | co | Eu-MAs | a | ph | a | pk | 3 | 8 | 1 | m | bn |
| ***RUBIACEAE* Juss.** | | | | | | | | | | | | | |
| Asperula | cynanchica L. | a | r | Eu-As | h | hk | a | hpk | 3 | 2 | 2 | mx | st |
| Cruciata | glabra (L.) Ehrend. | a | sp | MdEEu | h | hk | a | hpk | 3 | 1 | 2 | m | n |
| Cruciata | laevipes Opiz | a | sp | MdEEu | h | hk | a | hpk | 3 | 1 | 2 | m | n |
| Galium | aparine L. | a | co | Hol | h | t | a | mk | 3 | 8 | 1 | mx | r |
| Galium | boreale L. | a | sp | Scd-Eu | h | hk | a | hpk | 3 | 2 | 3 | m | n |
| Galium | elongatum C. Presl | a | sp | MdSEu | h | hk | a | hpk | 3 | 2 | 2 | m | p |
| Galium | mollugo L. | a | co | MdEu | h | hk | a | hpk | 3 | 2 | 2 | m | bs |
| Galium | odoratum (L.) Scop. | a | co | Eu-As-NAm | h | hk | a | hpk | 3 | 2 | 2 | m | n |
| Galium | palustre L. | a | co | Eu-Sib-NAm | h | hk | b | hpk | 3 | 2 | 2 | h | m |
| Galium | physocarpum Ledeb. | a | sp | Eu-Cs | h | hk | a | hpk | 3 | 3 | 3 | m | n |
| Galium | rivale (Sibth.& Smith) Griseb. | a | sp | Eu-MAs | h | hk | b | hpk | 3 | 3 | 3 | m | n |
| Galium | ruthenicum Willd. | a | r | end Sarm-Pont-MdAs | h | hk | a | hpk | 3 | 3 | 3 | x | pt |
| Galium | spurium L. | a | co | Scd-Eu | h | t | a | mk | 3 | 8 | 2 | m | ef |
| Galium | verum L. | a | co | eu | h | hk | a | hpk | 3 | 3 | 3 | mx | ef |
| ***SALICACEAE* Mirbel** | | | | | | | | | | | | | |
| Populus | alba L. | a | co | Eu-Sib-MdAs | a | ph | a | pk | 3 | 8 | 1 | hm | g |
| Populus | deltoides Marsh. | d | sp | Eu-As-NAm | a | ph | a | pk | 3 | 8 | 1 | xm | rz |
| Populus | nigra L. | a | co | Eu-Sib | a | ph | a | pk | 3 | 8 | 1 | hm | g |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Populus | tremula L. | a | co | Eu-Sib | a | ph | a | pk | 3 | 8 | 1 | m | n |
| Salix | acutifolia Willd. | a | co | Eu-Sib-CAs | a | ph | a | pk | 3 | 8 | 1 | h | al |
| Salix | alba L. | a | co | Eu-AMed-NAm | a | ph | a | pk | 3 | 8 | 1 | h | g |
| Salix | aurita L. | a | sp | WEu | f | ph | a | pk | 3 | 8 | 1 | h | ef |
| Salix | caprea L. | a | co | Eu-MdAs | f | ph | a | pk | 3 | 8 | 1 | m | ef |
| Salix | cinerea L. | a | co | Eu-Sib-FAs | f | ph | a | pk | 3 | 8 | 1 | h | m |
| Salix | fragilis L. | d | sp | Eu-Sib-FAs | a | ph | a | pk | 3 | 8 | 1 | hm | g |
| Salix | myrsinifolia Salisb. | a | rr | Eu-Sib | f | ph | a | pk | 3 | 8 | 1 | m | ef |
| Salix | pentandra L. | a | co | Eu-As | a | ph | a | pk | 3 | 8 | 1 | h | m |
| Salix | triandra L. | a | co | Eu-As | f | ph | a | pk | 3 | 8 | 1 | h | g |
| Salix | viminalis L. | a | sp | Eu-Med-As | f | ph | a | pk | 3 | 8 | 1 | h | g |
| **SANTALACEAE R.Br.** | | | | | | | | | | | | | |
| Thesium | ebracteatum Hayne | a | r | Eu-WSib | h | k | a | hpk | 3 | 2 | 2 | m | ef |
| ***SAXIFRAGACEAE* Juss.** | | | | | | | | | | | | | |
| Chrysosplenium | alternifolium L. | a | co | Eu-As-NAm | h | hk | a | hpk | 2 | 1 | 2 | m | n |
| ***SCROPHULARIACEAE* Juss.** | | | | | | | | | | | | | |
| Euphrasia | brevipila Burn.& Gremli | a | sp | Eu-Sib | h | t | a | mk | 3 | 8 | 1 | m | p |
| Euphrasia | parviflora Schag. | a | co | eu | h | t | a | mk | 3 | 8 | 1 | m | p |
| Euphrasia | stricta D.Wolff ex J.F.Lehm. | a | co | Eu-Med | h | t | a | mk | 3 | 8 | 1 | m | ef |
| Digitalis | grandiflora Mill. | a | r | Eu-Med-WSib | h | hk | a | hpk | 1 | 7 | 1 | m | n |
| Lathraea | squamaria L. | a | r | Eu-AMed | h | k | a | hpk | 3 | 8 | 4 | m | n |
| Linaria | genistifolia (L.) Mill. | a | sp | Eu-As | h | hk | a | hpk | 3 | 7 | 1 | x | ps |
| Linaria | vulgaris Mill. | a | co | Eu-WSib | h | hk | a | hpk | 3 | 3 | 3 | m | ef |
| Melampyrum | nemorosum L. | a | co | Eu-Med | h | t | a | mk | 3 | 8 | 1 | m | n |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Melampyrum | pratense L. | a | co | Eu-WSib | h | t | a | mk | 3 | 8 | 1 | m | ef |
| Odontites | vulgaris Moench | a | sp | Hol | h | t | a | mk | 3 | 8 | 1 | m | p |
| Pedicularis | kaufmannii Pinzg. | a | rr | Eu-Med-MdAs | h | hk | a | hpk | 3 | 2 | 2 | mx | pt |
| Pedicularis | sceptrum-carolinum L. | a | rr | Eu-As | h | hk | a | hpk | 2 | 1 | 2 | h | pm |
| Rhinanthus | aestivalis (W.Zinger) Schischk.& Serg. | a | sp | Eu-Sib-NAm | h | t | a | mk | 3 | 8 | 1 | m | p |
| Rhinanthus | vernalis ( N.Zinger) Schischk.& Serg. | a | co | Eu-Sib-MAs | h | t | a | mk | 3 | 8 | 1 | m | p |
| Scrophularia | nodosa L. | a | co | Eu-Sib-NAm | h | k | a | hpk | 3 | 1 | 2 | m | ef |
| Scrophularia | umbrosa Dumort. | a | sp | Eu-AMed | h | k | a | 2 | 3 | 2 | 2 | mh | g |
| Verbascum | lychnitis L. | a | sp | Eu-Balk | h | hk | a | hpk | 2 | 7 | 1 | xm | ef |
| Verbascum | nigrum L. | a | r | Eu-Med | h | hk | a | hpk | 2 | 7 | 1 | m | ef |
| Verbascum | phlomoides L. | a | co | Eu-Med-tur | h | hk | a | 2 | 2 | 7 | 1 | mx | r |
| Verbascum | phoeniceum L. | a | r | Eu-Med-MdAs | h | hk | a | hpk | 2 | 7 | 1 | m | ef |
| Veronica | anagallis -aquatica L. | a | sp | Eu-As | h | hl | b | hpk | 3 | 2 | 2 | h | g |
| Veronica | anagalloides Guss. | a | sp | Eu-Med-As | h | hl | b | hpk | 3 | 2 | 2 | h | g |
| Veronica | beccabunga L. | a | sp | Eu-As-NAm | h | hl | b | hpk | 3 | 2 | 2 | h | g |
| Veronica | chamaedrys L. | a | co | Eu-Med-MAs | h | hk | b | hpk | 3 | 7 | 1 | m | ef |
| Veronica | dilenii Crantz | a | sp | Eu-AMed | h | hk | a | 2 | 3 | 8 | 1 | x | bs |
| Veronica | longifolia L. | a | co | Eu-As | h | hk | a | hpk | 3 | 2 | 2 | h | g |
| Veronica | incana L. | a | r | Eu-As | h | hk | a | hpk | 2 | 7 | 1 | x | pt |
| Veronica | officinalis L. | a | co | Eu-WAs | h | hk | a | hpk | 3 | 2 | 2 | m | ef |
| Veronica | prostrata L. | a | sp | Eu-Med | h | hk | a | hpk | 3 | 2 | 2 | xm | p |
| Veronica | serpyllifolia L. | a | co | Eu-AMed-NAm | h | hk | a | hpk | 3 | 1 | 2 | m | ef |
| Veronica | spicata L. | a | r | Eu-Med-As | h | hk | a | hpk | 3 | 1 | 2 | xm | bs |
| Veronica | spuria L. | a | co | Eu-Sib-MdAs | h | hk | a | hpk | 3 | 7 | 1 | m | ef |

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| Veronica | teucrium L. | a | sp | Eu-Med-WSib | h | hk | a | hpk | 3 | 1 | 2 | m | ef |
| Veronica | verna L. | a | sp | Eu-AMed | h | t | a | mk | 3 | 2 | 2 | x | p |
| ***SOLANACEAE* Juss.** | | | | | | | | | | | | | |
| Datura | stramonium L. | d | r | cos | h | t | a | mk | 2 | 8 | 1 | m | r |
| Hyoscyamus | niger L. | d | r | Hol | h | hk | a | 2 | 2 | 7 | 1 | m | r |
| Lycium | barbarum L. | d | sp | Hol | f | ph | a | pk | 3 | 8 | 1 | xm | r |
| Physalis | alkekengi L. | d | r | Eu-As | h | hk | a | hpk | 3 | 8 | 2 | m | n |
| Solanum | dulcamara L. | a | co | Hol | sf | ch | a | hpk | 3 | 1 | 2 | h | g |
| Solanum | nigrum L. | d | co | Hol | h | t | a | mk | 3 | 8 | 1 | m | r |
| ***TILIACEAE* Juss.** | | | | | | | | | | | | | |
| Tilia | cordata Mill. | a | co | Eu-Sib-CAs | a | ph | a | pk | 3 | 8 | 1 | m | n |
| ***ULMACEAE* Mirbel** | | | | | | | | | | | | | |
| Ulmus | glabra Huds. | a | sp | MdEu | a | ph | a | pk | 3 | 8 | 1 | m | n |
| Ulmus | laevis Pall. | a | co | eu | a | ph | a | pk | 3 | 8 | 1 | m | n |
| Ulmus | minor Mill. | a | r | Eu-WAs | a | ph | a | pk | 3 | 8 | 1 | m | ef |
| **URTICACEAE Juss.** | | | | | | | | | | | | | |
| Urtica | dioica L. | a | co | Hcos | h | hk | a | hpk | 3 | 1 | 2 | m | n |
| Urtica | galeopsifolia Wierzb.ex Opiz | a | co | end Sarm-Pont | h | hk | a | hpk | 3 | 1 | 2 | h | g |
| Urtica | urens L. | d | co | Hcos | h | t | a | mk | 3 | 8 | 1 | m | r |
| ***VALERIANACEAE* Batsch** | | | | | | | | | | | | | |
| Valeriana | officinalis L. | a | sp | Scd-Eu | h | hk | a | hpk | 2 | 2 | 2 | h | m |
| Valeriana | rossica P. Smirn. | a | rr | EEu | h | hk | a | hpk | 2 | 2 | 2 | mx | pt |
| ***VIOLACEAE* Batsch** | | | | | | | | | | | | | |
| Viola | arvensis Murray | d | co | Eu-Sib | h | hk | a | 1,2 | 3 | 8 | 1 | m | ef |

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| Viola | canina L. | a | co | Eu-Cs | h | hk | a | hpk | 2 | 2 | 2 | m | n |
| Viola | epipsila Ledeb. | a | rr | Eu-Sib | h | hk | a | hpk | 1 | 2 | 2 | h | pm |
| Viola | hirta L. | a | sp | Eu-Sib-MdAs | h | hk | a | hpk | 1 | 7 | 1 | xm | n |
| Viola | matutina Klokov | a | co | end Subpont | h | t | a | mk | 3 | 8 | 1 | xm | ef |
| Viola | mirabilis L. | a | co | Eu-NAs | h | hk | a | hpk | 2 | 2 | 2 | m | n |
| Viola | odorata L. | a | sp | eu | h | hk | b | hpk | 1 | 3 | 3 | xm | ef |
| Viola | palustris L. | a | co | eu | h | hk | b | hpk | 1 | 2 | 2 | h | m |
| Viola | persicifolia Schreb. | a | sp | EEu | h | hk | a | hpk | 2 | 2 | 2 | hm | ef |
| Viola | rupestris F. W. Schmidt | a | sp | Eu-NAs | h | hk | a | hpk | 2 | 2 | 2 | m | bs |
| ***VITACEAE* Juss.** | | | | | | | | | | | | | |
| Parthenocissus | quinquefolia (L.) Planch. | d | co | Hol | f | ch | a | pk | 3 | 8 | 1 | m | r |
| **LILIOPSIDA** | | | | | | | | | | | | | |
| ***ALISMATACEAE* Vent.** | | | | | | | | | | | | | |
| Alisma | plantago-aquatica L. | a | co | Hol | h | hl | a | hpk | 1 | 2 | 2 | w | w |
| Sagittaria | sagittifolia L. | a | co | Eu-As | h | hl | a | hpk | 1 | 3 | 2 | w | w |
| ***ALLIACEAE* J. Agardh** | | | | | | | | | | | | | |
| Allium | angulosum L. | a | co | Eu-Sib | h | k | a | hpk | 1 | 4 | 2 | m | p |
| Allium | oleraceum L | a | sp | NMdEu | h | k | a | hpk | 1 | 4 | 2 | m | st |
| Allium | schoenoprasum L. | d | r | NMdEu | h | k | a | hpk | 1 | 4 | 2 | xm | r |
| Allium | ursinum L. | a | rr | EEu | h | k | a | hpk | 1 | 4 | 2 | m | n |
| Allium | waldsteinii G. Don fil. | a | sp | SMdEu | h | k | a | hpk | 1 | 4 | 2 | m | p |
| ***AMARYLLIDACEAE* J.St.-Hil.** | | | | | | | | | | | | | |
| Galanthus | nivalis L. | d | rr | WMdEu | h | k | e | hpk | 1 | 4 | 2 | m | n |
| ***ARACEAE* Juss.** | | | | | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Acorus | calamus L. | d | co | Hcos | h | hl | a | hpk | 2 | 2 | 2 | w | w |
| Calla | palustris L. | a | rr | Eu-Sib-NAm | h | hl | a | hpk | 3 | 2 | 2 | w | w |
| ***ASPARAGACEAE* Juss.** | | | | | | | | | | | | | |
| Asparagus | officinalis L. | a | sp | Eu-AMed | h | k | a | hpk | 3 | 1 | 2 | m | ef |
| Asparagus | polyphyllus Steven | a | r | Eu-Sib-MdAs | h | k | a | hpk | 3 | 1 | 2 | x | st |
| ***ASPHODELACEAE* Juss.** | | | | | | | | | | | | | |
| Anthericum | ramosum L. | a | r | Eu-Cs | h | hk | a | hpk | 1 | 2 | 2 | mx | ef |
| ***BUTOMACEAE* Rich.** | | | | | | | | | | | | | |
| Butomus | umbellatus L. | a | sp | Eu-AMed | h | hl | a | hpk | 2 | 2 | 2 | w | w |
| ***CONVALLARIACEAE* Horan.** | | | | | | | | | | | | | |
| Convallaria | majalis L. | a | co | Eu-As-NAm | h | k | a | hpk | 2 | 1 | 2 | m | n |
| Maianthemum | bifolium (L.) F.W. Schmidt | a | sp | Eu-As-NAm | h | hk | a | hpk | 3 | 1 | 2 | m | n |
| Polygonatum | multiflorum (L.) All | a | co | Eu-CAs-NAm | h | k | a | hpk | 3 | 2 | 2 | m | bn |
| Polygonatum | odoratum (Mill.) Druce | a | co | Eu-As | h | k | a | hpk | 3 | 2 | 2 | m | bn |
| ***CYPERACEAE* Juss.** | | | | | | | | | | | | | |
| Blysmus | compressus (L.) Parz. ex Link | a | sp | Eu-As | h | hk | a | hpk | 2 | 2 | 2 | mh | g |
| Carex | acuta L. | a | co | Eu-Nafr-As | h | hk | b | hpk | 2 | 1 | 2 | hw | g |
| Carex | acutiformis Ehrh. | a | co | Eu-Nafr-As | h | hk | b | hpk | 2 | 1 | 2 | hm | m |
| Carex | appropinguata Schum. | a | sp | Eu-Sib | h | hk | b | hpk | 2 | 2 | 2 | h | m |
| Carex | brizoides L. | a | rr | eu | h | hk | a | hpk | 2 | 1 | 2 | m | n |
| Carex | caryophyllea Latourr. | a | r | Eu-As-Aut | h | hk | b | hpk | 2 | 1 | 2 | m | ef |
| Carex | cespitosa L. | a | co | Eu-As | h | hk | b | hpk | 2 | 2 | 2 | h | pm |
| Carex | cinerea Pollich | a | co | Eu-As-NAm | h | hk | b | hpk | 2 | 2 | 2 | h | m |
| Carex | digitata L. | a | r | Eu-WSib | h | hk | a | hpk | 2 | 2 | 2 | m | n |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carex | dioica L. | a | co | Eu-Sib | h | hk | b | hpk | 2 | 1 | 2 | h | m |
| Carex | disticha Huds. | a | sp | WMdEu | h | hk | b | hpk | 2 | 1 | 2 | h | pm |
| Carex | elata s.l. | a | co | Eu-As | h | hk | b | hpk | 2 | 2 | 2 | h | m |
| Carex | elongata L. | a | sp | Eu-WSib | h | hk | b | hpk | 2 | 2 | 2 | mh | bm |
| Carex | ericetorum Poll. | a | co | Eu-As | h | hk | b | hpk | 2 | 1 | 2 | m | bs |
| Carex | hirta L. | a | sp | Eu-Med-MAs-NAm | h | hk | a | hpk | 2 | 1 | 2 | m | ef |
| Carex | humilis Leys. | a | r | Eu-CAs | h | hk | b | hpk | 2 | 2 | 2 | mx | st |
| Carex | lepidocarpa Tausch. | a | sp | eu | h | hk | a | hpk | 2 | 2 | 2 | mh | pm |
| Carex | limosa L. | a | rr | Eu-As-NAm | h | hk | b | hpk | 2 | 1 | 2 | h | m |
| Carex | nigra (L.) Reichard | a | sp | Eu-As | h | hk | b | hpk | 2 | 1 | 2 | mh | pm |
| Carex | ovalis Gooden. | a | co | Eu-As-NAm | h | hk | b | hpk | 2 | 2 | 2 | m | p |
| Carex | pallescens L. | a | r | Eu-As-NAm | h | hk | a | hpk | 2 | 3 | 2 | m | ef |
| Carex | pilosa Scop. | a | sp | eu | h | hk | b | hpk | 2 | 1 | 2 | m | n |
| Carex | praecox Schreb. | a | co | Eu-As | h | hk | a | hpk | 2 | 1 | 2 | mx | pt |
| Carex | pseudocyperus L. | a | co | Eu-As-NAm | h | hk | b | hpk | 2 | 2 | 2 | h | g |
| Carex | riparia Curt | a | co | Eu-As | h | hk | b | hpk | 2 | 1 | 2 | h | g |
| Carex | rhizina Blytt ex Lindbl. | a | sp | Eu-Sib | h | hk | a | hpk | 2 | 1 | 2 | m | n |
| Carex | spicata Huds | a | co | Eu-Med-MAs-NAm | h | hk | a | hpk | 2 | 2 | 2 | m | ph |
| Carex | vesicaria L. | a | co | Eu-Sib | h | hk | b | hpk | 2 | 1 | 2 | h | m |
| Carex | vulpina L. | a | co | Eu-Sib-AMed | h | hk | b | hpk | 2 | 2 | 2 | h | pm |
| Carex | umbrosa Host | a | rr | eu | h | hk | b | hpk | 2 | 2 | 2 | m | n |
| Cladium | mariscus (L.) R. Br. | a | rr | Eu-AMed | h | hk | a | hpk | 2 | 1 | 2 | h | m |
| Cyperus | fuscus L. | a | co | Hol | h | t | a | mk | 1 | 8 | 2 | h | al |
| Eleocharis | acicularis (L.) Roem.& Schult. | a | co | Eu-AMed-NAm | h | hl | b | hpk | 2 | 1 | 2 | h | g |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Eleocharis | palustris (L.) Roem.& Schult, | a | co | Eu-As-NAm | h | hl | b | hpk | 2 | 1 | 2 | h | ph |
| Eleocharis | uniglumis (Link) Schult. | a | r | Eu-As | h | hk | b | hpk | 2 | 1 | 2 | h | g |
| Eriophorum | angustifolium Roth. | a | sp | Eu-As-NAm | h | hk | a | hpk | 2 | 1 | 2 | h | m |
| Eriophorum | gracile Koch | a | sp | Eu-Sib-NAm | h | hk | a | hpk | 2 | 1 | 2 | h | m |
| Eriophorum | latifolium Hoppe | a | sp | Eu-As-NAm | h | hk | a | hpk | 2 | 2 | 2 | h | pm |
| Eriophorum | vaginatum L. | a | r | Eu-Sib-NAm | h | hk | a | hpk | 2 | 2 | 2 | h | m |
| Pycreus | flavescens (L.) P. Beauv. ex Rchb. | a | co | Eu-As-NAm | h | t | a | mk | 1 | 8 | 2 | h | pm |
| Scirpoides | holoschoenus (L.) Sojak | a | sp | Eu-Med-MdAs | h | hl | b | hpk | 2 | 2 | 2 | h | g |
| Scirpus | lacustris L. | a | co | Hol | h | hl | a | hpk | 2 | 1 | 2 | w | w |
| Scirpus | sylvaticus L. | a | co | Eu-As | h | hl | a | hpk | 2 | 1 | 2 | h | g |
| ***HYACINTHACEAE* Borkh.** | | | | | | | | | | | | | |
| Scilla | siberica Haw. | a | sp | Sarm-Pont-MAs | h | k | e | hpk | 3 | 4 | 2 | m | n |
| ***HYDROCHARITACEAE* Juss.** | | | | | | | | | | | | | |
| Elodea | canadensis Michx. | d | co | Hcos | h | w | b | hpk | 3 | 8 | 2 | g | w |
| Hydrocharis | morsus-ranae L. | a | co | Hcos | h | w | a | hpk | 1 | 2 | 2 | a | w |
| Stratiotes | aloides L. | a | r | Eu-WSib | h | hl | a | hpk | 1 | 8 | 2 | a | w |
| ***IRIDACEAE* Juss.** | | | | | | | | | | | | | |
| Gladiolus | imbricatus L. | a | rr | Eu-Balk | h | k | a | hpk | 3 | 10 | 2 | m | p |
| Gladiolus | tenuis M. Bieb | a | rr | end Pont | h | k | a | hpk | 3 | 10 | 2 | m | p |
| Iris | hungarica Waldst. et Kit | a | rr | eu | h | k | a | hpk | 2 | 2 | 2 | m | n |
| Iris | pineticola Klokov | a | rr | end NPont | h | k | a | hpk | 2 | 9 | 2 | mx | bs |
| Iris | pseudoacorus L. | a | sp | Eu-Med-MAs | h | hk | a | hpk | 2 | 9 | 2 | h | m |
| Iris | sibirica L. | a | r | Eu-As | h | hk | a | hpk | 2 | 9 | 2 | h | ph |
| ***JUNCACEAE* Juss.** | | | | | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Juncus | articulatus L. | a | sp | Hol | h | hl | b | hpk | 2 | 2 | 2 | h | m |
| Juncus | atratus Krock. | a | sp | Eu-As | h | hl | b | hpk | 2 | 2 | 2 | h | ph |
| Juncus | bufonius L. | a | sp | Eu-As-NAm | h | t | b | mk | 2 | 2 | 2 | m | ph |
| Juncus | compressus Jacq. | a | co | Eu-As | h | hl | b | hpk | 2 | 2 | 2 | h | pm |
| Juncus | effusus L. | a | co | Eu-As | h | hl | b | hpk | 2 | 2 | 2 | h | pm |
| Juncus | tenuis Willd. | d | r | Eu-NAm | h | k | b | hpk | 2 | 2 | 2 | m | g |
| Luzula | campestris (L.)DC. | a | r | Eu-MAs | h | hk | a | hpk | 2 | 2 | 2 | m | n |
| Luzula | multiflora (Ehrh.) Lej. | a | sp | Eu-WSib | h | hk | a | hpk | 2 | 2 | 2 | m | n |
| Luzula | pilosa (L.) Willd | a | sp | Eu-As-NAm | h | hk | a | hpk | 2 | 2 | 2 | m | bn |
| ***JUNCAGINACEAE* Rich.** | | | | | | | | | | | | | |
| Triglochin | palustre L. | a | sp | Hcos | h | hk | a | hpk | 1 | 2 | 2 | h | pm |
| ***LEMNACEAE* S.F.Gray** | | | | | | | | | | | | | |
| Lemna | minor L. | a | co | cos | h | w | a | hpk | 3 | 8 | 2 | a | w |
| Lemna | trisulca L. | a | co | Hcos | h | w | a | hpk | 3 | 8 | 2 | a | w |
| Spirodella | polyrrhyza (L.) Schleid. | a | sp | Hcos | h | w | a | hpk | 3 | 8 | 2 | a | w |
| ***LILIACEAE* Juss.** | | | | | | | | | | | | | |
| Gagea | erubescens (Besser) Schult.& Schult.f. | a | sp | EEu | h | k | e | hpk | 2 | 4 | 2 | m | ef |
| Gagea | lutea (L.) Ker. Gawl. | a | co | Eu-As | h | k | e | hpk | 2 | 4 | 2 | m | n |
| Gagea | minima (L.) Ker. Gawl. | a | r | Eu-MAs | h | k | e | hpk | 2 | 4 | 2 | mx | n |
| Gagea | praeciosa Klokov | a | rr | end | h | k | e | hpk | 2 | 4 | 2 | mx | pt |
| Lilium | martagon L. | a | rr | Eu-Sib | h | k | e | hpk | 1 | 4 | 2 | m | n |
| ***MELANTHIACEAE* Batsch** | | | | | | | | | | | | | |
| Bulbocodium | versicolor (Ker. Gawl.) Spreng. | a | rr | Eu-Cs | h | k | e | hpk | 2 | 10 | 2 | m | ef |
| Veratrum | lobelianum Bernh. | a | sp | Eu-As-NAm | h | hk | a | hpk | 3 | 2 | 2 | hm | ph |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***ORCHIDACEAE* Juss.** | | | | | | | | | | | | | |
| Cephalanthera | longifolia (L.) Fritsch | a | rr | Eu-AMed | h | hk | a | hpk | 3 | 2 | 2 | m | n |
| Cypripedium | calceolus L. | a | rr | Eu-As | h | hk | a | hpk | 3 | 2 | 2 | m | ef |
| Dactylorhiza | fuchsii (Druce) Soo | a | rr | Eu-Sib-CAs | h | k | a | hpk | 3 | 9 | 2 | hm | g |
| Dactylorhiza | incarnata (L.) Soo | a | r | Eu-Med-WSib | h | k | a | hpk | 3 | 9 | 2 | h | pm |
| Dactylorhiza | majalis (Rchb.) P.F.Hunt et Summerhayes | a | rr | Eu-Sib-MdAs | h | k | a | hpk | 3 | 9 | 2 | hm | p |
| Epipactis | atrorubens (Hoffm.ex Bernh.) Besser | a | rr | Eu-WSib-MdAs | h | hk | a | hpk | 3 | 2 | 2 | m | n |
| Epipactis | helleborine (L.) Crantz. | a | rr | Eu-Sib-AMed | h | hk | a | hpk | 3 | 2 | 2 | m | n |
| Malaxis | monophyllos (L.) Sw. | a | rr | Eu-As-NAm | h | hk | a | hpk | 3 | 9 | 2 | mh | b |
| Neottia | nidus-avis (L.) Rich. | a | r | Eu-Sib-MAs | h | k | a | hpk | 3 | 2 | 2 | m | bn |
| Neottianthe | cucullata (l.) Schlechter | a | rr | EEu-As | h | k | a | hpk | 2 | 9 | 2 | m | b |
| Orchis | laxiflora Lam. | a | rr | Eu-AMed | h | k | a | hpk | 2 | 9 | 2 | h | pm |
| Orchis | militaris L. | a | rr | EEu-As | h | k | a | hpk | 2 | 9 | 2 | hm | ph |
| Orchis | morio L. | a | rr | eu | h | k | a | hpk | 2 | 9 | 2 | m | p |
| Platanthera | bifolia (L.) Rich. | a | rr | Eu-Med-As | h | k | a | hpk | 3 | 9 | 2 | m | ef |
| Platanthera | chlorantha (Cust.) Rchb. | a | rr | Eu-MAs | h | k | a | hpk | 3 | 9 | 2 | m | n |
| ***POACEAE* Barnhart** | | | | | | | | | | | | | |
| Agrostis | canina L. | a | co | Eu-NAm | h | hl | a | hpk | 2 | 2 | 2 | h | pm |
| Agrostis | cappilaris L. | a | co | Eu-As-NAm | h | k | a | hpk | 2 | 2 | 2 | m | ef |
| Agrostis | gigantea Roth | a | co | Hcos | h | hk | a | hpk | 2 | 2 | 2 | m | p |
| Agrostis | stolonifera L. | a | co | Hol | h | hk | a | hpk | 2 | 1 | 2 | h | m |
| Agrostis | vinealis Schreb. | a | co | Eu-As | h | hk | a | hpk | 2 | 2 | 2 | m | p |
| Alopecurus | aequalis Sobol. | a | sp | Hol | h | t | a | mk | 2 | 8 | 2 | hm | p |
| Alopecurus | geniculatus L. | a | sp | eu | h | t | a | mk | 2 | 8 | 2 | mh | ph |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Alopecurus | pratensis L. | a | co | Eu-As | h | hk | b | hpk | 2 | 2 | 2 | m | p |
| Anisantha | tectorum (L.) Nevski | d | sp | Hol | h | t | a | mk | 2 | 8 | 2 | xm | st |
| Anthoxanthum | odoratum L. | a | co | Hcos | h | hk | a | hpk | 2 | 2 | 2 | m | ef |
| Apera | spica-venti (L.) P. Beauv. | d | co | Hol | h | t | a | mk | 2 | 8 | 2 | mx | p |
| Avena | sativa L. | d | sp | Eu-As | h | t | b | mk | 2 | 8 | 2 | xm | r |
| Beckmannia | eruciformis (L.) Host | a | sp | Eu-WAs | h | k | b | hpk | 2 | 1 | 2 | mh | ph |
| Brachyopodium | sylvaticum (Huds.) P. Beauv. | a | r | Eu-As | h | hk | a | hpk | 2 | 2 | 2 | m | bn |
| Briza | media L. | a | sp | eu | h | hk | a | hpk | 2 | 2 | 2 | m | ef |
| Bromopsis | benekenii (Lange) Holub | a | r | Eu-WAs | h | hk | a | hpk | 2 | 2 | 2 | m | n |
| Bromopsis | inermis (Leyss.) Holub | a | co | Eu-As-NAm | h | hk | b | hpk | 2 | 1 | 2 | m | pt |
| Bromus | arvensis L. | d | co | Eu-Sib-AMed | h | t | a | mk | 2 | 2 | 2 | m | p |
| Bromus | hordaceus L. | d | co | Hcos | h | hk | a | 1,2 | 2 | 8 | 2 | mx | p |
| Bromus | japonicus Thunb. | d | r | Hcos | h | t | a | mk | 2 | 8 | 2 | xm | st |
| Bromus | squarrosus L. | d | sp | Eu-AMed | h | t | a | mk | 2 | 8 | 2 | xm | ef |
| Calamagrostis | arundinacea (L.) Roth | a | co | Eu-As | h | k | a | hpk | 2 | 2 | 2 | m | b |
| Calamagrostis | canescens (Weber) Roth | a | co | Eu-WSib | h | k | a | hpk | 2 | 2 | 2 | mh | pm |
| Calamagrostis | epigeios (L.) Roth | a | co | Eu-FMdAs | h | k | a | hpk | 2 | 1 | 2 | m | pt |
| Calamagrostis | stricta (Timm) Koeler | a | r | Eu-As-NAm | h | hk | a | hpk | 3 | 1 | 2 | mh | pm |
| Catabrosa | aquatica (L.) P. Beauv. | a | sp | Eu-As-NAm | h | hl | a | hpk | 2 | 1 | 2 | mh | pm |
| Dactylis | glomerata L. | a | co | Hcos | h | hk | a | hpk | 2 | 2 | 2 | xm | p |
| Deschampsia | cespitosa (L.) P. Beauv. | a | co | Hcos | h | hk | a | hpk | 2 | 2 | 2 | hm | pm |
| Digitaria | ischaemum (Schreb.) Muehl. | d | r | Eu-As-NAm | h | t | a | mk | 2 | 8 | 2 | hm | p |
| Digitaria | sanguinalis (L.) Scop. | d | r | Hol | h | t | a | mk | 2 | 8 | 2 | xm | ps |
| Echinochloa | crusgalli (L.) P. Beauv. | d | co | Hcos | h | t | a | mk | 2 | 8 | 2 | mx | z |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Elytrigia | intermedia (Host) Nevski | a | co | Eu-FAs | h | k | a | hpk | 2 | 2 | 2 | xm | st |
| Elytrigia | repens (L.) Nevski | a | co | Hcos | h | k | a | hpk | 2 | 1 | 2 | xm | p |
| Eragrostis | minor Host | d | sp | cos | h | t | a | mk | 2 | 8 | 2 | m | z |
| Eragrostis | pilosa (L.) P. Beauv. | d | sp | Hol | h | t | a | mk | 2 | 8 | 2 | m | z |
| Festuca | gigantea (L.) Vill. | a | sp | Eu-As | h | hk | a | hpk | 2 | 2 | 2 | mh | n |
| Festuca | multiflora Hoffm. | a | r | Hol | h | hk | a | hpk | 2 | 2 | 2 | m | bs |
| Festuca | ovina L. | a | co | Eu-As-NAm | h | hk | a | hpk | 2 | 2 | 2 | mx | bs |
| Festuca | pratensis Huds. | a | co | Eu-As-NAm | h | hk | a | hpk | 2 | 2 | 2 | m | pt |
| Festuca | rubra L. | a | co | Hol | h | hk | b | hpk | 2 | 2 | 2 | hm | p |
| Festuca | valesiaca Gaudin | a | r | Eu-Med-As | h | hk | a | hpk | 2 | 2 | 2 | x | pt |
| Glyceria | fluitans (L.) R.Br. | a | co | Eu-Med-NAm | h | hl | a | hpk | 2 | 1 | 2 | hw | g |
| Glyceria | maxima ( C.Hartm.) Holmberg | a | co | Eu -Sib-NAm | h | hl | a | hpk | 2 | 1 | 2 | hw | g |
| Glyceria | notata Chevall. | a | sp | Eu-WAs | h | hl | a | hpk | 2 | 2 | 2 | h | pm |
| Helictotrichon | pubescens (Huds.) Pilg. | a | sp | Eu-MdAs | h | hk | a | hpk | 2 | 1 | 2 | m | pt |
| Hordeum | vulgare L. | d | sp | cos | h | t | a | mk | 2 | 8 | 2 | m | r |
| Koeleria | cristata (L.) Pers. | a | sp | Eu-As-NAm | h | hk | a | hpk | 2 | 1 | 2 | x | st |
| Koeleria | delavignei Czern.ex Domin. | a | sp | EEu-As | h | k | a | hpk | 2 | 1 | 2 | mx | pt |
| Koeleria | glauca (Spreng.) DC. | a | r | Eu-As | h | hk | a | hpk | 2 | 2 | 2 | mx | bs |
| Leersia | oryzoides (L.) Sw. | a | sp | Eu-As-NAm | h | hk | a | hpk | 2 | 2 | 2 | h | g |
| Lolium | perenne L. | a | co | Eu-AMed-NAm | h | hk | b | hpk | 2 | 2 | 2 | m | p |
| Melica | nutans L. | a | r | Eu-As | h | hk | a | hpk | 3 | 1 | 2 | m | n |
| Milium | effusum L. | a | co | Eu-As-NAm | h | hk | a | hpk | 3 | 1 | 2 | m | bn |
| Molinia | caerulea (L.) Moench | a | co | Eu-As | h | hk | a | hpk | 2 | 2 | 2 | hm | n |
| Nardus | stricta L. | a | sp | Hol | h | hk | a | hpk | 3 | 2 | 2 | hm | ef |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Panicum | miliaceum L. | d | sp | cos | h | t | a | mk | 3 | 8 | 2 | m | r |
| Phalaroides | arundinaceae (L.) Rausch | a | co | Eu-As-NAm | h | hk | a | hpk | 2 | 1 | 2 | m | p |
| Phleum | phleoides (L.) H. Karst. | a | sp | Eu-As | h | k | a | hpk | 2 | 2 | 2 | x | pt |
| Phleum | pratense L. | a | co | Hcos | h | hk | a | hpk | 2 | 2 | 2 | m | p |
| Phragmites | australis (Cav.) Trin.ex Steud | a | co | cos | h | k | a | hpk | 3 | 1 | 2 | hw | g |
| Poa | angustifolia L. | a | co | Eu-As | h | hk | b | hpk | 2 | 1 | 2 | mx | p |
| Poa | annua L. | a | co | cos | h | hk | b | 1,2 | 2 | 8 | 2 | m | p |
| Poa | bulbosa L. | a | sp | Hcos | h | hk | a | hpk | 2 | 2 | 2 | mx | st |
| Poa | compressa L. | a | co | Hcos | h | k | b | hpk | 2 | 1 | 2 | m | p |
| Poa | nemoralis L. | a | co | Eu-As-NAm | h | hk | a | hpk | 2 | 1 | 2 | m | n |
| Poa | palustris L. | a | co | Eu-As-NAm | h | hk | b | hpk | 2 | 2 | 2 | hm | pm |
| Poa | pratensis L. | a | co | Eu-As-NAm | h | hk | b | hpk | 2 | 1 | 2 | m | p |
| Poa | remota Forselles | a | r | Eu-Sib | h | hk | b | hpk | 2 | 2 | 2 | hm | m |
| Poa | trivialis L. | a | co | Hcos | h | hk | b | hpk | 2 | 1 | 2 | hm | pm |
| Poa | turfosa Litv. | a | r | EEu-Sib | h | hk | b | hpk | 2 | 2 | 2 | mh | m |
| Puccinelia | distans (Jacq.) Parl. | a | sp | Eu-As-NAm | h | hk | a | hpk | 2 | 2 | 2 | m | p |
| Scolochloa | festucacea (Willd.) Link | a | r | Eu-As-NAm | h | hl | a | hpk | 3 | 1 | 2 | hw | w |
| Secale | cereale L. | d | sp | cos | h | t | a | mk | 2 | 8 | 2 | m | r |
| Setaria | glauca (L.) Beauv. | d | sp | Hcos | h | t | a | mk | 2 | 8 | 2 | m | r |
| Setaria | verticillata L. | d | r | Eu-AMed | h | t | a | mk | 2 | 8 | 2 | mh | rz |
| Setaria | viridis (L.) P. Beauv. | d | sp | Eu-Med-As | h | t | a | mk | 2 | 8 | 2 | m | rz |
| Stipa | pennata L. | a | rr | Eu-As | h | hk | a | hpk | 2 | 2 | 2 | x | pt |
| Stipa | tirsa Steven | a | rr | Eu-MdAs | h | hk | a | hpk | 2 | 2 | 2 | x | pt |
| Trisetum | sibiricum Rupr. | a | sp | Eu-As-NAm | h | hk | a | hpk | 3 | 2 | 2 | m | bn |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***POTAMOGETONACEAE* Dumort.** | | | | | | | | | | | | | |
| Potamogeton | crispus L. | a | co | cos | h | w | a | hpk | 3 | 2 | 2 | g | w |
| Potamogeton | gramineus L. | a | co | Eu-As | h | w | a | hpk | 3 | 1 | 2 | a | w |
| Potamogeton | lucens L. | a | co | Eu-Med-As | h | w | a | hpk | 3 | 1 | 2 | g | w |
| Potamogeton | natans L. | a | co | Eu-As-NAm | h | w | a | hpk | 3 | 1 | 2 | a | w |
| Potamogeton | pectinatus L. | a | co | cos | h | w | a | hpk | 3 | 1 | 2 | g | w |
| Potamogeton | perfoliatus L. | a | co | Hcos | h | w | a | hpk | 3 | 1 | 2 | g | w |
| ***SPARGANIACEAE* Rudolphi** | | | | | | | | | | | | | |
| Sparganium | emersum Rehman | a | co | Eu-As-NAm | h | hl | a | hpk | 2 | 1 | 2 | hw | w |
| Sparganium | erectum L. | a | co | Eu-Nafr-Sib-NAm | h | w | a | hpk | 2 | 1 | 2 | h | g |
| Sparganium | minimum Wallr. | a | sp | Eu-As-NAm | h | hl | a | hpk | 2 | 2 | 2 | hw | m |
| ***TRILLIACEAE* Lindl.** | | | | | | | | | | | | | |
| Paris | quadrifolia L. | a | sp | Eu-As | h | hk | a | hpk | 3 | 1 | 2 | m | n |
| ***TYPHACEAE* Juss.** | | | | | | | | | | | | | |
| Typha | angustifolia L. | a | co | Hcos | h | hl | a | hpk | 2 | 2 | 2 | w | w |
| Typha | latifolia L. | a | co | Hcos | h | hl | a | hpk | 2 | 2 | 2 | w | w |

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The coniferous forest on the territory of  the Desna Plateau

Cretaceous outcrops on the territory of the Desna Plateau


The deciduous forest near the Putivl

Communities of ephemeroides  in the  forest edge