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The medicinal plants in Bulgaria: list of species, usable parts, fields of application, toxicity and contraindications

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Abstract: *The aim of this survey is to present an up-to-date list of medicinal plants on the territory of the Republic of Bulgaria and to systematize the information on: usable parts, the number of medicinal plants used in various fields of medicine, in cosmetics, the degree of toxicity and availability of information on contraindications for all wild medicinal plants that are found in the Republic of Bulgaria. As a result, we identified a total of 845 species of wild medicinal plants. Most of them are described in a special annex to the Medicinal Plants Act of the Republic of Bulgaria. In the literature on the use of medicinal plants in Bulgaria we found information about another 115 species of wild medicinal plants. In the present survey we did review of the usable parts of medicinal plants. We made a comparative analysis of the use of medicinal plants in the official, popular and veterinary medicine. The method of application of medicinal plants in medicine is discussed: externally and internally. Attention is paid to the use of medicinal plants in aromatherapy, dentistry and cosmetics. Considered are the poisonous plants among the medicinal plants and their degree of toxicity. A review of the available data on contraindications for the use of medicinal plants has been made.*

Keywords: Bulgaria, medicinal plants, medicine, application, toxicity, contraindications

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Introduction

Bulgaria is a relatively small country with an area of 110 994 km^2, located in Southeastern Europe. Due to its location at a crossroads in its lands passed many nations. It is one of the oldest countries in Europe with more than 1300 years of history. More than half of the time the country was part of the neighborhood: the Eastern Roman Empire (Byzantium) and the Ottoman Empire. For this reason, much of the ancient written sources are irretrievably lost. The oldest written source in Bulgaria, which includes small amount of information on the use of medicinal plants, is a copy of "Shestodnev" by John Exarch from 1263. This book includes some medicinal plants and diseases they treat. Unfortunately the original issued in the early 10th century, not saved.

The rich history of Bulgaria is reflected in many areas of life, including medicine. Knowledges of medicinal plants are also influenced by contacts with all neighboring and even more distant nations. At the time when the territory of Bulgaria is part of the Ottoman Empire has widespread Arab medicine. From that period are preserved manuscripts of Bulgarian authors with medicinal plants and their application. People who are treated with medicinal plants were two categories: One had a sedentary lifestyle in cities and villages. Others were traveling healers. The first category healers gathered medicinal plants mainly in the vicinity of the settlements where they lived. The second category healers gathered medicinal plants during their trips. A small part of used medicinal plants have been supplied from abroad. For most appropriate time to collect medicinal plants in Bulgaria were considered three Christian religious feast's Day: the day of St. Georgi (May 6), the day of St. Constantine and St. Helena (May 21) and the day of St. John (June 24) (Landzhev, 2005).

Currently, medicinal plants are one of the most valuable raw materials that Bulgaria exports. In terms of annual amount of exported bulls, Bulgaria ranks first in Europe and one of the first places in the world (Medicinal plants - natural wealth, medicine and livelihood. Handbook for Journalists, 2015). Over the past four decades the interest in medicinal plants has been growing. The number of published books with various information about medicinal plants in Bulgaria is higher than the same period ever in the history of the country. For this reason, here we present information only for those of them that contain information about a larger number of medicinal plants. The Horological Atlas of Medicinal Plants in Bulgaria (1995) includes data on the distribution of 196 species. Ivanov et al. (1973) describe 197 species, one species of lichen and provide information on about 80 species of medicinal plants. Stoyanov (1973 and 1974) describes 383 species and one species of lichen. Staneva et al. (1982) describe about 200 species of medicinal plants. Kitanov (1987) presents information on about 340 species of medicinal plants. Landzhev (2005) describes 234 species of medicinal plants and one species of lichen. About 400 species are included in the Specialized Encyclopedia of Medicinal Plants in Bulgaria (Nikolov (ed.), 2006). Ivanov (2007) describes 305 species of medicinal plants. In 2000, the

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Law on Medicinal Plants was adopted. In a special appendix to the Act, 739 species of medicinal plants are included. The largest number of species of medicinal plants (950 species) indicates Tashev & Dimitrova (2019).

The aim of this survey is to present an up-to-date list of medicinal plants on the territory of the Republic of Bulgaria and to systematize the information on: usable parts, the number of medicinal plants used in various fields of medicine, in cosmetics, the degree of toxicity and availability of information on contraindications for all wild medicinal plants that are found in the Republic of Bulgaria.

Material and Methods

The application of the medicinal plants in the official, popular and veterinary medicine is based on the following sources: Stoyanov and Kitanov (1960); Stefanov and Kitanov (1962); Yordanov et al. (1966); Stoyanov (1972, 1973); Ivanov et al. (1973); Petkov (1982); Staneva et al. (1982); Kitanov (1987); Asenov and Nikolov (1988); Neshev and Landzhev (1989); Pamukov and Ahtardzhiev (1989); Yonkova and Krumov (1999); Obretenov and Obretenova (2002); Landzhev (2005); Nikolov (2006); Ivanov (2007). The application in dentistry is mainly by Atanassov (2002). The application in dermatology and cosmetics is according to Decision of the Commission of 9 February 2006 amending Decision 96/335/EC, establishing an inventory and a common nomenclature of ingredients used in cosmetic products, and Churolinov (1976).

The poisonous plants are generally determined by Bernhard-Smith (2009), Hiller & Bickerich (1990), Muenscher (1960) and Wagstaff (2008). The plants causing side effects in contact with them or their constituents are determined by Rycroft et al. (2001) and Tampion (1977). The information on the contraindications for the use of the medicinal plants is mainly from the sources, shown at this point.

Authors of plant names are written according to Brummitt and Powell (1992).

Results

As a result of our survey we found that the total number of wild medicinal plants in Bulgaria is 845 species, belonging to 444 genera and 118 families. In Bulgaria are established 4102 species of wild vascular plants, belonging to 913 genera and 155 families (Asyov et al., 2012). Therefore, wild medicinal plants are 20.60% of the species, 48.63% of families and 76.13% of the families of vascular plants in Bulgaria.

The number of wild medicinal plants in Bulgaria was obtained as follows: A list of 739 species is included in the Annex to the Law on Medicinal Plants of the Republic of Bulgaria. Of these, six species of wild vascular plants according to the latest botanical data have disappeared from the flora of Bulgaria and in our opinion should not be included in the list of medicinal plants in Bulgaria. They are the following: *Pimpinella major* (L.) Huds., *Hottonia palustris* L., *Jasione montana* L., *Orobanche rapum-genistae* Thuill., *Calamintha*

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nepeta (L.) Savi. ssp. *glandulosa* (Req.) P.W. Ball., *Orchis punctulata* Stev. We exclude three more species: *Cetraria islandica* (L.) Ach., which is not a plant; *Cystoseira barbata* (Good. Et Wood.) Ag., which is a brown alga; *Ecbalium elaterium* L., which is repeated twice in the list of Annex to the Law on Medicinal Plants of the Republic of Bulgaria. Thus, 730 species of wild vascular plants remain in the list of medicinal plants in Bulgaria. Among them, for reasons unknown to us, are not included a large number of established and widely used in our official and folk medicine wild species, such as: *Arctium lappa* L., *Chamomilla recutita* (L.) Rausch., *Cynodon dactylon* (L.) Pers., *Euphrasia pectinata* Ten., *Humulus lupulus* L., *Juniperus communis* L., *Leucojum aestivum* L., *Melissa officinalis* L., *Ononis arvensis* L., *Pastinaca sativa* L., *Rosa canina* L., and *Urtica dioica* L. In addition to these species in the literature on the application of medicinal plants in Bulgaria we found information on a total of 115 wild plant species that are not included in the application of the Law on Medicinal Plants of the Republic of Bulgaria (Stoyanov and Kitanov, 1960; Stefanov and Kitanov, 1962; Yordanov et al., 1966; Stoyanov, 1972, 1973; Ivanov et al., 1973; Petkov, 1982; Staneva et al., 1982; Kitanov, 1987; Asenov and Nikolov, 1988; Neshev and Landzhev, 1989; Pamukov and Ahtardzhiev, 1989; Yonkova and Krumov, 1999; Obretenov and Obretenova, 2002; Landzhev, 2005; Nikolov, 2006; Ivanov, 2007).

From the widespread in Bulgaria 845 species of wild medicinal plants 50 species are trees, 51 species are shrubs, 507 species are perennial herbaceous plants, 26 species are biennial herbaceous plants and 117 species are annual herbaceous plants. Besides representatives of the basic biological types are found and plants from various transitional groups: 28 species are small trees or shrubs, one species is a perennial herb or shrub, 23 species are biennial or perennial herbaceous plants, 7 species are annual or perennial herbaceous plants and 35 species are annual or biennial herbaceous plants.

A variety of plant parts, which are used for therapeutic purposes, is remarkable. The most commonly used plant parts are: roots, rhizomes, tubers, bark, stems, leaves, flowers, fruits and seeds (Table 1). Of these parts most commonly used for therapeutic purposes are stalks: in 380 species of medicinal plants (44.97%) and leaves: in 242 species of medicinal plants (28.64%). Furthermore they are also used 32 other plant parts (Table 2) or plant products (Table 3).

Table 1. Plant parts which most often used for medicinal purposes

Usable part	**Radix**	**Rhizo-me**	**Tubers**	**Cortex**	**Stalk**	**Leaf**	**Flower**	**Fruit**	**Seed**
Number of plants that produce this part	138	85	28	44	380	242	77	117	42

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The analysis of the number of individual parts and products derived from a medicinal plant shows the following: From two medicinal plants are obtained six different drugs and products: *Betula pendula* Roth and *Pinus sylvestris* L. From four medicinal plants are obtained five different drugs and products: *Crataegus monogyna* Jacq., *Fagus sylvatica* L., *Picea abies* (L.) Karst., *Sambucus nigra* L. From 19 medicinal plants are obtained four different drugs and products: *Aesculus hippocastanum* L., *Berberis vulgaris* L., *Corylus avellana* L., *Geranium macrorrhizum* L., *Juglans regia* L., *Rubus idaeus* L. and other. From 71 medicinal plants are obtained three different drugs and products: *Achillea millefolium* L., *Althaea officinalis* L., *Fragaria vesca* L., *Hyoscyamus niger* L., *Paeonia peregrina* Mill., *Rhamnus catharticus* L., and other. From 221 medicinal plants are obtained two different drugs and products: *Atropa bella-donna* L., *Betonica officinalis* L., *Hedera helix* L., *Malva sylvestris* L., *Rumex acetosa* L., and other. From 527 medicinal plants are obtained only one drug or product: *Cyclamen coum* Mill., *Leucojum aestivum* L., *Sedum acre* L., *Tribulus terrestris* L., and other.

Table 2. Other plant parts which used for medicinal purposes

Usable part	**Number of plants that produce this part**	**Usable part**	**Number of plants that produce this part**
Whole plant	11	Flowers with bracts	4
Bulbs	8	Flowers with bract leaves	1
Tuber-bulbs	1	Stigmas of flowers	2
Tuberiferous	1	Pollen	1
Bark of the roots	6	Spore	3
Wood	3	Green cones	1
Essential oil glands	1	Galbulus	3
Tips of branches	2	Arils	1
Buds	6	Shell fruits	1
Branches	13	Handles the fruit	1
Branches with leaves	1	Immature fruit	1
Aments	2	Galls	7
Petals of flowers	3		

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Table 3. Plant products which used for medicinal purposes

Plant product	Number of plants that produce this plant product	Plant product	Number of plants that produce this plant product
Juice from the stem	1	Tar	3
Latex	6	Essential oil	43
Pine balm	1	Seed oil	1
Oil of turpentine	1		

In the official medicine are used 316 medicinal plants (37.40%), and in folk medicine are used 826 medicinal plants (97.75%). Of medicinal plants 288 (34.08%) have internal use only, and 58 plants (6.86%) have external use only. The majority of medicinal plants, 488 (57.75%) are used both internally and externally.

In the dentistry are used 52 medicinal plants (6.15%). Among them are: *Achillea millefolium* L., *Chamomilla recutita* (L.) Rauschert, *Foeniculum vulgaris* Mill., *Hypericum perforatum* L., *Mentha pulegium* L. *Origanum vulgare* L., and other.

In the veterinary medicine (official and popular) are used 233 medicinal plants (27.57%). As in human medicine, it applies internally and externally.

In the aromatherapy are used 39 medicinal plants: *Angelica archangelica* L., *Hyssopus officinalis* L., *Melissa officinalis* L., *Origanum vulgare* L., *Viola odorata* L., and other. They represent 4.62% of all medicinal plants and 90.70% of the plants, from which are produced the essential oils.

In the cosmetics are used 211 medicinal plants (24.97%): *Castanea sativa* Mill., *Ficus carica* L., *Haberlea rhodopensis* Friv., *Nymphaea alba* L., *Pinus sylvestris* L., *Tilia tomentosa* Moench, *Urtica dioica* L., and other.

Among the medicinal plants are toxic to varying degrees 285 species (33.73%). Of these, 41 are highly poisonous species (4.85% of all medicinal plants): *Adonis vernalis* L., *Atropa bella-donna* L., *Colchicum autumnale* L., *Digitalis lanata* Ehrh., *Taxus baccata* L., *Veratrum nigrum* L., and other. A part of medicinal plants, 91 species (10.77%) are toxic only at higher doses: *Arnica montana* L., *Equisetum arvense* L., *Rhamnus catharticus* L., *Silybum marianum* (L.) Gaertn., *Valeriana officinalis* L., and other. The plants that produce side effects in physical contact with them, or their components, are 49 species (5.80%): *Achillea millefolium* L., *Aegopodium podagraria* L., *Ailanthus altissima* (Mill.) Swingle, *Anagalis arvensis* L., *Anthemis arvensis* L., *A. cotula* L., *Arnica montana* L., *Artemisia vulgaris* L., *Asparagus officinalis* L., *Bituminaria bituminosa* (L.) Stirt.,

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Bryonia alba L., *Caltha palustris* L., *Cannabis sativa* L., *Chamomilla recutita* (L.) Rausch., *Chelidonium majus* L., *Cichorium inthybus* L., *Cicuta virosa* L., *Clematis recta* L., *C. vitalba* L., *Colchicum autumnale* L., *Conium maculatum* L., *Conyza canadensis* (L.) Cronquist, *Convallaria majalis* L., *Coriandrum sativum* L., *Cornus mas* L., *Daphne mezereum* L., *Datura stramonium* L., *Dictamnus albus* L., *Ecbalium elaterium* (L.) A. Rich., *Galium aparine* L., *Hedera helix* L., *Humulus lupulus* L., *Hypericum perforatum* L., *Hypochaeris radicata* L., *Inula helenium* L., *Lactuca serriola* L., *Leonurus cardiaca* L., *Leucanthemum vulgare* Lam., *Pastinaca sativa* L., *Potentilla erecta* (L.) Raeusch., *Primula veris* L., *Rheum rhaponticum* L., *Ruta graveolens* L., *Sanicula europaea* L., *Sedum acre* L., *Tamus communis* L., *Tanacetum vulgare* L., *Xanthium spinosum* L., and *X. strumarium* L.

From them by contact with the plant particularly severe damage can causes following plants: *Cicuta virosa* L., *Daphne mezereum* L., *Dictamnus albus* L., *Ecbalium elaterium* (L.) A. Rich., and *Ruta graveolens* L.

In the literature we found information on contraindications for the use of 187 medicinal plant species (22.13%). Among them are: *Arctostaphylos uva-ursi* (L.) Spreng., *Eupatorium cannabinum* L., *Frangula alnus* Mill., *Juniperus communis* L., *Portulaca oleracea* L., *Rhodiola rosea* L., *Salix fragilis* L., and other. Although a relationship between toxicity of a plant and the availability of information about contraindications in its use, we found evidence of contraindications in 88 species of medicinal plants (10.41%) that are not poisonous. Such plants are, for example: *Acorus calamus* L., *Capsella bursa-pastoris* (L.) Medicus, *Eupatorium cannabinum* L., *Galium verum* L., *Inula helenium* L., *Malus sylvestris* Mill., *Oxalis acetosella* L., *Ribes uva-crispa* L., *Urtica dioica* L., and other.

Discussion

The variety of parts of the plant used for medicinal purposes in Bulgaria is remarkably: a total of 41 different plant parts or products. From a single medicinal plant are derived from 1 to 6 different drugs. The largest number of different plant parts or products (5 or 6 of a plant) are obtained only from tree and shrub species.

A significant part of the medicinal plants, approximately one of three, are used in the official medicine, and one of four are used in the veterinary medicine. In recent years increasing interest of modern official medicine to medicinal plants is reported. This interest is twofold: The medicinal plants are suitable as a raw material for the production of new pharmaceutical products. Drugs and products from medicinal plants becoming more widely used to support treatment, to stimulate the immune system, etc. A significant part of medicinal plants in Bulgaria are still insufficiently studied in terms of their chemical composition, curative action, capable of cultivation.

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Every fourth medicinal plant is used in the cosmetics, and Bulgaria is a manufacturer and exporter of raw materials and products for the cosmetics industry. However, still a large number of these plants are used only in folk cosmetics. Knowledge of their use are threatened with extinction under pressure from imports of cosmetic products.

Much of medicinal plants, one of three medicinal plant is poisonous to varying degrees. The degree of toxicity is indicated only for a part of wild medicinal plants described in the literature issued in Bulgaria. The medicinal plants, for which there is evidence of contraindications, are two groups: approximately half are poisonous and the other half are not. There is a shortage of data on contraindications for the use of almost half of poisonous plants among the medicinal plants in Bulgaria. A similar problem exists with regard to the presentation of information on contraindications for the use of medicinal plants. This information is particularly important for the health of people who choose to use plants for medicinal purposes. Publication of information on the route of administration of medicinal plants and the necessary dose is not enough. Very often there is no information on the duration of treatment. This creates the impression that the treatment should be continued until the disease is cured. In Bulgarian nation, there is the belief that if the use of medicinal plants can not help, it certainly will not hurt. Unfortunately, this belief is not based on real facts. Positive features are the availability of information in some of the books that treatment should be conducted under the guidance of phytotherapist and avoid healing themselves. Based on this analysis, we consider that the continuation of the survey of the degree of toxicity and contraindications are two important guidelines for the development of research on medicinal plants in Bulgaria.

Conclusions

Medicinal plants are one of the national treasures of Bulgaria. A treasure that our country generously shares with the rest of the world. A treasure we still don't know that much about. The study of the species diversity of medicinal plants in Bulgaria, the application of different plant parts in different fields of medicine will continue to be the subject of new researchers. The joint efforts will allow us to appreciate what we have been generously endowed with and what we need to preserve for the future.

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Appendix

Alphabetical index of medicinal plants in Bulgaria

1. *Abies alba* Mill.
2. *Acanthus balcanicus* Heywood & I. Richardson
3. *Acanthus spinosus* L.
4. *Acer campestre* L.
5. *Acer negundo* L.
6. *Acer platanoides* L.
7. *Acer pseudoplatanus* L.
8. *Acer tataricum* L.
9. *Achillea clypeolata* Sm.
10. *Achillea grandifolia* Friv.
11. *Achillea millefolium* L.

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12. *Achillea nobilis* L.
13. *Acinos arvensis* (Lam.) Dandy
14. *Acinos suaveolens* (Sm.) Don
15. *Aconitum burnatii* J. Gay
16. *Aconitum lycoctonum* L. ssp. *neapolitanum* (Ten.) Nym.
17. *Aconitum variegatum* L.
18. *Acorus calamus* L.
19. *Actaea spicata* L.
20. *Adiantum capillus-veneris* L.
21. *Adonis aestivalis* L.
22. *Adonis vernalis* L.
23. *Adoxa moschatellina* L.
24. *Aegopodium podagraria* L.
25. *Aesculus hippocastanum* L.
26. *Aethusa cynapium* L.
27. *Agrimonia eupatoria* L.
28. *Agrimonia procera* Wallr.
29. *Agrostemma githago* L.
30. *Ailanthus altissima* (Mill.) Swingle
31. *Ajuga chamaepitys* (L.) Schreb.
32. *Ajuga laxmannii* (L.) Benth.
33. *Ajuga reptans* L.
34. *Alcea pallida* (Waldst. & Kit. ex Willd.) Waldst. & Kit.
35. *Alcea rosea* L.
36. *Alchemilla achtarowii* Pawl.
37. *Alchemilla acutiloba* Opiz
38. *Alchemilla anisiaca* Wettst.
39. *Alchemilla asteroantha* Rothm.
40. *Alchemilla bulgarica* Rothm.
41. *Alchemilla catachnoa* Rothm.
42. *Alchemilla cinerea* Buser
43. *Alchemilla connivens* Buser
44. *Alchemilla crinita* Buser
45. *Alchemilla erythropoda* Juz
46. *Alchemilla fissa* Günter & Schummel
47. *Alchemilla flabellata* Buser
48. *Alchemilla glabra* Neygenf.
49. *Alchemilla glaucescens* Wallr.
50. *Alchemilla gorcensis* Pawl.
51. *Alchemilla gracilis* Opiz
52. *Alchemilla gracillima* Rothm.
53. *Alchemilla grossidens* Buser
54. *Alchemilla incisa* Buser
55. *Alchemilla indivisa* (Buser) Rothm.
56. *Alchemilla jumrukczalica* Pawl.
57. *Alchemilla mollis* (Buser) Rothm.
58. *Alchemilla monticola* Opiz
59. *Alchemilla obtusa* Buser
60. *Alchemilla pawlowskii* Assenov
61. *Alchemilla plicatula* Gand.
62. *Alchemilla pyrenaica* Dufour
63. *Alchemilla reniformis* Buser
64. *Alchemilla subcrenata* Buser
65. *Alchemilla viridiflora* Rothm.
66. *Alchemilla xanthochlora* Rothm.
67. *Alisma plantago-aquatica* L.
68. *Alkanna tinctoria* (L.) Tausch
69. *Alliaria petiolata* (M. Bieb.) Cavara & Grande
70. *Allium rotundum* L.
71. *Allium schoenoprasum* L.
72. *Allium scorodoprasum* L.
73. *Allium ursinum* L.
74. *Alnus glutinosa* (L.) Gaertn.

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75. *Alnus incana* (L.) Moench
76. *Althaea officinalis* L.
77. *Alyssum alyssoides* (L.) L.
78. *Amaranthus paniculatus* L.
79. *Amaranthus retroflexus* L.
80. *Amaranthus spinosus* L.
81. *Amorpha fruticosa* L.
82. *Anacamptis pyramidalis* (L.) Rich.
83. *Anagalis arvensis* L.
84. *Anchusa officinalis* L.
85. *Anemone nemorosa* L.
86. *Anemone ranunculoides* L.
87. *Anemone sylvestris* L.
88. *Anethum graveolens* L.
89. *Angelica archangelica* L.
90. *Angelica pancicii* Vandas
91. *Angelica sylvestris* L.
92. *Antennaria dioica* (L.) Gaertn.
93. *Anthemis arvensis* L.
94. *Anthemis cotula* L.
95. *Anthoxanthum odoratum* L.
96. *Anthriscus cerefolium* (L.) Hoffm.
97. *Anthyllis vulneraria* L.
98. *Apium graveolens* L.
99. *Aquilegia nigricans* Baumg.
100. *Arctium lappa* L.
101. *Arctium minus* Bernh.
102. *Arctium nemorosum* Lej.
103. *Arctium tomentosum* Mill.
104. *Arctostaphylos uva-ursi* (L.) Spreng.
105. *Aristolochia clematitis* L.
106. *Aristolochia rotunda* L.
107. *Armoracia rusticana* G. Gaertn., B. Mey. & Scherb.
108. *Arnica montana* L.
109. *Artemisia absinthium* L.
110. *Artemisia alba* Turra
111. *Artemisia annua* L.
112. *Artemisia campestris* L.
113. *Artemisia lerchiana* Weber
114. *Artemisia pontica* L.
115. *Artemisia santonicum* L.
116. *Artemisia vulgaris* L.
117. *Arum italicum* Mill.
118. *Arum maculatum* L.
119. *Asarum europaeum* L.
120. *Asparagus officinalis* L.
121. *Asphodelus albus* Mill.
122. *Asplenium adiantum-nigrum* L.
123. *Asplenium ruta-muraria* L.
124. *Asplenium septentrionale* (L.) Hoffm.
125. *Asplenium trichomanes* L.
126. *Astragalus dasyanthus* Pall.
127. *Astragalus glycyphylloides* DC.
128. *Astragalus glycyphyllos* L.
129. *Astrantia major* L.
130. *Athyrium filix-femina* (L.) Roth
131. *Atriplex rosea* L.
132. *Atropa bella-donna* L.
133. *Ballota nigra* L.
134. *Barbarea vulgaris* R. Br.
135. *Bellis perennis* L.
136. *Berberis vulgaris* L.
137. *Beta vulgaris* L.
138. *Betonica officinalis* L.

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139. *Betula pendula* Roth
140. *Bidens tripartita* L.
141. *Bifora radians* M. Bieb.
142. *Bistorta major* Gray
143. *Bistorta vivipara* (L.) Gray
144. *Bituminaria bituminosa* (L.) Stirt.
145. *Brassica juncea* (L.) Czern. & Coss.
146. *Brassica nigra* (L.) Koch
147. *Briza media* L.
148. *Bryonia alba* L.
149. *Buglossoides arvensis* (L.) I. M. Johnst.
150. *Buglossoides purpurocaerulea* (L.) I. M. Johnst.
151. *Bunias orientalis* L.
152. *Bupleurum rotundifolium* L.
153. *Butomus umbellatus* L.
154. *Calamintha nepeta* (L.) Savi
155. *Calamintha sylvatica* Bromf.
156. *Calluna vulgaris* (L.) Hull.
157. *Caltha palustris* L.
158. *Calystegia sepium* (L.) R. Br.
159. *Campanula lanata* Friv.
160. *Campanula persicifolia* L.
161. *Camphorosma monspeliaca* L.
162. *Cannabis sativa* L.
163. *Capsella bursa-pastoris* (L.) Medicus
164. *Cardamine amara* L.
165. *Cardamine bulbifera* (L.) Crantz
166. *Cardamine pratensis* L.
167. *Cardaria draba* (L.) Desv.
168. *Carduus acanthoides* L.
169. *Carex ligerica* J. Gay
170. *Carex riparia* Curtis
171. *Carlina acanthifolia* All.
172. *Carlina vulgaris* L.
173. *Carpinus betulus* L.
174. *Carthamus lanatus* L.
175. *Carum carvi* L.
176. *Carum graecum* Boiss. & Heldr.
177. *Castanea sativa* Mill.
178. *Celtis australis* L.
179. *Centaurea calcitrapa* L.
180. *Centaurea cyanus* L.
181. *Centaurea diffusa* Lam.
182. *Centaurea pannonica* (Heuffel) Simonk.
183. *Centaurea rocheliana* (Heuffel) Dostál
184. *Centaurea solstitialis* L.
185. *Centaurea stoebe* L.
186. *Centaurium erythraea* Raf.
187. *Centaurium pulchellum* (Sw.) Druce
188. *Cercis siliquastrum* L.
189. *Cerinthe glabra* Mill.
190. *Cerinthe minor* L.
191. *Ceterach officinarum* DC.
192. *Chaerophyllum bulbosum* L.
193. *Chaerophyllum temulentum* L.
194. *Chamaecytisus albus* (Hack.) Rothm.
195. *Chamaecytisus hirsutus* (L.) Link
196. *Chamaecytisus lejocarpus* (A. Kern.) Rothm.
197. *Chamaecytisus ratisbonensis* (Schaeff.) Rothm.
198. *Chamaespartium sagittale* (L.) Gibbs.
199. *Chelidonium majus* L.
200. *Chenopodium album* L.
201. *Chenopodium bonus-henricus* L.
202. *Chenopodium botrys* L.

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203. *Chenopodium foliosum* Asch.
204. *Chenopodium hybridum* L.
205. *Chenopodium polyspermum* L.
206. *Chenopodium rubrum* L.
207. *Chenopodium vulvaria* L.
208. *Chrysosplenium alternifolium* L.
209. *Cichorium inthybus* L.
210. *Cicuta virosa* L.
211. *Cionura erecta* (L.) Griseb.
212. *Cirsium arvense* (L.) Scop.
213. *Cirsium vulgare* (Savi) Ten.
214. *Clematis recta* L.
215. *Clematis vitalba* L.
216. *Clinopodium vulgare* L.
217. *Cnicus benedictus* L.
218. *Colchicum autumnale* L.
219. *Colutea arborescens* L.
220. *Conium maculatum* L.
221. *Consolida hispanica* (Costa) Greuter & Burdet
222. *Consolida regalis* Gray
223. *Convallaria majalis* L.
224. *Convolvulus arvensis* L.
225. *Coriandrum sativum* L.
226. *Cornus mas* L.
227. *Coronilla scorpioides* (L.) C. Koch
228. *Coronilla varia* L.
229. *Coronopus squamatus* (Forssk.) Asch.
230. *Corydalis bulbosa* (L.) DC.
231. *Corydalis solida* (L.) Schwarz
232. *Corylus avellana* L.
233. *Corylus colurna* L.
234. *Cota tinctoria* (L.) J. Gay.
235. *Cotinus coggygria* Scop.
236. *Crataegus monogyna* Jacq.
237. *Crataegus pentagyna* Waldst. & Kit.
238. *Crocus chrysanthus* (Herbert) Herbert
239. *Crocus pallasii* Goldb.
240. *Cruciata glabra* (L.) Ehrend.
241. *Cruciata laevipes* Opiz
242. *Cuscuta epilinum* Weihe
243. *Cuscuta europaea* L.
244. *Cyclamen coum* Mill.
245. *Cyclamen hederifolium* Aiton
246. *Cynodon dactylon* (L.) Pers.
247. *Cynoglossum officinale* L.
248. *Daphne mezereum* L.
249. *Datura stramonium* L.
250. *Daucus carota* L.
251. *Descurainia sophia* (L.) Webb. ex Prantl
252. *Dianthus pontederae* A. Kern.
253. *Dictamnus albus* L.
254. *Digitalis ferruginea* L.
255. *Digitalis grandiflora* Mill.
256. *Digitalis lanata* Ehrh.
257. *Digitalis viridiflora* Lindl.
258. *Diphasiastrum alpinum* (L.) Holub
259. *Diplotaxis tenuifolia* (L.) DC.
260. *Dipsacus fullonum* L.
261. *Dipsacus laciniatus* L.
262. *Doronicum columnae* Ten.
263. *Drosera rotundifolia* L.
264. *Dryas octopetala* L.
265. *Dryopteris filix-mas* (L.) Schott
266. *Ecballium elaterium* (L.) A. Rich.
267. *Echinops ritro* L.

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268. *Echinops sphaerocephalus* L.
269. *Echium italicum* L.
270. *Echium russicum* J. F. Gmel.
271. *Echium vulgare* L.
272. *Elaeagnus angustifolia* L.
273. *Elymus repens* (L.) Gould.
274. *Ephedra distachya* L.
275. *Epilobium angustifolium* Vill.
276. *Epilobium parviflorum* Schreb.
277. *Equisetum arvense* L.
278. *Equisetum fluviatile* L.
279. *Equisetum palustre* L.
280. *Equisetum sylvaticum* L.
281. *Equisetum telmateia* Ehrh.
282. *Erigeron canadensis* L.
283. *Eriophorum angustifolium* Roth
284. *Eriophorum latifolium* Hoppe
285. *Eriophorum vaginatum* L.
286. *Erodium cicutarium* (L.) L'Hér.
287. *Eruca vesicaria* (L.) Cav. ssp. *sativa* (Miller) Thell.
288. *Eryngium campestre* L.
289. *Eryngium maritimum* L.
290. *Erysimum crepidifolium* Rchb.
291. *Erysimum diffusum* Ehrh.
292. *Erysimum repandum* L.
293. *Euclidium syriacum* (L.) R. Br.
294. *Euonymus europaeus* L.
295. *Euonymus verrucosus* Scop.
296. *Eupatorium cannabinum* L.
297. *Euphorbia amygdaloides* L.
298. *Euphorbia cyparissias* L.
299. *Euphorbia myrsinites* L.
300. *Euphorbia peplis* L.
301. *Euphorbia peplus* L.
302. *Euphrasia pectinata* Ten.
303. *Euphrasia rostkoviana* Hayne
304. *Euphrasia stricta* D. Wolff.
305. *Fagus orientalis* Lipsky
306. *Fagus sylvatica* L.
307. *Fallopia dumetorum* (L.) Holub
308. *Ferulago sylvatica* (Besser) Rchb.
309. *Ficaria verna* Huds.
310. *Ficus carica* L.
311. *Filago arvensis* L.
312. *Filago lutescens* Jord.
313. *Filago germanica* (L.) Huds.
314. *Filipendula ulmaria* (L.) Maxim.
315. *Filipendula vulgaris* Moench
316. *Foeniculum vulgaris* Mill.
317. *Fragaria vesca* L.
318. *Frangula alnus* Mill.
319. *Fraxinus excelsior* L.
320. *Fraxinus ornus* L.
321. *Fraxinus oxycarpa* M. Bieb. ex Wilid.
322. *Fraxinus pallisiae* Wilmott
323. *Fumaria officinalis* L.
324. *Fumaria vaillantii* Loisel.
325. *Galanthus elwesii* Hook. f.
326. *Galanthus nivalis* L.
327. *Galega officinalis* L.
328. *Galeopsis ladanum* L.
329. *Galeopsis speciosa* Mill.
330. *Galeopsis tetrachit* L.
331. *Galinsoga parviflora* Cav.
332. *Galium aparine* L.

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333. *Galium lucidum* All.
334. *Galium odoratum* (L.) Scop.
335. *Galium verum* L.
336. *Genista ovata* Waldst. & Kit.
337. *Genista tinctoria* L.
338. *Gentiana asclepiadea* L.
339. *Gentiana cruciata* L.
340. *Gentiana lutea* L.
341. *Gentiana pneumonanthe* L.
342. *Gentiana punctata* L.
343. *Gentiana verna* L.
344. *Gentianella bulgarica* (Velen.) Holub
345. *Geranium dissectum* L.
346. *Geranium macrorrhizum* L.
347. *Geranium pyrenaicum* Burm. f.
348. *Geranium robertianum* L.
349. *Geranium sanguineum* L.
350. *Geranium sylvaticum* L.
351. *Geum coccineum* Sm.
352. *Geum montanum* L.
353. *Geum reptans* L.
354. *Geum rivale* L.
355. *Geum urbanum* L.
356. *Gladiolus communis* L.
357. *Gladiolus imbricatus* L.
358. *Glaucium flavum* Crantz
359. *Glechoma hederacea* L.
360. *Glechoma hirsuta* Waldst. & Kit.
361. *Gleditsia triacanthos* L.
362. *Globularia aphyllanthes* Crantz
363. *Globularia cordifolia* L.
364. *Glycyrrhiza glabra* L.
365. *Gnaphalium uliginosum* L.
366. *Gratiola officinalis* L.
367. *Gymnadenia conopsea* (L.) R. Br.
368. *Gypsophila paniculata* L.
369. *Haberlea rhodopensis* Friv.
370. *Hedera helix* L.
371. *Helichrysum arenarium* (L.) Moench
372. *Heliotropium europaeum* L.
373. *Helleborus odorus* Waldst. & Kit.
374. *Hepatica nobilis* Mill.
375. *Heracleum sibiricum* L.
376. *Heracleum verticillatum* Pančič
377. *Herniaria glabra* L.
378. *Herniaria hirsuta* L.
379. *Herniaria incana* Lam.
380. *Hesperis matronalis* L.
381. *Hieracium pilosella* L.
382. *Himantoglossum caprinum* (M. Bieb.) Spreng.
383. *Hippophae rhamnoides* L.
384. *Humulus lupulus* L.
385. *Huperzia selago* (L.) Bernh. ex Schrank & Mart.
386. *Hydrocharis morsus-ranae* L.
387. *Hyoscyamus albus* L.
388. *Hyoscyamus niger* L.
389. *Hypericum androsaemum* L.
390. *Hypericum cerastoides* (Spach) N. Robson
391. *Hypericum maculatum* Crantz.
392. *Hypericum perforatum* L.
393. *Hypochaeris maculata* L.
394. *Hypochaeris radicata* L.
395. *Hyssopus officinalis* L.
396. *Ilex aquifolium* L.

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397. *Inula aschersoniana* Janka
398. *Inula britannica* L.
399. *Inula ensifolia* L.
400. *Inula germanica* L.
401. *Inula helenium* L.
402. *Iris graminea* L.
403. *Iris pseudacorus* L.
404. *Iris pumila* L.
405. *Isopyrum thalictroides* L.
406. *Jacobaea othonnae* (M. Bieb.) C. A. Mey.
407. *Jacobaea paludosa* (L.) G. Gaertn.
408. *Jacobaea vulgaris* Gaertn.
409. *Jasminum fruticans* L.
410. *Juglans regia* L.
411. *Juncus inflexus* L.
412. *Juniperus communis* L.
413. *Juniperus oxycedrus* L.
414. *Juniperus sabina* L.
415. *Juniperus sibirica* Burgsd.
416. *Kickxia elatine* (L.) Dumort.
417. *Kickxia spuria* (L.) Dumort.
418. *Knautia arvensis* (L.) Coult.
419. *Lactuca serriola* L.
420. *Lamium album* L.
421. *Lamium maculatum* L.
422. *Lamium purpureum* L.
423. *Laser trilobum* (L.) Borkh.
424. *Laserpitium latifolium* L.
425. *Laserpitium siler* L.
426. *Lathraea squamaria* L.
427. *Lathyrus niger* (L.) Bernh.
428. *Lathyrus pratensis* L.
429. *Lathyrus sativus* L.
430. *Lathyrus sylvestris* L.
431. *Lathyrus tuberosus* L.
432. *Lathyrus vernus* (L.) Bernh.
433. *Laurocerasus officinalis* M. Roem.
434. *Lavandula angustifolia* Mill.
435. *Lavatera thuringiaca* L.
436. *Lemna minor* L.
437. *Leonurus cardiaca* L.
438. *Lepidium campestre* (L.) R. Br.
439. *Lepidium graminifolium* L.
440. *Lepidium latifolium* L.
441. *Lepidium perfoliatum* L.
442. *Lepidium ruderale* L.
443. *Lepidium sativum* L.
444. *Leucanthemum vulgare* Lam.
445. *Leucojum aestivum* L.
446. *Ligularia glauca* (L.) Hoffm.
447. *Ligustrum vulgare* L.
448. *Lilium martagon* L.
449. *Limonium vulgare* Mill.
450. *Linaria vulgaris* Mill.
451. *Linum catharticum* L.
452. *Lithospermum officinale* L.
453. *Lolium temulentum* L.
454. *Lonicera xylosteum* L.
455. *Loranthus europaeus* Jacq.
456. *Lotus corniculatus* L.
457. *Lunaria rediviva* L.
458. *Lupinus angustifolius* L.
459. *Lychnis coronaria* (L.) Desr.
460. *Lychnis flos-cuculi* L.
461. *Lycium barbarum* L.
462. *Lycopodium clavatum* L.

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463. *Lycopus europaeus* L.
464. *Lysimachia nummularia* L.
465. *Lythrum salicaria* L.
466. *Lythrum virgatum* L.
467. *Malus sylvestris* Mill.
468. *Malva moschata* L.
469. *Malva neglecta* Wallr.
470. *Malva pusilla* Sm.
471. *Malva sylvestris* L.
472. *Marrubium parviflorum* Fisch. & C. A. Mey.
473. *Marrubium peregrinum* L.
474. *Marrubium vulgare* L.
475. *Matricaria chamomilla* L.
476. *Matricaria discoidea* DC.
477. *Medicago sativa* L.
478. *Melilotus alba* Medicus
479. *Melilotus indica* (L.) All.
480. *Melilotus officinalis* (L.) Pall.
481. *Melissa officinalis* L.
482. *Melittis melissophyllum* L.
483. *Mentha aquatica* L.
484. *Mentha arvensis* L.
485. *Mentha longifolia* (L.) Huds.
486. *Mentha pulegium* L.
487. *Mentha spicata* L.
488. *Mentha suaveolens* Ehrh.
489. *Menyanthes trifoliata* L.
490. *Mercurialis annua* L.
491. *Mercurialis perennis* L.
492. *Mespilus germanica* L.
493. *Meum athamanticum* Jacq.
494. *Minuartia setacea* (Thuill.) Hayek
495. *Moneses uniflora* (L.) A. Gray
496. *Monotropa hypopitys* L.
497. *Morus alba* L.
498. *Morus nigra* L.
499. *Myagrum perfoliatum* L.
500. *Myosotis arvensis* (L.) Hill
501. *Myriophyllum spicatum* L.
502. *Najas marina* L.
503. *Nasturtium officinale* R. Br.
504. *Nectaroscordum siculum* (Ucria) Lindl.
505. *Nepeta cataria* L.
506. *Nicandra physaloides* (L.) Gaertn.
507. *Nigella arvensis* L.
508. *Nigella damascena* L.
509. *Nuphar lutea* (L.) Sm.
510. *Nymphaea alba* L.
511. *Oenanthe aquatica* (L.) Poir.
512. *Oenothera biennis* L.
513. *Ononis arvensis* L.
514. *Ononis spinosa* L.
515. *Onopordum acanthium* L.
516. *Onopordum tauricum* Wilid.
517. *Ophioglossum vulgatum* L.
518. *Ophrys cornuta* Steven
519. *Opopanax chironium* (L.) Koch
520. *Opopanax hispidus* (Friv.) Griseb.
521. *Orchis coriophora* L.
522. *Orchis laxiflora* Lam. s. str.
523. *Orchis mascula* L. s. str.
524. *Orchis militaris* L.
525. *Orchis morio* L.
526. *Orchis pallens* L.
527. *Orchis papilionacea* L.
528. *Orchis provincialis* Balb.

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529. *Orchis purpurea* Huds.
530. *Orchis simia* Lam.
531. *Orchis spitzelii* Saut. ex Koch
532. *Orchis tridentata* Scop.
533. *Orchis ustulata* L.
534. *Origanum vulgare* L.
535. *Origanum vulgare* L. ssp. *hirtum* (Link.) Jetswaart
536. *Orobanche minor* Sm.
537. *Orthilia secunda* (L.) House
538. *Osmunda regalis* L.
539. *Oxalis acetosella* L.
540. *Oxyria digyna* (L.) Hill
541. *Paeonia peregrina* Mill.
542. *Paeonia tenuifolia* L.
543. *Paliurus spina-christi* Mill.
544. *Papaver rhoeas* L.
545. *Parietaria lusitanica* L.
546. *Parietaria officinalis* L.
547. *Paris quadrifolia* L.
548. *Parnassia palustris* L.
549. *Pastinaca sativa* L.
550. *Pedicularis occulta* Janka
551. *Pedicularis palustris* L.
552. *Peganum harmala* L.
553. *Periploca graeca* L.
554. *Persicaria amphibia* (L.) Gray
555. *Persicaria hydropiper* (L.) Opiz
556. *Persicaria lapathifolia* (L.) Gray
557. *Persicaria maculata* (Raf.) Gray
558. *Persicaria mitis* (Schrank) Opiz
559. *Petasites albus* (L.) Gaertn.
560. *Petasites hybridus* (L.) Gaertn.
561. *Peucedanum arenarium* Waldst. & Kit.
562. *Peucedanum cervaria* (L.) Lapeyr.
563. *Peucedanum officinale* L.
564. *Peucedanum ruthenicum* M. Bieb.
565. *Phillyrea latifolia* L.
566. *Phlomis tuberosa* L.
567. *Phyllitis scolopendrium* (L.) Newman
568. *Physalis alkekengii* L.
569. *Phytolacca americana* L.
570. *Picea abies* (L.) Karst.
571. *Pimpinella saxifraga* L.
572. *Pinus peuce* Griseb.
573. *Pinus sylvestris* L.
574. *Plantago afra* L.
575. *Plantago coronopus* L.
576. *Plantago lanceolata* L.
577. *Plantago major* L.
578. *Plantago media* L.
579. *Plantago scabra* Moench
580. *Plantago subulata* L.
581. *Platanthera bifolia* (L.) Rich.
582. *Platanthera chlorantha* (Custer) Rchb.
583. *Platanus orientalis* L.
584. *Pleuropteropyrum undulatum* (A. Murray) A. & D. Löve
585. *Plumbago europaea* L.
586. *Polygala amarella* Crantz
587. *Polygala major* Jacq.
588. *Polygala vulgaris* L.
589. *Polygonatum multiflorum* (L.) All.
590. *Polygonatum odoratum* (Mill.) Druce
591. *Polygonum arenastrum* Boreau
592. *Polygonum aviculare* L.

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593. *Polypodium vulgare* L.
594. *Polystichum lonchitis* (L.) Roth
595. *Populus alba* L.
596. *Populus nigra* L.
597. *Populus tremula* L.
598. *Portulaca oleracea* L.
599. *Potentilla alba* L.
600. *Potentilla anserina* L.
601. *Potentilla argentea* L.
602. *Potentilla cinerea* Chaix ex Vill.
603. *Potentilla erecta* (L.) Raeusch.
604. *Potentilla palustris* (L.) Scop.
605. *Potentilla reptans* L.
606. *Potentilla rupestris* L.
607. *Prangos ferulacea* (L.) Lindl.
608. *Primula acaulis* (L.) L.
609. *Primula elatior* (L.) Hill
610. *Primula veris* L.
611. *Prunella vulgaris* L.
612. *Prunus avium* L.
613. *Prunus cerasifera* Ehrh.
614. *Prunus fruticosa* Pall.
615. *Prunus mahaleb* L.
616. *Prunus padus* L.
617. *Prunus spinosa* L.
618. *Pteridium aquilinum* (L.) Kuhn
619. *Pulicaria dysenterica* (L.) Bernh.
620. *Pulicaria vulgaris* Gaertn.
621. *Pulmonaria mollis* Wulfen ex Hornem.
622. *Pulmonaria officinalis* L.
623. *Pulsatilla halleri* (All.) Willd.
624. *Pulsatilla pratensis* (L.) Mill.
625. *Pyrola chlorantha* Sw.
626. *Pyrola rotundifolia* L.
627. *Pyrus pyraster* Burgsd.
628. *Quercus coccifera* L.
629. *Quercus dalechampii* Ten.
630. *Quercus frainetto* Ten.
631. *Quercus petraea* (Mattuschka) Liebl.
632. *Quercus robur* L.
633. *Ranunculus acris* L.
634. *Ranunculus flammula* L.
635. *Ranunculus lingua* L.
636. *Ranunculus polyanthemos* L.
637. *Ranunculus repens* L.
638. *Ranunculus sceleratus* L.
639. *Raphanus raphanistrum* L.
640. *Reseda inodora* Rchb.
641. *Reseda lutea* L.
642. *Reseda luteola* L.
643. *Rhamnus catharticus* L.
644. *Rheum rhaponticum* L.
645. *Rhinanthus minor* L.
646. *Rhodiola rosea* L.
647. *Rhododendron ponticum* L.
648. *Rhus coriaria* L.
649. *Ribes aureum* Pursh
650. *Ribes nigrum* L.
651. *Ribes uva-crispa* L.
652. *Robinia pseudoacacia* L.
653. *Rorippa austriaca* (Crantz) Besser
654. *Rorippa pyrenaica* (L.) Rchb.
655. *Rorippa sylvestris* (L.) Besser
656. *Rosa canina* L.
657. *Rosa corymbifera* Borkh.
658. *Rosa gallica* L.

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659. *Rubia tinctorum* L.
660. *Rubus caesius* L.
661. *Rubus hirtus* Waldst. & Kit.
662. *Rubus idaeus* L.
663. *Rubus saxatilis* L.
664. *Rumex acetosa* L.
665. *Rumex acetosella* L.
666. *Rumex alpinus* L.
667. *Rumex aquaticus* L.
668. *Rumex crispus* L.
669. *Rumex hydrolapathum* Huds.
670. *Rumex obtusifolius* L.
671. *Rumex palustris* Sm.
672. *Rumex patientia* L.
673. *Rumex pulcher* L.
674. *Rumex scutatus* L.
675. *Ruscus aculeatus* L.
676. *Ruta graveolens* L.
677. *Salicornia europaea* L.
678. *Salix alba* L.
679. *Salix caprea* L.
680. *Salix fragilis* L.
681. *Salix pentandra* L.
682. *Salix purpurea* L.
683. *Salsola ruthenica* Iljin
684. *Salvia aethiopis* L.
685. *Salvia glutinosa* L.
686. *Salvia nemorosa* L.
687. *Salvia officinalis* L.
688. *Salvia pratensis* L.
689. *Salvia sclarea* L.
690. *Salvia tomentosa* Mill.
691. *Salvia verticillata* L.
692. *Sambucus ebulus* L.
693. *Sambucus nigra* L.
694. *Sambucus racemosa* L.
695. *Samolus valerandii* L.
696. *Sanguisorba minor* Scop.
697. *Sanguisorba officinalis* L.
698. *Sanicula europaea* L.
699. *Saponaria officinalis* L.
700. *Satureja montana* L.
701. *Saxifraga bulbifera* L.
702. *Saxifraga rotundifolia* L.
703. *Scabiosa ochroleuca* L.
704. *Scandix pecten-veneris* L.
705. *Scilla bifolia* L.
706. *Scleranthus annuus* L.
707. *Scleranthus perennis* L.
708. *Sclerochloa dura* (L.) P. Beauv.
709. *Scorzonera hispanica* L.
710. *Scrophularia canina* L.
711. *Scrophularia nodosa* L.
712. *Scrophularia umbrosa* Dumort.
713. *Scutellaria altissima* L.
714. *Scutellaria galericulata* L.
715. *Scutellaria hastifolia* L.
716. *Securigera securidaca* (L.) Degen & Dörfl.
717. *Sedum acre* L.
718. *Sedum album* L.
719. *Sedum maximum* (L.) Suter
720. *Sempervivum leucanthum* Pančič
721. *Sempervivum marmoreum* Griseb.
722. *Senecio nemorensis* L.
723. *Senecio viscosus* L.
724. *Senecio vulgaris* L.

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725. *Seseli rhodopaeum* Velen.
726. *Seseli rigidum* Waldst. & Kit.
727. *Seseli tortuosum* L.
728. *Sideritis montana* L.
729. *Sideritis scardica* Griseb.
730. *Sideritis syriaca* L.
731. *Silene otites* (L.) Wibel
732. *Silybum marianum* (L.) Gaertn.
733. *Sisymbrium loeselii* L.
734. *Sisymbrium officinale* (L.) Scop.
735. *Smilax excelsa* L.
736. *Solanum dulcamara* L.
737. *Solanum nigrum* L.
738. *Solidago gigantea* W. Aiton
739. *Solidago virgaurea* L.
740. *Sorbus aucuparia* L.
741. *Sorbus domestica* L.
742. *Sorbus torminalis* (L.) Crantz
743. *Sorghum halepense* (L.) Pers.
744. *Sparganium erectum* L.
745. *Spartium junceum* L.
746. *Spergularia rubra* (L.) J. & C. Presl
747. *Spirodela polyrhiza* (L.) Schleid.
748. *Stachys annua* (L.) L.
749. *Stachys germanica* L.
750. *Stachys recta* L.
751. *Stachys sylvatica* L.
752. *Staphylea pinnata* L.
753. *Stellaria alsine* Grimm
754. *Stellaria graminea* L.
755. *Stellaria media* (L.) Vill.
756. *Succisa pratensis* Moench
757. *Symphytum officinale* L.
758. *Syringa vulgaris* L.
759. *Tamarix ramosissima* Ledeb.
760. *Tamarix tetrandra* Pall. ex M. Bieb.
761. *Tamus communis* L.
762. *Tanacetum vulgare* L.
763. *Taraxacum officinale* L.
764. *Taxus baccata* L.
765. *Telekia speciosa* (Schreb.) Baumg.
766. *Teucrium chamaedrys* L.
767. *Teucrium montanum* L.
768. *Teucrium polium* L.
769. *Teucrium scordium* L.
770. *Thalictrum aquilegifolium* L.
771. *Thalictrum flavum* L.
772. *Thalictrum minus* L.
773. *Thlaspi alliaceum* L.
774. *Thlaspi arvense* L.
775. *Thymus callieri* Borbás ex Velen.
776. *Thymus comptus* Friv.
777. *Thymus glabrescens* Wilid.
778. *Thymus longedentatus* (Degen & Urum.) Ronniger
779. *Thymus longicaulis* C. Presi.
780. *Thymus pulegioides* L.
781. *Thymus sibthorpii* Benth.
782. *Thymus striatus* Vahl
783. *Tilia cordata* Mill.
784. *Tilia platyphyllos* Scop.
785. *Tilia rubra* DC.
786. *Tilia tomentosa* Moench
787. *Tordylium maximum* L.
788. *Torilis arvensis* (Hudson) Link
789. *Tragopogon pratensis* L.

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790. *Tribulus terrestris* L.
791. *Trifolium alpestre* L.
792. *Trifolium arvense* L.
793. *Trifolium pannonicum* Jacq.
794. *Trifolium pratense* L.
795. *Trifolium repens* L.
796. *Trigonella coerulea* (L.) Ser.
797. *Trigonella foenum-graecum* L.
798. *Trigonella procumbens* (Besser) Rchb.
799. *Tripleurospermum tenuifolium* (Kit.) Freyn ex Freyn
800. *Tussilago farfara* L.
801. *Typha angustifolia* L.
802. *Typha latifolia* L.
803. *Ulmus glabra* Huds.
804. *Ulmus minor* Mill.
805. *Urtica dioica* L.
806. *Urtica urens* L.
807. *Vaccinium myrtillus* L.
808. *Vaccinium uliginosum* L.
809. *Vaccinium vitis-idaea* L.
810. *Valeriana officinalis* L.
811. *Valerianella coronata* (L.) DC.
812. *Veratrum lobelianum* Bernh.
813. *Veratrum nigrum* L.
814. *Verbascum densiflorum* Bertol.
815. *Verbascum nigrum* L.
816. *Verbascum nobile* Velen.
817. *Verbascum phlomoides* L.
818. *Verbascum phoeniceum* L.
819. *Verbascum pseudonobile* Stoj. & Stef.
820. *Verbena officinalis* L.
821. *Veronica anagallis-aquatica* L.
822. *Veronica arvensis* L.
823. *Veronica austriaca* L.
824. *Veronica beccabunga* L.
825. *Veronica chamaedrys* L.
826. *Veronica officinalis* L.
827. *Veronica orchidea* Crantz
828. *Veronica prostrata* L.
829. *Viburnum opulus* L.
830. *Vicia cracca* L.
831. *Vicia grandiflora* Scop.
832. *Vicia pisiformis* L.
833. *Vicia sativa* L.
834. *Vinca herbacea* Waldst. & Kit.
835. *Vinca minor* L.
836. *Vincetoxicum hirundinaria* Medicus
837. *Viola hirta* L.
838. *Viola odorata* L.
839. *Viola tricolor* L.
840. *Viscaria vulgaris* Röhl.
841. *Viscum album* L.
842. *Xanthium spinosum* L.
843. *Xanthium strumarium* L.
844. *Xeranthemum annuum* L.
845. *Zygophyllum fabago* L.

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