



The flora of the Asinara National Park. A field guide

**Pier Luigi Nimis, Simonetta Bagella,
Emmanuele Bocchieri, Tiziano Idini, Stefano Martellos,
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Images by Andrea Moro



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Preface

This guide was created thanks to the collaboration between the Asinara National Park, who funded the project, the Department of Life Sciences of the University of Trieste (project *Dryades*), and the Department of Science of Nature and Territory, University of Sassari. In testing the guide, students of Natural Sciences and Management of the Environment and Territory at the University of Sassari were also involved.

Introduction

Survey area

The island of Asinara is a National Park and a Marine Protected Area since 2002, because of its great naturalistic and historical importance. It is also part, with the nearby Isola Piana, of the Natura 2000 network. Situated in the extreme north-west of Sardinia, the island has an elongated shape, with a cliff coast in the west and low coasts with small sandy coves in the east, a coastline of c. 100 km, and an area of 51.92 km². Maximum length is 17.5 km, maximum width 6.5 km, and minimum width c. 250 m. From the administrative point of view, the island belongs to the municipality of Porto Torres (Province of Sassari).



The Asinara National Park

Human settlement dates to the prenuragic period, with the 'Domus de Janas' of Campu Perdu, but the first real colonisation occurred in medieval times, with the construction of a monastery at Sant'Andrea, and of the 'Castellaccio' at Punta Maestra Fornelli, which was part of a defensive system including the towers of Trabuccato, Cala d'Oliva and Cala Arena.



The Castellaccio.

Between 1600 and the end of 1800 the island was inhabited by a community of shepherds and fishermen. In 1885, the population was removed following the establishment of the Primary Lazzaretto of the Kingdom of Italy and of the penal colony. During the First World War, the island became a prison camp for thousands of soldiers of the Austro-Hungarian Empire. Recent history is characterized by the presence of a super-prison hosting members of the camorra, the mafia and the red brigades, which was closed in 1997, when the National Park was established.



Cala d'Oliva.

The prevalent geological substrate consists of metamorphic rocks of Paleozoic origin, but there are also granite outcrops and alluvial formations confined in small areas. The main peaks are Punta Scomunica (408 m), Punta Maestra Serre (391 m), and Punta Maestra Fornelli (265 m). The hydrographic network is very poor, with a single perennial stream called Rio Baddi Longa. The bioclimate is of the oceanic-Mediterranean type. The floristic list, which includes 701 infrageneric taxa, is based on that of Bocchieri (1988), supplemented by some more recent reports. For more details on the informatic structure of this Portal see Martellos & Nimis (2015).

The vegetation is dramatically degraded as a result of human activity: fire, overgrazing, intensive and extensive farming carried out during 112 years of presence of the penal colony, and the impact of cattle grown wild after its closure, have resulted in the disappearance of some plant communities and compromised the status of those present. However, the vegetation still comprises several plant communities which are unique worldwide.

The forest, that has disappeared almost everywhere, is dominated by holm oak (*Quercus ilex*), and still survives only in the northern areas of the island, on metamorphic rocks, between 150 and 200 m. The maquis that replaces the forest consists of *Pistacia lentiscus* and *Cytisus laniger*.



The residual holm oak forest at Elighe Mannu.

Other scrublands are present on Paleozoic schists in the southern sector of the island and on granite in the central portion, where the potential vegetation is mainly represented by a community of juniper and spurge (*Juniperus phoenicea* and *Euphorbia characias*), which also appears in other areas of the island, particularly in the coastal stretch within 100 m from the coastline. The most impoverished communities are dominated by the mastic tree (*Pistacia lentiscus*) and by *Euphorbia dendroides*.



Community with *Olea europaea* var. *syvestris* and *Euphorbia dendroides*.

The garrigue is represented by a community of *Euphorbia pithyusa* and *Helichrysum* on deeper soils, while on eroded soils of the western side of the island there is the typical formation dominated by *Centaurea horrida*.



Garrigue with *Euphorbia pithyusa* and *Helichrysum*.

The last stage of degradation is a herbaceous community with *Dactylis glomerata* subsp. *hispanica*, *Camphorosma monspeliaca*, *Catapodium balearicum*, *Filago tyrrhenica*, *Senecio leucanthemifolius* and *Nananthea perpusilla*, which is biogeographically important for the presence of the endemics *Nananthea perpusilla* and *Filago tyrrhenica*.



Nananthea perpusilla.

The inland areas of the island, at altitudes above 200 m, are occupied by woodlands with *Olea europaea* var. *sylvestris* and *Asparagus albus*, which are the predominant vegetation in the southern (Castellaccio) and northern (Cala d'Oliva) portions of the island. Less species-rich communities are the scrublands dominated by *Cytisus laniger* and *Euphorbia dendroides*, the garrigue with *Cistus monspeliensis*, especially favoured by fires, and the grasslands with *Dactylis hispanica* and *Tuberaria guttata*.



The community dominated by *Euphorbia dendroides*.

The vegetation reached by salt spray from the sea that grows in cracks of the rocks, well represented on all the coasts of Asinara, consists of communities with *Crithmum maritimum* and *Limonium acutifolium*. In the inner areas and higher up on the cliffs there is a typical thorny-cushions community dominated by *Centaurea horrida*.



Rocky coast west of Campu Perdu.

The clearings with dry bare soil between the thorny cushions are occupied by communities dominated by the annual *Filago tyrrhenica*, a Sardinian endemic. In somewhat more humid sites, a community develops which blooms in spring, dominated by *Nananthea perpusilla*, another endemic of Sardinia and Corsica.



Garrigue with *Centaurea horrida* (west of Punta sa Nave).

The vegetation of sandy coasts, mainly distributed in the eastern part of the island, is represented by a community dominated by *Salsola kali* and *Cakile maritima* and by associations of perennial grasses such as *Sporobolus virginicus* and *Ammophila arenaria*, among which also the endemic *Silene succulenta* subsp. *corsica* is rarely present.



Litoral sand dunes at Cala S. Andrea.

Behind the dunes there is often a series of depressions which are flooded in the winter months, occupied by communities with the endemics *Limonium glomeratum* and *Limonium laetum*. On sandy substrates which are humid most of the year, on the edge of temporary ponds and ditches behind the dunes, there are populations of *Juncus maritimus* and small shrubs of *Tamarix africana*.



Tamarix africana near Cala S. Andrea.

In wet sites such as small seasonal ponds, reservoirs, springs, or small streams, hygrophilous plants grow, such as *Callitriche stagnalis*, *Eleocharis palustris*, *Isolepis cernua*, *Agrostis stolonifera*, *Bellium bellidioides* and *Mentha pulegium*.



Temporary ponds in spring, with the bloom of *Ranunculus peltatus* subsp. *baudotii*.






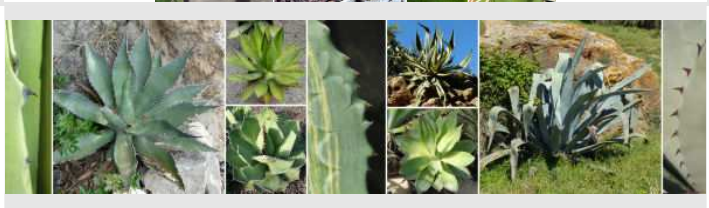


Temporary ponds at the beginning of summer, with the bloom of *Crassula tillaea*.









Scrublands with *Vitex agnus-castus* are found behind the dunes and along the humid watersheds, together with sporadic small woods of *Ulmus minor* (La Reale) or *Populus alba* (Cala d'Oliva). On rocky ridges in upland areas there are populations of *Arenaria balearica*, *Cymbalaria aequitriloba*, *Selaginella denticulata*, *Anogramma leptophylla*, *Asplenium obovatum* and *Polypodium cambricum*, forming communities with an important biogeographical value.












The highest hills of the Island, seen from Punta Scomunica.








Field guide







1	Plant cactus-like, with fleshy leafless stems		2
1	Plant not cactus-like		3
2	Stems flattened		<i>Opuntia ficus-indica</i> (L.) Mill.
2	Stems cylindrical		<i>Austrocyllindropuntia cylindrica</i> (Lam.) Backeb.
3	Plant with a dense basal rosette of fleshy leaves with a spiny margin, which are at least 20 cm long		4
3	Plant different		5
4	Inner portion of leaves with numerous, hard fibers. Flowers wider than long		<i>Agave americana</i> L.
4	Inner portion of leaves jelly-like, without such fibers. Flowers longer than wide		<i>Aloe arborescens</i> Mill.



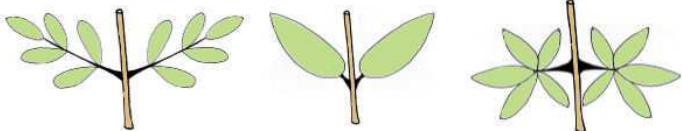
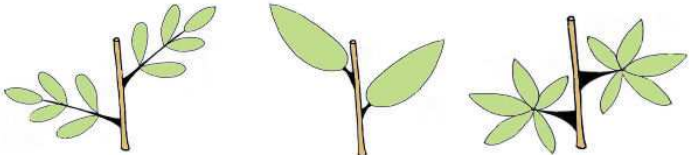




5	Trees, woody climbers, or > 50 cm tall shrubs		6
5	Herbaceous plants, or < 50 cm tall shrubs		102
6	Plants without true leaves, with pungent modified stems (phyllocladia)		7
6	Plants with true leaves		9
7	Phyllocladia flattened		<i>Ruscus aculeatus</i> L.
7	Phyllocladia needle-like		8
8	Stems white. Phyllocladia 2-3 cm long, arranged in bundles of 8-30		<i>Asparagus albus</i> L.
8	Stems green. Phyllocladia to 1.5 cm long, arranged in bundles of 4-12		<i>Asparagus acutifolius</i> L.
9	Leaves needle- or scale-like		10








9	Leaves neither needle- nor scale-like		24
10	Flowers hermaphrodite, with petals		11
10	Flowers unisexual, without petals		17
11	Leaves scale-like, adpressed to stem		12
11	Leaves needle-like, not adpressed to stem		15
12	Flowers yellow. Leaves fleshy		<i>Thymelaea hirsuta</i> (L.) Endl.
12	Flowers white or pink. Leaves not fleshy		13
13	All flowers with 5 petals and 5 sepals		<i>Tamarix africana</i> Poir.
13	At least some flowers (especially at the base of inflorescence) with 4 petals and 4 sepals		14







<p>Flowers with 4 stamens opposite to sepals (some of them may have 1-4 further stamens opposite to petals). Bracts longer than calyx. Anthers not apiculate</p>		<p><i>Tamarix dalmanica</i> Baum</p>
<p>Flowers with 5 stamens opposite to sepals (some of them may have 4 further stamens opposite to petals). Bracts equal to calyx. Anthers apiculate</p>		<p><i>Tamarix tetragyna</i> Ehrenb.</p>
<p>Plant with true leaves. Petals fused. Calyx present. Fruit dry</p>		<p><i>Erica arborea</i> L.</p>
<p>Plants with phyllocladia (modified stems resembling leaves). Petals free. Calyx absent. Fruit fleshy</p>		<p>16</p>
<p>Stems white. Flowers whitish. Phyllocladia 2-3 cm long, arranged in bundles of 8-30</p>		<p><i>Asparagus albus</i> L.</p>
<p>Stems green. Phyllocladia to 1.5 cm long, arranged in bundles of 4-12</p>		<p><i>Asparagus acutifolius</i> L.</p>
<p>17 Leaves scale-like</p>		<p>18</p>







17	Leaves needle-like		20
18	Young branches strongly flattened		<i>Platycladus orientalis</i> (L.) Franco
18	Young branches not flattened		19
19	Leaves blue-green. Cones woody at maturity		<i>Cupressus arizonica</i> Greene
19	Leaves green. Cones leathery at maturity (resembling a berry)		<i>Juniperus phoenicea</i> L. subsp. <i>turbinata</i> (Guss.) Nyman
20	Leaves with 2 pale stripes on upper surface. Cones leathery at maturity (resembling a berry)		<i>Juniperus oxycedrus</i> L.
20	Leaves without pale stripes on upper surface. Cones woody		21







21	Leaves arranged in bundles of 3		<i>Pinus canariensis</i> C. Sm.
21	Leaves arranged in bundles of 2		22
22	Leaves in average < 12 cm long (measure at least 10 leaves!)		<i>Pinus halepensis</i> Mill. subsp. <i>halepensis</i>
22	Leaves in average > 12 cm long (measure at least 10 leaves!)		23
23	Leaves in average < 16 cm long. Crown regular, umbrella-like. Scales of cones not hooked		<i>Pinus pinea</i> L.
23	Leaves in average > 16 cm long. Crown irregular, not umbrella-like. Scales of cones hooked		<i>Pinus pinaster</i> Aiton subsp. <i>pinaster</i>
24	Leaves arranged in whorls (more than 2 leaves originating from the same point)		25
24	Leaves alternate or opposite		26








25	Leaves < 8 cm long. Stems creeping or twining, woody only at the base. Fruit fleshy		<i>Rubia peregrina</i> L. subsp. <i>peregrina</i>
25	Leaves > 8 cm long. Stems erect, woody. Fruit dry		<i>Nerium oleander</i> L. subsp. <i>oleander</i>
26	Leaves opposite		27
26	Leaves alternate		47
27	Woody climbers		28
27	Trees or shrubs		30
28	Leaves compound (divided into separate leaflets)		<i>Clematis vitalba</i> L.
28	Leaves simple		29






29	Flowers radially symmetrical. Fruit dry		<i>Clematis cirrhosa</i> L.
29	Flowers bilaterally symmetrical. Fruit fleshy		<i>Lonicera implexa</i> Aiton subsp. <i>implexa</i>
30	Leaves compound, palmate		<i>Vitex agnus-castus</i> L.
30	Leaves simple		31
31	Leaves truncate or heart-shaped at base		32
31	Leaves rounded or tapering towards the base		33
32	Leaf margin entire. Flowers radially symmetrical		<i>Syringa vulgaris</i> L.





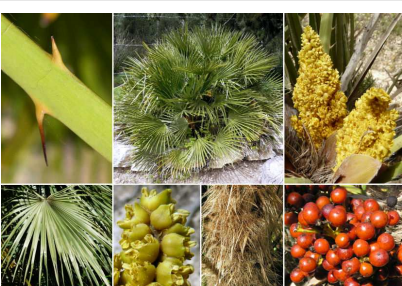
32	Leaf margin toothed. Flowers bilaterally symmetrical		<i>Prasium majus</i> L.
33	Leaves with a strong smell of myrtle, rosemary or lavender when bruised		34
33	Leaves almost odourless or with a different odour		36
34	Leaves hairless. Flowers radially symmetrical. Fruit fleshy		<i>Myrtus communis</i> L. subsp. <i>communis</i>
34	Leaves hairy at least on the lower surface. Flowers bilaterally symmetrical. Fruit dry		35
35	Leaves smelling of rosemary. Stamens protruding from the corolla		<i>Rosmarinus officinalis</i> L.
35	Leaves smelling of lavender. Stamens not protruding from the corolla		<i>Lavandula stoechas</i> L. subsp. <i>stoechas</i>
36	Young twigs ending in a spine		<i>Olea europaea</i> L. var. <i>sylvestris</i> Brot.








36	Young twigs not ending in a spine		37
37	Leaves silvery grey		<i>Olea europaea</i> L.
37	Leaves green		38
38	Leaves at least 4 times as long as wide		39
38	Leaves < 4 times as long as wide		40
39	Leaves rugose, hairy at least on lower surface		<i>Cistus monspeliensis</i> L.
39	Leaves smooth, hairless		<i>Nerium oleander</i> L. subsp. <i>oleander</i>
40	Leaf margin toothed		41
40	Leaf margin entire		43




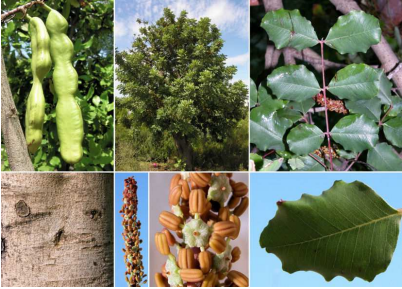



41	Flowers and fruits arranged in terminal racemes. Fruit a 4-lobed capsule		<i>Euonymus japonicus</i> L. f.
41	Flowers and fruits arranged in leaf-axils. Fruit fleshy (a drupe)		42
42	Leaves with 6-12 pairs of thick lateral veins. Calyx-lobes acute. Fruit rounded or slightly flattened at apex		<i>Phillyrea latifolia</i> L.
42	Leaves with 4-6 pairs of weak secondary veins. Calyx-lobes rounded at apex. Fruit pointed		<i>Phillyrea angustifolia</i> L.
43	Leaves hairy. Flowers > 3 cm across		<i>Cistus salviifolius</i> L.
43	Leaves hairless or almost so. Flowers < 3 cm across		44
44	Leaves deciduous, not leathery		<i>Syringa vulgaris</i> L.






44	Leaves evergreen, leathery						45
45	Leaves > 8 cm long. Flowers and fruits arranged in terminal, pyramidal racemes						<i>Ligustrum lucidum</i> W.T. Aiton
45	Leaves < 8 cm long. Flowers and fruits arranged in leaf-axils						46
46	Leaves with 6-12 pairs of thick lateral veins. Calyx-lobes acute. Fruit rounded or slightly flattened at apex						<i>Phillyrea angustifolia</i> L.
46	Leaves with 4-6 pairs of weak secondary veins. Calyx-lobes rounded at apex. Fruit pointed						<i>Phillyrea latifolia</i> L.
47	Leaves compound (divided into separate leaflets)						48
47	Leaves simple						64
48	Plants with spiny stems						49
48	Plants without spiny stems (spines, if present, limited to the leaf-stalks)						55






49	Leaves palmate, the margin toothed. Fruit resembling a mulberry		<i>Rubus ulmifolius</i> Schott
49	Leaves 3-foliolate or pinnate, the margin entire. Fruit different		50
50	Leaves with 3 leaflets only		51
50	Leaves pinnate, with more than 3 leaflets		53
51	Calyx with 5 acute teeth		<i>Genista corsica</i> (Loisel.) DC.
51	Calyx truncate and without acute teeth		52
52	Flowers mostly single. Fruit hairless or with a few sparse hairs		<i>Cytisus laniger</i> DC.
52	Flowers arranged in bundles. Fruit usually hairy		<i>Cytisus spinosus</i> (L.) Lam.




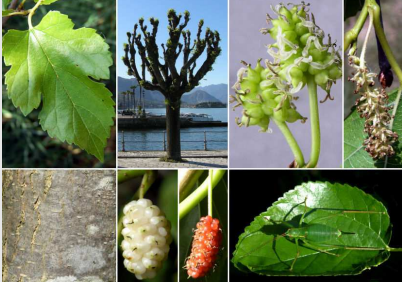

53	Plant forming compact grey cushions along the coast. Flowers arranged in heads		<i>Centaurea horrida</i> Badarò
53	Plant not forming compact grey cushions. Flowers not arranged in heads		54
54	Leaves imparipinnate (ending with a leaflet). Flowers white		<i>Robinia pseudoacacia</i> L.
54	Leaves paripinnate (not ending with a leaflet). Flowers yellow		<i>Vachellia karroo</i> (Hayne) Banfi & Galasso
55	Leaves with 3 leaflets only		<i>Anagyris foetida</i> L.
55	Leaves with more than 3 leaflets		56
56	Leaves palmate		<i>Chamaerops humilis</i> L.







56	Leaves pinnate		57
57	Leaves 2-3-pinnate		58
57	Leaves 1-pinnate		59
58	Leaves grey-hairy, with an aromatic scent when bruised		<i>Artemisia arborescens</i> (Vail.) L.
58	Leaves green, almost odourless		<i>Albizia julibrissin</i> Durazz.
59	Stems simple. Plant palm-like		60
59	Stems branched. Plant not palm-like		61
60	Leaves blue-green. Fruit > 2 cm long		<i>Phoenix dactylifera</i> L.





60	Leaves green. Fruit c. 2 cm long		<i>Phoenix canariensis</i> Chabaud
61	Leaves paripinnate (not ending with a leaflet)		62
61	Leaves imparipinnate (ending with a leaflet)		63
62	Leaves almost odourless when bruised. Fruit a legume		<i>Ceratonia siliqua</i> L.
62	Leaves with a resinous scent when bruised. Fruit different		<i>Pistacia lentiscus</i> L.
63	Branches drooping. Flowers radially symmetrical. Fruit fleshy		<i>Schinus molle</i> L.
63	Branches not drooping. Flowers bilaterally symmetrical. Fruit dry		<i>Robinia pseudoacacia</i> L.







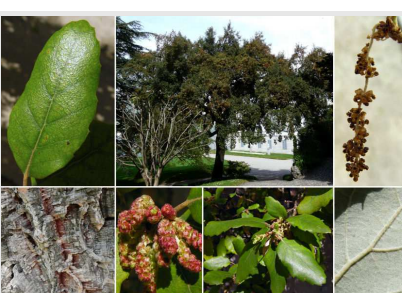
64	Woody climbers		65
64	Trees or shrubs		70
65	Flowers small, tubular, but provided at the base with brightly coloured petal-like bracts		<i>Bougainvillea</i> sp.
65	Flowers different		66
66	Plant with spines		<i>Smilax aspera</i> L.
66	Plants without spines		67
67	Leaf-blade almost completely divided into lobes		<i>Passiflora caerulea</i> L.
67	Leaves entire or not so deeply divided		68
68	Stems with prehensile tendrils		<i>Vitis vinifera</i> L. subsp. <i>vinifera</i>
68	Stems without tendrils		69






69	Flowers arranged in heads. Leaves and stems fleshy. Fruit dry		<i>Senecio angulatus</i> L. f.
69	Flowers not arranged in heads. Leaves and stems not fleshy. Fruit a red berry		<i>Dioscorea communis</i> (L.) Caddick & Wilkin
70	Leaves lobed		71
70	Leaves not lobed		76
71	Plant with a milky sap (break a leaf-stalk!)		<i>Ficus carica</i> L.
71	Plants without milky sap		72
72	Small shrub with yellow flowers arranged in heads		<i>Jacobaea maritima</i> (L.) Pels & Meijden subsp. <i>maritima</i>
72	Trees or tall shrubs with flowers not arranged in heads		73







73	Leaves (at least the young ones) green above, white-hairy beneath		<i>Populus alba</i> L.
73	Leaves green on both surfaces		74
74	Flowers > 2 cm across, with >1 cm long petals		<i>Hibiscus syriacus</i> L.
74	Flowers without petals		75
75	Leaves pinnately-veined. Fruit dry (an acorn)		<i>Quercus congesta</i> C. Presl
75	Leaves palmately-veined. Fruit fleshy (a mulberry)		<i>Morus alba</i> L.
76	Plants with yellow flowers arranged in globose heads, the stamens much longer than the corolla, the fruit a legume (Acacia)		<i>Acacia saligna</i> (Labill.) H.L.Wendl.
76	Plant with a different combination of characters		77




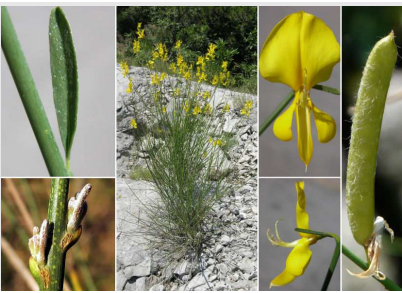

77	Leaves (actually these are modified stems!) ending with a stinging point		<i>Ruscus aculeatus</i> L.
77	Leaves not ending with a stinging point		78
78	Leaves more or less triangular or diamond-shaped in outline		<i>Populus nigra</i> L.
78	Leaves neither triangular nor diamond-shaped in outline		79
79	Leaf-base strongly asymmetrical		<i>Ulmus minor</i> Mill. subsp. <i>minor</i>
79	Leaf-base symmetrical		80
80	Leaves truncate to heart-shaped at base. Fruit a mulberry		<i>Morus alba</i> L.
80	Leaves not heart-shaped at base. Fruit different		81









81	Leaves somehow fleshy. Small shrub of salty, humid soils along the coast		<i>Salsola vermiculata</i> L.
81	Leaves not fleshy. Plants of other habitats		82
82	Leaves strongly smelling of eucalypt when bruised		<i>Eucalyptus</i> sp.
82	Leaves almost odourless when bruised		83
83	Plants producing a milky sap (CAREFUL! Wash hands after touching: the sap is irritating)		84
83	Plants without a milky sap		85
84	Bracts of inflorescence completely free		<i>Euphorbia dendroides</i> L.
84	Bracts of inflorescence fused at base into a sort of cup		<i>Euphorbia characias</i> L.

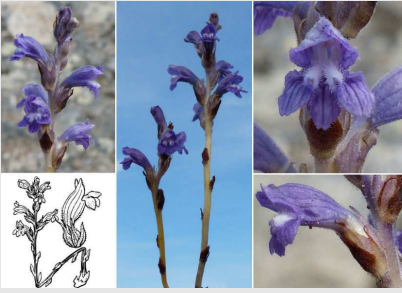






85	Leaves deciduous, > 4 times as long as wide, green above and grey-hairy beneath, to 1.5 cm wide		<i>Salix alba</i> L.
85	Leaves different		86
86	Leaf margin toothed		87
86	Leaf margin entire		96
87	Leaves evergreen, leathery		88
87	Leaves deciduous, not leathery		92
88	Flowers unisexual, without petals. Fruit an acorn. Leaves (at least some of them) green above, grey-hairy beneath		89
88	Flowers hermaphrodite, with petals. Fruit fleshy. Leaves green on both surfaces		90
89	Bark several cm thick, soft (cork). Acorn-cup with upper scales bent backwards. Central leaf-vein sinuous		<i>Quercus suber</i> L.




89	Bark thin and hard. Acorn-cup with all scales close-pressed. Central leaf-vein straight		<i>Quercus ilex</i> L. subsp. <i>ilex</i>
90	Wood with an unpleasant odour (peel a twig!). Flowers greenish		<i>Rhamnus alaternus</i> L. subsp. <i>alaternus</i>
90	Wood without unpleasant odour. Flowers white		91
91	Flowers barrel-shaped. Trunk reddish. Fruits > 1 cm across		<i>Arbutus unedo</i> L.
91	Flowers not barrel-shaped. Trunk not reddish. Fruits < 1 cm across		<i>Myoporum insulare</i> R.Br.
92	Leaves (at least the young ones) green above, white-hairy beneath		<i>Populus alba</i> L.
92	Leaves green on both surfaces		93








93	Leaves > 15 cm long. Fruits surrounded by a spiny husk		<i>Castanea sativa</i> Mill.
93	Leaves usually < 15 cm long. Fruits not surrounded by a spiny husk		94
94	Leaves at least 3 times as long as wide. Flowers pink. Fruit finely hairy		<i>Prunus persica</i> (L.) Batsch
94	Leaves < 3 times as long as wide. Flowers white. Fruit hairless		95
95	Shrub with subterranean stolons. Receptacle widest at the insertion point of petals. Inflorescence subtended by 1-3 small bracts		<i>Prunus cerasus</i> L.
95	Tree without stolons. Receptacle widest below the insertion point of petals. Inflorescence without bracts		<i>Prunus avium</i> L. subsp. <i>avium</i>
96	Plants reed-like, with simple, jointed, hollow stems		97
96	Plants not reed-like		98








97	Leaves > 50 cm long, at the base >7 cm wide. Glumes of equal length or almost so		<i>Arundo donax</i> L.
97	Leaves usually <50 cm long, <4 cm wide at the base. Glumes of markedly unequal length		<i>Phragmites australis</i> (Cav.) Trin. ex Steud. s.l.
98	Plant with modified stems resembling leaves, bearing on their surface flowers and fruits		<i>Ruscus hypoglossum</i> L.
98	Plants with true leaves		99
99	Flowers bilaterally symmetrical. Fruit a legume		<i>Spartium junceum</i> L.
99	Flowers not bilaterally symmetrical. Fruit not a legume		100
100	Leaves (at least some of them) green above, grey-hairy beneath. Flowers without petals. Fruit an acorn		<i>Quercus ilex</i> L. subsp. <i>ilex</i>
100	Leaves green on both surfaces, Flowers with petals. Fruit not an acorn		101







101	Leaves spatulate (widest in upper half). Petals free		<i>Pittosporum tobira</i> (Thunb.) W.T. Aiton
101	Leaves not spatulate (widest in the middle). Petals fused		<i>Daphne gnidium</i> L.
102	Plant not green, without chlorophyll		103
102	Plant green, with chlorophyll		113
103	Plant with thread-like stems twining around those of other plants, without roots		<i>Cuscuta planiflora</i> Ten.
103	Plant with erect stems, rooting in the ground		104
104	Flowers radially symmetrical		<i>Cytinus hypocistis</i> (L.) L.
104	Flowers bilaterally symmetrical		105





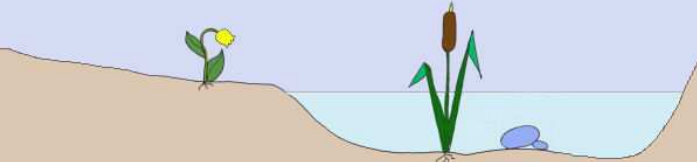

105	Flowers blue-violet		<i>Orobanche nana</i> (Reut.) Beck
105	Flowers of other colours		106
106	Stigma purple or violet (when fresh)		107
106	Stigma yellow or whitish		109
107	Corolla dark red and shiny inside, purple-red to bright yellow in the outer part		<i>Orobanche sanguinea</i> C. Presl
107	Corolla of different colours, never shiny inside, usually pale yellow, whitish or brownish in the outer part, at least towards the base		108
108	Bracts 7-15 mm long. Stamens inserted 2-3 mm above the base of the corolla		<i>Orobanche minor</i> Sm.







108	Bracts 10-22 mm long. Stamens inserted 3-5 mm above the base of the corolla		<i>Orobanche amethystea</i> Thuill.
109	Corolla-tube swollen in the lower part and progressively thinner towards the mouth. Parasite on Hedera		<i>Orobanche hederata</i> Duby
109	Corolla-tube not progressively thinner towards the mouth. Parasites on other plants		110
110	Corolla 20-30 mm long, with prominent and strongly divergent lips. Bracts with dense long hairs		<i>Orobanche crenata</i> Forssk.
110	Corolla 10-22 mm long, with weakly divergent lips. Bracts with short glandular hairs		111
111	Corolla homogeneously pale yellow		<i>Orobanche minor</i> Sm.
111	Corolla white to cream-coloured, usually with violet, pink or brown parts		112







112	Leaves linear-lanceolate to oblong. Flowers white to cream-coloured, usually with violet, pink or brown parts		<i>Orobanche amethystea</i> Thuill.
112	Leaves ovate. Flowers yellow with reddish parts		<i>Orobanche australis</i> Bertol.
113	Plants without well-developed leaves (photosynthesis carried out by green stems)		114
113	Plants with well-developed leaves		124
114	Plant succulent, with fleshy stems		115
114	Plant not succulent		118
115	Plant annual. herbaceous		<i>Salicornia patula</i> Duval-Jouve
115	Plant perennial. woody at least at the base		116
116	Plant with prostrate, mostly subterranean stems rooting along their whole length		<i>Sarcocornia perennis</i> (Mill.) A.J. Scott subsp. <i>perennis</i>



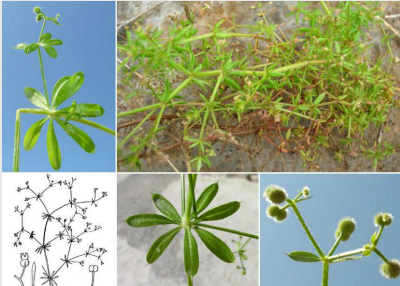




116	Plants without prostrate subterranean stems				117
117	The fallen flowers leave a 3-partite scar on stems (magnifying glass!). Portions between joints and apex of the stem strongly convex-rounded				<i>Sarcocornia fruticosa</i> (L.) A.J. Scott
117	The fallen flowers leave an entire scar on stems. Portions between joints parallel and apex of the stem acute				<i>Arthrocnemum macrostachyum</i> (Moric.) K. Koch
118	Flowers pale pink to white, arranged in heads. Plant forming dense grey cushions along the coast				<i>Centaurea horrida</i> Badarò
118	Flowers different, not arranged in heads. Plants not forming dense grey cushions				119
119	Plants with pungent, needle-like to flattened modified stems (phyllocladia) resembling leaves				120
119	Plants without such modified stems				123
120	Phyllocladia flattened				121
120	Phyllocladia needle-like				122






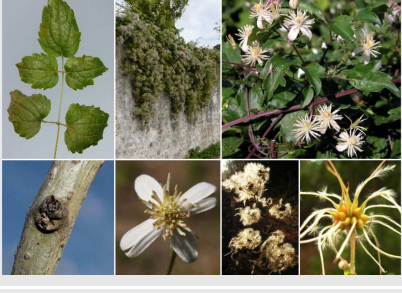
121	Phyllocladia ending in a stinging point		<i>Ruscus aculeatus</i> L.
121	Phyllocladia not ending in a stinging point		<i>Ruscus hypoglossum</i> L.
122	Stems white. Phyllocladia 2-3 cm long, arranged in bundles of 8-30		<i>Asparagus albus</i> L.
122	Stems green. Phyllocladia to 1.5 cm long, arranged in bundles of 4-12		<i>Asparagus acutifolius</i> L.
123	Stems not ending in a spike of flowers. Flowers radially symmetrical (magnifying glass!)		<i>Juncus effusus</i> L. subsp. <i>effusus</i>
123	Stems ending in a spike of flowers. Flowers not radially symmetrical		<i>Eleocharis palustris</i> (L.) Roem. & Schult. subsp. <i>palustris</i>








124	Leaves arranged in whorls along the stem (more than 2 leaves originating at the same point along the stem)		125
124	Leaves not whorled (alternate, opposite or all basal)		138
125	Leaves deeply divided		<i>Myriophyllum spicatum</i> L.
125	Leaves entire		126
126	Plant totally submerged		<i>Zannichellia palustris</i> L. s.l.
126	Plant terrestrial, or, if aquatic, with stems emerging from water		127
127	Flowers bilaterally symmetrical. Leaves arranged in whorls of 3		<i>Linaria triphylla</i> (L.) Mill.
127	Flowers radially symmetrical. Leaves arranged in whorls of 4 or more		128
128	Petals 5		129




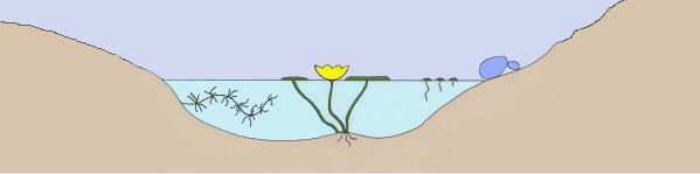
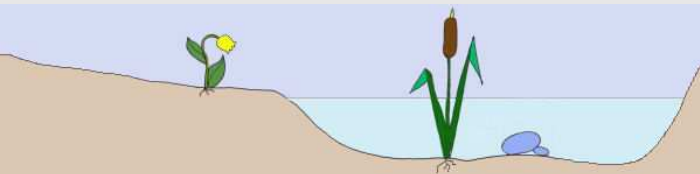

128	Petals 4		133
129	Petals fused at least at base. Fruit fleshy		<i>Rubia peregrina</i> L. subsp. <i>peregrina</i>
129	Petals free. Fruit dry		130
130	Leaves linear, at least 10 times as long as wide, 1.5-3.5 cm long		<i>Spargula arvensis</i> L.
130	Leaves not linear, or, if linear, < 1.5 cm long		131
131	Flowers whitish. Leaves soft, oval, at least 5 mm wide and long		<i>Polycarpon tetraphyllum</i> (L.) L. subsp. <i>tetraphyllum</i>
131	Flowers pink. Leaves stiff, much smaller		132
132	Annual plant with flattened leaves		<i>Frankenia pulverulenta</i> L. subsp. <i>pulverulenta</i>

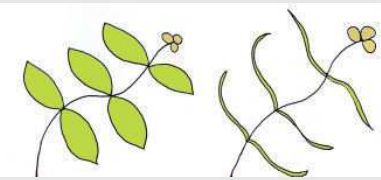
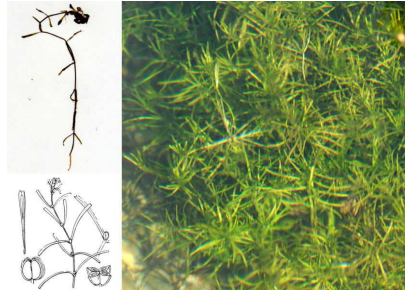

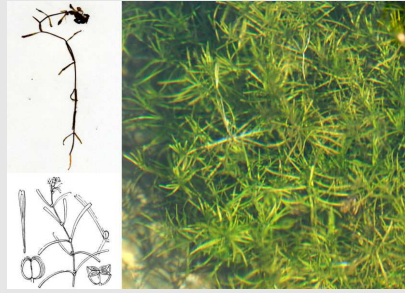


132	Perennial plant with rolled, and hence apparently cylindrical leaves		<i>Frankenia hirsuta</i> L.
133	Corolla pale blue to pink, the tube longer than lobes		<i>Sherardia arvensis</i> L.
133	Corolla greenish-yellow or white, the tube much shorter than lobes, or not evident		134
134	Leaves max. 2.5 as long as wide, arranged in whorls of 4		<i>Valantia muralis</i> L.
134	Leaves at least 3 times as long as wide, arranged in whorls of more than 4		135
135	Leaves with teeth pointing towards the leaf-base (magnifying glass!)		<i>Galium aparine</i> L.
135	Leaves with teeth pointing towards the apex		136








136	Fruit > 4 mm wide. Leaves usually > 3 mm wide		<p><i>Galium verrucosum</i> Huds. subsp. <i>halophilum</i> (Ponzo) Lambinon</p>
136	Fruit < 2 mm wide. Leaves usually < 3 mm wide		137
137	Whorls with 4-6 leaves. Inflorescences with branches that are shorter than the corresponding bract		<p><i>Galium murale</i> (L.) All.</p>
137	Whorls with 5-9 leaves. Inflorescences with branches that are longer than the corresponding bract		<p><i>Galium divaricatum</i> Lam.</p>
138	Leaves opposite		139
138	Leaves alternate or all basal		256
139	Leaves not entire (compound or divided by more than half of the blade)		140
139	Leaves entire, at most weakly lobed		154






144	Petals notched at apex		146
145	Leaves not compound, rounded in outline		<i>Geranium lucidum</i> L.
145	Leaves compound, pentagonal in outline		<i>Geranium purpureum</i> Vill.
146	Leaves almost completely divided		<i>Geranium dissectum</i> L.
146	Leaves divided only on 2/3-4/5 of the blade		<i>Geranium molle</i> L.
147	Woody climber		<i>Clematis vitalba</i> L.
147	Herbaceous plants		148







148	Flowers strongly bilaterally symmetrical, the corolla barrel-shaped		<i>Scrophularia trifoliata</i> L.
148	Flowers different: radially symmetrical or weakly bilaterally symmetrical		149
149	Petals fused into a tube provided with a short spur		<i>Centranthus calcitrapae</i> (L.) Dufr. subsp. <i>calcitrapae</i>
149	Petals free		150
150	Flowers yellow. Leaves paripinnate (not ending with a leaflet). Fruit spiny, beakless		<i>Tribulus terrestris</i> L.
150	Flowers pink. Leaves not paripinnate. Fruit not spiny, with a long beak		151
151	Leaves with only 1-2 leaflets at the base		<i>Erodium botrys</i> (Cav.) Bertol.
151	Leaves with more than 2 leaflets		152





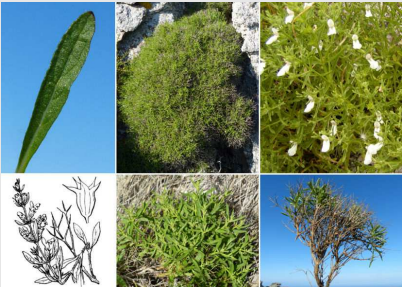

152	Leaves with alternating large and small leaflets. Sepals with an awn of 2-5 mm. Beak of fruit 6-10 cm long		<i>Erodium ciconium</i> (L.) L'Hér.
152	Leaflets of similar size. Sepals with an awn of max. 1 mm. Beak of fruit 2-6 cm long		153
153	Leaves 2-3-pinnate		<i>Erodium cicutarium</i> (L.) L'Hér.
153	Leaves 1-pinnate		<i>Erodium moschatum</i> (L.) L'Hér.
154	Plant totally submerged into water, or with floating leaves		155
154	Plant terrestrial or, if aquatic, with leaves emerging from water		158
155	Upper leaves opposite, lower leaves alternate		<i>Ruppia maritima</i> L.






<p>155 All leaves opposite</p>		<p>156</p>
<p>156 Leaves all submerged and linear, with parallel edges</p>		<p><i>Callitriche hamulata</i> Kütz. ex W.D.J. Koch</p>
<p>156 Leaves not all submerged, or at least the upper ones not linear and arranged in a rosette</p>		<p>157</p>
<p>157 Flowers submerged. Pollen grains colourless. Styles persistent, curved</p>		<p><i>Callitriche hamulata</i> Kütz. ex W.D.J. Koch</p>
<p>157 Flowers emerging from water. Pollen grains yellow. Styles falling early or persistent, but straight</p>		<p><i>Callitriche stagnalis</i> Scop.</p>
<p>158 Flowers arranged in heads resembling a small daisy</p>		<p><i>Galinsoga parviflora</i> Cav.</p>
<p>158 Flowers not arranged in heads resembling a small daisy</p>		<p>159</p>







159	Flowers greenish, without petals or with inconspicuous, sepal-like petals		160
159	Flowers not greenish, with petals		171
160	Plant with a milky sap (break a stem!)		<i>Chamaesyce peplis</i> (L.) Prokh.
160	Plants without a milky sap		161
161	Leaves stalked		162
161	Leaves sessile		167
162	Plants with stinging hairs		163
162	Plant without stinging hairs		165
163	Female flowers arranged in globose heads		<i>Urtica pilulifera</i> L.
163	Female flowers arranged in long spikes		164



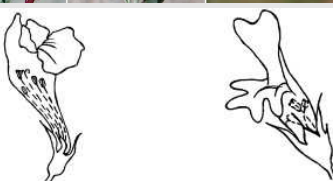





164	<p>Stipules fused together for at least 3/4 of their length, hence nodes apparently with 2 stipules. Upper male inflorescences with flowers inserted on a ribbon-like axis</p>		<p><i>Urtica membranacea</i> Poir. ex Savigny</p>
164	<p>Stipules free, or fused only at the base, hence nodes clearly with 4 stipules. Inflorescences different</p>		<p><i>Urtica urens</i> L.</p>
165	<p>Leaves triangular in outline, the base truncate</p>		<p><i>Atriplex prostrata</i> Boucher ex DC.</p>
165	<p>Leaves oval in outline, the base not truncate</p>		<p>166</p>
166	<p>Leaf margin entire. Perennial plant</p>		<p><i>Halimione portulacoides</i> (L.) Aellen</p>
166	<p>Leaf margin finely toothed. Annual plant</p>		<p><i>Mercurialis annua</i> L.</p>








167	Leaves with stipules. Calyx white-membranous at margin, with hood-shaped sepals surmounted by a c 1 mm long awn		<i>Paronychia echinulata</i> Chater
167	Leaves without stipules. Calyx different		168
168	Leaves widest towards the base. Fruit a nutlet surrounded by a membranous wing		169
168	Leaves linear. Fruit a capsule		170
169	Leaves not ending in a small spine, 2-4 mm wide, the base partially clasping the stem. Stem smooth, hairless		<i>Salsola soda</i> L.
169	Leaves ending in a small (1-2 mm long) spine, the base not clasping the stem. Stem hairy, rough		<i>Salsola tragus</i> L. subsp. <i>pontica</i> (Pall.) Rilke
170	Leaves ending in a long acute point		<i>Sagina apetala</i> Ard. subsp. <i>apetala</i>





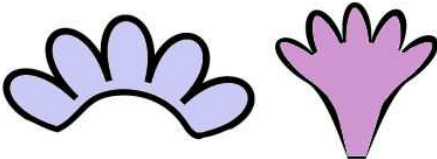


170	Leaves not ending in a long acute point		<i>Sagina maritima</i> Don
171	Corolla white, with 4 lobes fused at the base in a short tube, the lower lobe narrower than the others. Stamens 2		<i>Veronica cymbalaria</i> Bodard subsp. <i>cymbalaria</i>
171	Corolla different		172
172	Flowers bilaterally symmetrical		173
172	Flowers radially symmetrical		194
173	Plant with spines		<i>Stachys glutinosa</i> L.
173	Plant without spines		174
174	Leaves rounded, peltate (the stalk originates from the centre of the blade)		<i>Tropaeolum majus</i> L.
174	Leaves different, not peltate		175







175	Corolla with a spur or with a sac-like outgrowth		176
175	Corolla without a spur		178
176	Leaves heart-shaped at base		<p><i>Cymbalaria aequitriloba</i> (Viv.) A. Chev. subsp. <i>aequitriloba</i></p>
176	Leaves not heart- shaped at base		177
177	Calyx teeth longer than corolla. Annual plant		<p><i>Misopates orontium</i> (L.) Raf.</p>
177	Calyx teeth shorter than corolla. Plant perennial		<p><i>Antirrhinum majus</i> L. subsp. <i>majus</i></p>
178	Corolla barrel- shaped, with two well-developed lobes pointing upwards, the other lobes reduced		<p><i>Scrophularia peregrina</i> L.</p>
178	Corolla different		179
179	Calyx with 4 teeth (magnifying glass!)		180
179	Calyx with 5 teeth		182







180	Calyx swollen. Plant with simple hairs. Seeds with longitudinal ridges (stereo-microscope!)		<i>Bartsia trixago</i> L.
180	Calyx cylindrical. Plant with glandular hairs. Seeds reticulately ridged		181
181	Flowers yellow, 16-24 mm long. Calyx teeth as long as 2/3 of calyx tube		<i>Parentucellia viscosa</i> (L.) Caruel
181	Flowers purple, 8-10 mm long. Calyx teeth max. as long as 1/4 of tube		<i>Parentucellia latifolia</i> (L.) Caruel
182	Corolla 1-lipped (only the lower lip well-developed)		183
182	Corolla clearly 2-lipped		185
183	Leaves linear. Lower lip of corolla with 3 lobes		<i>Ajuga iva</i> (L.) Schreb. subsp. <i>iva</i>
183	Leaves not linear. Lower lip of corolla with 5 lobes		184






184	Leaves > 1 cm long, green beneath, the margin crenate		<i>Teucrium massiliense</i> L.
184	Leaves < 1 cm long, grey-hairy beneath, the margin entire		<i>Teucrium marum</i> L.
185	Stamens included into the corolla-tube		186
185	Stamens protruding from the corolla tube		187
186	Calyx radially symmetrical, with 10 teeth. Flowers arranged in the axils of leaves which are very similar to normal leaves, with short bracts at the base of calyx		<i>Marrubium vulgare</i> L.
186	Calyx 2-lipped, with 5 teeth. Flowers arranged in the axils of 2 bracts which are very different from normal leaves, without short bracts at the base of calyx		<i>Sideritis romana</i> L. subsp. <i>romana</i>
187	Calyx 2-lipped, with 3 teeth on one side, 2 on the other		188
187	Calyx regular		192






188	Flowers white		189
188	Flowers blue, pink or violet		190
189	Small shrub, woody at the base		<i>Prasium majus</i> L.
189	Herbaceous plant		<i>Melittis melissophyllum</i> L. s.l.
190	Upper lip of corolla hood-shaped		<i>Salvia verbenaca</i> L.
190	Upper lip of corolla not hood-shaped		191
191	Shrub. Leaves linear, smelling of rosemary. Fertile stamens 2 (magnifying glass!)		<i>Rosmarinus officinalis</i> L.
191	Herbaceous plant. Leaves not linear, with a different odour. Fertile stamens 4		<i>Melittis melissophyllum</i> L. s.l.







192	Lower lip of corolla with 3 lobes, the 2 basal lobes well-developed		<i>Stachys arvensis</i> (L.) L.
192	Lower lip without lobes, or with 2 basal lobes reduced to linear appendages		193
193	Flowers white. Upper lip deeply bifid		<i>Lamium bifidum</i> Cirillo subsp. <i>bifidum</i>
193	Flowers pink. Upper lip entire		<i>Lamium amplexicaule</i> L.
194	Petals fused at least at base		195
194	Petals free		208
195	Petals 4. Plant strongly smelling of mint		196
195	Petals 5 or more. Plant not smelling of mint		197







	<p>Flowers arranged in 196 cylindrical leafless spikes</p>		<p><i>Mentha × piperita</i> L.</p>
	<p>Flowers arranged in 196 leaf-axils</p>		<p><i>Mentha pulegium</i> L. subsp. <i>pulegium</i></p>
<p>197 Flowers yellow</p>			<p>198</p>
<p>197 Flowers not yellow</p>			<p>199</p>
<p>198 Petals more than 5</p>		<p><i>Blackstonia perfoliata</i> (L.) Huds. subsp. <i>imperfoliata</i> (L. f.) Franco & Rocha Afonso</p>	
<p>198 Petals 5</p>		<p><i>Centaurium maritimum</i> (L.) Fritsch</p>	
<p>199 Flowers white</p>			<p>200</p>
<p>199 Flowers not white</p>			<p>202</p>





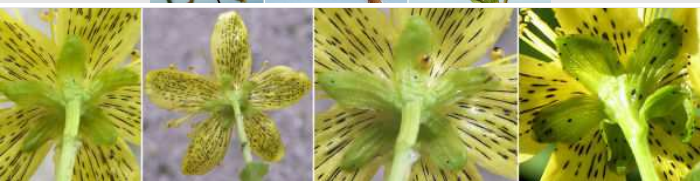

200	Leaf-base more or less heart-shaped. Plant with a milky sap, > 30 cm tall		<p><i>Vincetoxicum hirundinaria</i> Medik. subsp. <i>contiguum</i> (W.D.J. Koch) Markgr.</p>
200	Leaf-base not heart-shaped. Plant without milky sap, to 30 cm tall		201
201	Petals of equal length. Calyx of 5 sepals		<p><i>Lysimachia linum- stellatum</i> L.</p>
201	Petals of unequal length, 2 of them shorter than the others. Calyx substituted by 2 bracts surrounding the base of the flower		<p><i>Montia fontana</i> L. subsp. <i>amporitana</i> Sennen</p>
202	Flowers < 5 mm across, the calyx absent or transformed into a tuft of hairs		<p><i>Valerianella microcarpa</i> Loisel.</p>
202	Flowers usually > 5 mm across, with a well-developed calyx		203
203	Flowers dark blue or bright orange-red. Stems prostrate or creeping		204
203	Flowers pink. Stems erect		205







204	<p>Petals separated also at the base, the margin toothed-fringed, with scarce 4-cellular glandular hairs. Flower pedicels usually shorter than the corresponding leaf</p>		<p><i>Lysimachia foemina</i> (Mill.) U. Manns & Anderb.</p>
204	<p>Petals contiguous at least toward the base, the margin almost entire and with numerous glandular, 3-cellular hairs (magnifying glass!). Flower pedicels longer than the corresponding leaf</p>		<p><i>Lysimachia arvensis</i> (L.) U. Manns & Anderb. s.l.</p>
205	<p>Flowers arranged in spikes</p>		<p><i>Schenkia spicata</i> (L.) G. Mans.</p>
205	<p>Flowers arranged in corymbs</p>		<p>206</p>
206	<p>Plant biennial, at flowering time with a well-developed basal rosette of leaves. Calyx shorter than corolla-tube</p>		<p><i>Centaurium erythraea</i> Rafn subsp. <i>erythraea</i></p>
206	<p>Plant annual, the basal leaves withered at flowering time. Calyx c. as long as the corolla tube</p>		<p>207</p>
207	<p>Petals c. 3 mm wide. Stem usually with 2-4 internodes</p>		<p><i>Centaurium pulchellum</i> (Sw.) Druce subsp. <i>pulchellum</i></p>








207	Petals c. 2 mm wide. Stem with 5-9 internodes		<p><i>Centaurium tenuiflorum</i> (Hoffmanns. & Link) Fritsch subsp. <i>acutiflorum</i> (Schott) Zeltner</p>
208	Plant succulent, with fleshy leaves		209
208	Plant not succulent		214
209	Sepals and petals 3-4		210
209	Sepals and petals 5 or more		211
210	Flowers on long pedicels, with 4 petals. Leaves linear-spatulate		<p><i>Bulliardia vaillantii</i> (Willd.) DC</p>
210	Flowers sessile, usually with 3 petals. Leaves ovate-lanceolate		<p><i>Crassula tillaea</i> Lest.-Garl.</p>
211	Leaves covered by transparent, crystal-like warts		<p><i>Mesembryanthemum nodiflorum</i> L.</p>
211	Leaves without such warts		212








212	Leaves triangular in section. Flowers > 3 cm across, with many petals		<p><i>Carpobrotus acinaciformis</i> (L.) L. Bolus</p>
212	Leaves not triangular in section. Flowers < 2 cm across, with 5 petals		213
213	Flowers white. Plant glandular-sticky		<p><i>Silene succulenta</i> Forssk. subsp. <i>corsica</i> (DC.) Nyman</p>
213	Flowers yellow. Plant not glandular-sticky		<p><i>Portulaca oleracea</i> L. subsp. <i>oleracea</i></p>
214	Petals 4		215
214	Petals 5 or more		221
215	Flowers pink		216
215	Flowers of other colours		218
216	Stigma not lobed		<p><i>Epilobium tetragonum</i> L. subsp. <i>tetragonum</i></p>
216	Stigma with 4 lobes arranged crosswise		217





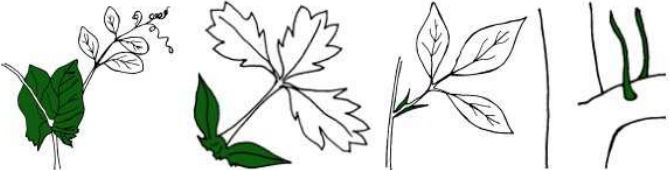

217	Stems with long divergent hairs. Median leaves of stem sessile. Petals > 1 cm long		<i>Epilobium hirsutum</i> L.
217	Stems with short adpressed hairs. Median leaves of stem stalked. Petals < 1 cm long		<i>Epilobium lanceolatum</i> Sebast. & Mauri
218	Stamens 2-4. Leaves flattened		219
218	Stamens more than 4. Leaves cylindrical		220
219	Margin of sepals with 3 acute teeth (magnifying glass!)		<i>Linum radiola</i> L.
219	Margin of sepals entire		<i>Moenchia erecta</i> (L.) G. Gaertn., B. Mey. & Scherb. s.l.
220	Leaves ending in a long acute point		<i>Sagina apetala</i> Ard. subsp. <i>apetala</i>










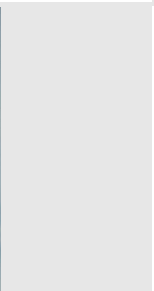






220	Leaves not ending in a long acute point		<i>Sagina maritima</i> Don
221	Flowers yellow		222
221	Flowers not yellow		226
222	Leaves thick, somehow fleshy. Petals notched. Stamens max 12		<i>Portulaca oleracea</i> L. subsp. <i>oleracea</i>
222	Leaves thin. Petals entire or toothed, but not notched. Stamens very numerous		223
223	Sepals 3 (actually 5, but 3 much larger than the others)		<i>Tuberaria guttata</i> (L.) Fourr.
223	Sepals 5, all equal		224
224	Stems quadrangular in cross-section		<i>Hypericum tetrapterum</i> Fr.








224	Stems more or less cylindrical			225
225	Sepals obtuse Stems prostrate			<i>Hypericum humifusum</i> L.
225	Sepals acute. Stems erect			<i>Hypericum perforatum</i> L. subsp. <i>perforatum</i>
226	Small shrub with woody stem and branches			<i>Cistus salviifolius</i> L.
226	Herbaceous plants (sometimes slightly woody only at the base)			227
227	Sepals free			228
227	Sepals fused at least at the base			242
228	Fruits surmounted by a very long beak			229
228	Fruits beakless			231

229	Petals pale pink with a network of dark violet veins. Plant perennial, woody at base		<i>Erodium corsicum</i> Léman
229	Petals deep pink. Plant annual		230
230	Apex of fruit (below the beak) with 2 small grooves surrounded by concentric ridges (magnifying glass!)		<i>Erodium malacoides</i> (L.) L'Hér. subsp. <i>malacoides</i>
230	Apex of fruit with grooves not surrounded by concentric ridges		<i>Erodium chium</i> (L.) Willd.
231	Petals 2-lobed or bifid		232
231	Petals entire		235
232	Capsule globose or ovoid, not exceeding the calyx. Stems glabrous or with a single row of hairs		<i>Stellaria media</i> (L.) Vill. subsp. <i>media</i>
232	Capsule cylindrical, about 2 times as long as the calyx. Stems densely hairy at least in the upper part		233





	<p>Margin of sepals 233 hairless, the apex membranous</p>		<p><i>Cerastium semidecandrum</i> L.</p>
	<p>Margin of sepals 233 hairy at least in the upper part</p>		<p>234</p>
	<p>Flowers pedicels 234 equal to or shorter than calyx</p>		<p><i>Cerastium glomeratum</i> Thuill.</p>
	<p>234 Flowers pedicels longer than calyx</p>		<p><i>Cerastium brachypetalum</i> Desp. ex Pers. s.l.</p>
	<p>Flowers pink, 235 orange-red or deep blue</p>		<p>236</p>
	<p>235 Flowers white</p>		<p>239</p>
	<p>Leaves not linear < 236 5 times as long as wide</p>		<p>237</p>
	<p>Leaves linear < 10 236 times as long as wide</p>		<p>238</p>








<p>237</p> <p>Petals separated also at the base, the margin toothed-fringed, with scarce 4-cellular glandular hairs. Flower pedicels usually shorter than the corresponding leaf</p>		<p><i>Lysimachia foemina</i> (Mill.) U. Manns & Anderb.</p>
<p>237</p> <p>Petals contiguous at least toward the base, the margin almost entire and with numerous glandular, 3-cellular hairs (magnifying glass!). Flower pedicels longer than the corresponding leaf</p>		<p><i>Lysimachia arvensis</i> (L.) U. Manns & Anderb. s.l.</p>
<p>238</p> <p>Stipules of young shoots fused for c. 1/2 of their length, forming a sheath. Seeds pale chestnut brown, some of them winged, some wingless (rarely all wingless)</p>		<p><i>Spargularia salina</i> J. Presl & C. Presl</p>
<p>238</p> <p>Stipules of young shoots fused only at the base. Seeds of variable colours, all wingless</p>		<p><i>Spargularia rubra</i> (L.) J. Presl & C. Presl</p>
<p>239</p> <p>Leaves with stipules</p>		<p>240</p>
<p>239</p> <p>Leaves without stipules</p>		<p>241</p>
<p>240</p> <p>Leaves thin, at least the upper ones arranged in whorls of 4. Stipules acute. Sepals c. 2 mm long</p>		<p><i>Polycarpon tetraphyllum</i> (L.) L. subsp. <i>tetraphyllum</i></p>





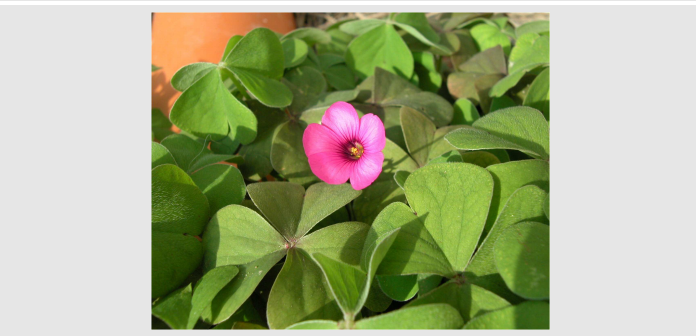



240	Leaves thick, somehow fleshy, all opposite. Stipules obtuse or truncate. Sepals 3-3.5 mm long				<i>Polycarpon tetraphyllum</i> (L.) L. subsp. <i>alsinifolium</i> (Biv.) Ball			
241	Sepals longer than petals				<i>Moehringia pentandra</i> Gay			
241	Sepals shorter than petals				<i>Arenaria balearica</i> L.			
242	Petals white at least on the upper surface							243
242	Petals not white				248			
243	Petals rounded at apex							<i>Silene gallica</i> L.
243	Petals 2-lobed or bifid							244
244	Calyx strongly swollen, hairless, with 20 main veins							245






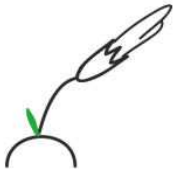

244	Calyx nor strongly swollen, with 10 main veins		246
245	Stems herbaceous also at the base. Leaves 1-4 cm wide		<i>Silene vulgaris</i> (Moench) Garcke subsp. <i>vulgaris</i>
245	Stems woody at the base. Leaves to 1 cm wide		<i>Silene vulgaris</i> (Moench) Garcke subsp. <i>tenoreana</i> (Colla) Soldano & F. Conti
246	Calyx hairy		<i>Silene succulenta</i> Forssk. subsp. <i>corsica</i> (DC.) Nyman
246	Calyx hairless		247
247	Calyx 18-20 mm long. Perennial plant		<i>Silene nodulosa</i> Viv.
247	Calyx 7-10 mm long. Annual plant		<i>Silene inaperta</i> L.






248	Calyx not subtended by brown scales. Styles 3-5 (magnifying glass!)		249
248	Calyx subtended by brown scales. Styles 2		255
249	Capsule with 10 teeth (or with 5 bifid teeth). Styles 5 (magnifying glass!)		250
249	Capsule with 6 teeth. Styles 3		251
250	Flowers > 1 cm across. Calyx > 15 mm long		<i>Eudianthe coeli-rosa</i> (L.) Endl.
250	Flowers to 1 cm across. Calyx < 15 mm long		<i>Eudianthe laeta</i> Rchb. ex Willk.
251	Petals rounded at apex		<i>Silene gallica</i> L.
251	Petals notched to 2-lobed at apex		252



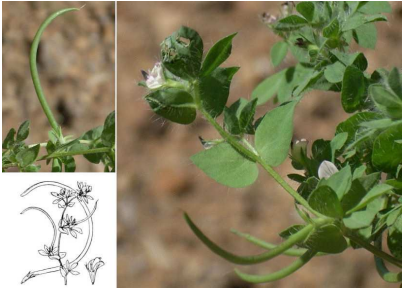


252	Stems clearly prostrate. Calyx club-shaped. Capsule globose. Seeds disc-like (magnifying glass!)		<i>Silene nummica</i> Vals.
252	Stems erect to ascending. Calyx tubular. Capsule oval. Seeds kidney-shaped		253
253	Calyx with silky hairs, 10-12 mm long. Capsule ovoid. Leaves narrowly lanceolate		<i>Silene beguinotii</i> Vals.
253	Calyx pubescent, 12-14(-15) mm long. Capsule ellipsoidal. Leaves ovate to lanceolate		254
254	Inflorescence resembling a panicle. Leaves lanceolate, pubescent, hirsute. Wing of seeds with a concave margin (stereo-microscope!)		<i>Silene canescens</i> Ten.
254	Inflorescence a cyme. Leaves ovate, acute, pubescent. Wing of seeds with a wavy, acute margin		<i>Silene colorata</i> Poir.




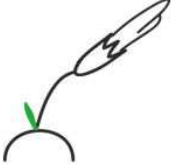


255	Stem densely covered by glandular hairs. Sheath of leaves c. 2 times as long as wide		<i>Petrorhagia dubia</i> (Raf.) G. López & Romo
255	Stem hairless. Sheath of leaves c. as long as wide		<i>Petrorhagia prolifera</i> (L.) P.W. Ball & Heywood
256	Leaves not entire (compound or divided by more than half of the blade)		257
256	Leaves entire, at most weakly lobed		479
257	Leaves 3-foliolate (with 3 leaflets only)		258
257	Leaves not 3-foliolate		317
258	Flowers and fruits arranged in compound umbels		<i>Smyrniolus atratum</i> L.
258	Flowers and fruits not arranged in compound umbels		259
259	Flowers radially symmetrical		260



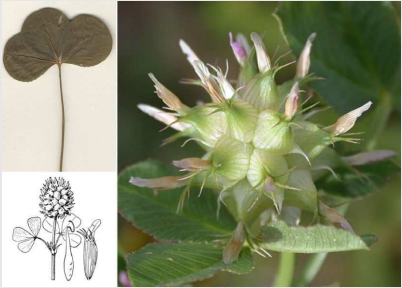


259	Flowers bilaterally symmetrical		262
260	Margin of leaflets toothed to lobed, the apex not notched. Fruit not a capsule		<i>Ranunculus sardous</i> Crantz s.l.
260	Margin of leaflets entire, the apex notched. Fruit a capsule		261
261	Flowers yellow		<i>Oxalis pes-caprae</i> L.
261	Flowers pink		<i>Oxalis purpurata</i> Jacq.
262	Flowers white, red, pink or blue-violet		263
262	Flowers yellow		290
263	Flowers white to whitish		264







263	Flowers red, pink or blue-violet		271
264	Inflorescences sessile or almost so		265
264	Inflorescences with a > 5 mm long pedicel		266
265	Individual flowers with a short pedicel subtended by a small bract (magnifying glass!)		<i>Trifolium suffocatum</i> L.
265	Individual flowers sessile, without basal bract		<i>Trifolium scabrum</i> L. subsp. <i>scabrum</i>
266	Individual flowers with a short pedicel subtended by a small bract (magnifying glass!). Calyx hairless or sparsely hairy at the mouth. Legume with 2-8 seeds		267
266	Individual flowers sessile, without basal bract. Calyx-mouth obstructed by a ring of hairs. Legume with 1(-2) seeds		268







267	Plant annual, the prostrate stems not rooting at nodes		<i>Trifolium nigrescens</i> Viv. subsp. <i>nigrescens</i>
267	Plant perennial, the prostrate stems rooting at nodes		<i>Trifolium repens</i> L.
268	Inflorescences subtended by a large rounded bract. Calyx with 20 veins (or with veins completely hidden by dense silky hairs)		<i>Trifolium cherleri</i> L.
268	Inflorescences not subtended by a large rounded bract. Calyx with 10(-14) veins		269
269	Plant perennial. Flowers 13-20 mm long		<i>Trifolium ochroleucon</i> Huds.
269	Plant annual. Flowers to 12 mm long (usually less)		270
270	Inflorescences with less than 8 fertile flowers, at fruiting touching the soil or subterranean		<i>Trifolium subterraneum</i> L.







270	Inflorescences with more than 8 fertile flowers, never touching the soil		<i>Trifolium arvense</i> L. subsp. <i>arvense</i>
271	Leaves with 2 large leaf-like stipules at the base of the petiole (hence apparently with 5 leaflets)		272
271	Leaves with stipules not resembling the leaflets, and hence clearly 3-foliolate		273
272	Plant annual, herbaceous		<i>Lotus conimbricensis</i> Brot.
272	Plant perennial, woody at least at the base		<i>Lotus rectus</i> L.
273	Small shrub with spiny branches		<i>Ononis spinosa</i> L. s.l.
273	Herbaceous plants without spines		274






274	Stamens with the 10 filaments fused into a tube. Plant glandular-sticky		<i>Ononis reclinata</i> L.
274	Stamens with 9 filaments fused into a tube, the 10th free. Plant not glandular-sticky		275
275	Flowers blue to blue-violet. Legume > 5 mm long, clearly protruding from calyx		<i>Medicago sativa</i> L.
275	Flowers pink to red. Legume hidden inside the calyx		276
276	Individual flowers with a short pedicel subtended by a small bract (magnifying glass!). Calyx hairless or sparsely hairy at the mouth. Legume with 2-8 seeds		277
276	Individual flowers sessile, without basal bract. Calyx-mouth obstructed by a ring of hairs. Legume with 1(-2) seeds		281
277	Inflorescences sessile or almost so		<i>Trifolium glomeratum</i> L.


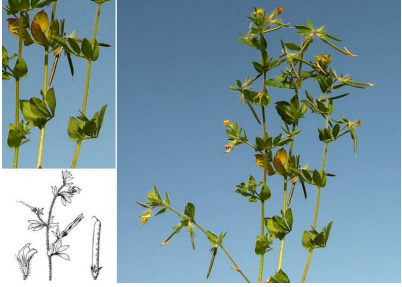



277	Inflorescences with a > 5 mm long pedicel		278
278	Plant perennial, the prostrate stems rooting at nodes		<i>Trifolium fragiferum</i> L. subsp. <i>fragiferum</i>
278	Plant annual		279
279	Inflorescences terminal. Fruiting calyx hairless. Inflorescences with well-developed bracts		<i>Trifolium spumosum</i> L.
279	Inflorescences lateral. Fruiting calyx hairy. Inflorescences with poorly developed bracts		280
280	Pedicels of inflorescences about as long as the corresponding leaves. Fruiting calyx about 2 times as long as wide		<i>Trifolium resupinatum</i> L.
280	Pedicels of inflorescences much shorter than the corresponding leaves. Fruiting calyx only slightly longer than wide		<i>Trifolium tomentosum</i> L.






281	Calyx with 20 veins (magnifying glass!)		<i>Trifolium lappaceum</i> L.
281	Calyx with 10 veins		282
282	Plant perennial. Inflorescences globose and stalked		<i>Trifolium pratense</i> L. s.l.
282	Plant annual. Inflorescences not globose and stalked at the same time		283
283	Inflorescences sessile or almost so		<i>Trifolium bocconeii</i> Savi
283	Inflorescences with a > 5 mm long pedicel		284
284	Upper leaves (at least the uppermost pair) opposite		285
284	All leaves alternate		286






285	Corolla 8-12 mm long		<i>Trifolium squarrosum</i> L.
285	Corolla 4-8 mm long		<i>Trifolium squamosum</i> L.
	286 Inflorescences globose or wider than long		<i>Trifolium stellatum</i> L.
286	Inflorescences clearly longer than wide		287
287	Leaflets obovate, < 3 times as long as wide		288
287	Leaflets 3-10 times as long as wide		289
288	Corolla shorter than calyx		<i>Trifolium ligusticum</i> Loisel.






288	Corolla longer than calyx		<p><i>Trifolium incarnatum</i> L. subsp. <i>molinerii</i> (Hornem.) Ces.</p>
289	Inflorescences 2-8 cm long, usually solitary or few in number. Calyx teeth usually not exceeding the corolla		<p><i>Trifolium angustifolium</i> L. subsp. <i>angustifolium</i></p>
289	Inflorescences 10-25 mm long, numerous. Calyx teeth much exceeding the corolla		<p><i>Trifolium arvense</i> L. subsp. <i>arvense</i></p>
290	Leaves with 2 large leaf-like stipules at the base of the petiole (hence apparently with 5 leaflets)		291
290	Leaves with stipules not resembling the leaflets, and hence clearly 3-foliolate		297
291	Calyx clearly 2-lipped		292
291	Calyx regular		294














292	Plant annual. Legume curved		<i>Lotus ornithopodioides</i> L.
292	Plant perennial. Legume not curved		293
293	Plant densely silvery-hairy. Expanded portion of the keel c. 2 times as long as the nail, the apex slightly sickle-shaped		<i>Lotus creticus</i> L.
293	Plant with sparse grey hairs, Expanded portion of the keel as long as the nail, the apex forming a straight angle		<i>Lotus cytisoides</i> L. s.l.
294	Plant perennial		<i>Lotus corniculatus</i> L. subsp. <i>corniculatus</i>
294	Plant annual		295
295	Calyx teeth 3-4 times as long as the tube		<i>Lotus parviflorus</i> Desf.

295	Calyx teeth max. 1.5 as long as the tube		296
296	Legume 4-8 mm wide, with a groove on the back		<i>Lotus edulis</i> L.
296	Legume 1-2 mm wide, without groove on the back		<i>Lotus angustissimus</i> L.
297	Standard (upper petal) finely folded (magnifying glass!). Legume straight, hidden by the dry brownish corolla at maturity		298
297	Standard smooth. Legume curved or wound into a spiral		299
298	Central leaflet sessile or almost so		<i>Trifolium micranthum</i> Viv.
298	Central leaflet clearly stalked		<i>Trifolium campestre</i> Schreb.









299	Flowers arranged in linear, cylindrical racemes (3-20 times as long as wide). Legume lenticular (only slightly longer than wide), not curved		300
299	Flowers arranged in globose to oval inflorescences. Legume clearly longer than wide, often curved or forming a spiral		304
300	Stipules of upper leaves thread-like to narrowly linear, entire, not widened at the base		301
300	Stipules of upper leaves lanceolate to ovate, at least some of them toothed, widened at the base		302
301	Young legume and ovary hairless		<i>Melilotus elegans</i> Ser.
301	Young legume and ovary with adpressed hairs		<i>Melilotus neapolitanus</i> Ten.
302	Legume irregularly reticulately ridged (magnifying glass!)		<i>Melilotus indicus</i> (L.) All.









302	Legume with a regular series of parallel ridges		303
303	Legume 7-9 x 3-3.5 mm, flattened, progressively tapering towards apex. Inflorescence much shorter than the corresponding leaf		<i>Melilotus siculus</i> (Turra) B.D. Jacks.
303	Legume 3-5 x 2.5-4 mm, globose or oval, rounded at apex. Inflorescence longer or shorter than the corresponding leaf		<i>Melilotus sulcatus</i> Desf.
304	Stems, leaves and stipules with glandular hairs (magnifying glass!)		305
304	Stems, leaves and stipules without glandular hairs		306
305	Stipules entire, rarely with some small teeth		<i>Medicago minima</i> (L.) L.
305	Stipules clearly and deeply toothed or fringed		<i>Medicago rugosa</i> Desr.
306	Legume kidney-shaped, with a single seed. Pedicel of inflorescence always longer than the corresponding leaf		<i>Medicago lupulina</i> L.






306	Legume sickle-shaped or forming a spiral, with more than 1 seed. Pedicel of inflorescence longer or shorter than the corresponding leaf		307
307	Leaves grey-hairy. Plant perennial		<i>Medicago marina</i> L.
307	Leaves green. Plant annual		308
308	Stipules entire, rarely with some small teeth		<i>Medicago minima</i> (L.) L.
308	Stipules clearly and deeply toothed or fringed		309
309	Legume with glandular hairs (magnifying glass!)		310
309	Legume hairless or with simple hairs		311
310	Widest spire of legume 9-15 mm across. Spines of legume always straight and interwoven. Spires of legume separated at maturity		<i>Medicago intertexta</i> (L.) Mill.
310	Widest spire of legume 6-9 mm across. Spines of legume straight or hooked, not interwoven. Spires of legume adpressed to each other at maturity		<i>Medicago rigidula</i> (L.) All.







311	Spire of legume 9-18 mm wide					312
311	Spire of legume 2-9 mm wide					313
312	Legume without spines. Plant almost hairless. Seeds warty					<i>Medicago orbicularis</i> (L.) Bartal.
312	Legume with long spines. Plant hairy. Seeds smooth					<i>Medicago intertexta</i> (L.) Mill.
313	Leaflets usually with a red central spot. Stem with multicellular hairs (microscope!)					<i>Medicago arabica</i> (L.) Huds.
313	Leaflets without red spot. Stem hairless or with unicellular hairs					314
314	Mature fruits turban-like					<i>Medicago murex</i> Willd.
314	Mature fruits cylindrical or disc-like					315
315	Spines of legume with a groove at the base (magnifying glass!)					<i>Medicago polymorpha</i> L.


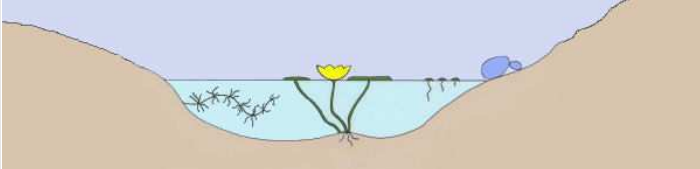
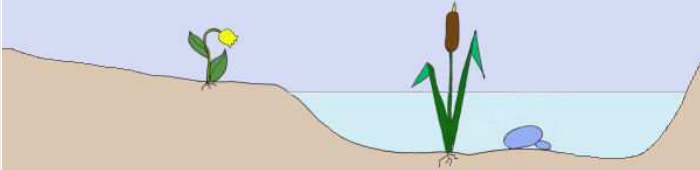





315	Spines of legume without a groove at the base		316
316	Legume with thin spines forming an angle of 90-120 degrees. Fruits 3-5.5 x 3.5-5(-6) mm. Inflorescence with 2-5(-8) flowers		<i>Medicago littoralis</i> Loisel.
316	Legume with stout spines, more or less widened at base, forming an angle of 90 degrees. Fruits 6.5-10 x 5-8 mm. Inflorescence with 1-3(-4) flowers		<i>Medicago truncatula</i> Gaertn.
317	Plants with spines on stems on along the leaf margins		318
317	Plants without spines		336
318	Flowers not arranged in heads. Fruit a legume		<i>Astragalus terraccianoi</i> Vals.
318	Flowers arranged in heads. Fruit not a legume		319
319	Inflorescences surrounded by radiating spiny bracts. Petals free (magnifying glass!)		320
319	Plants with different characters		321








320	Bracts of heads leaf-like, > 1 cm wide and max. 2.5 as long as wide		<i>Eryngium maritimum</i> L.
320	Bracts spine-like, a few mm wide and > 4 times as long as wide		<i>Eryngium campestre</i> L.
321	Tubular flowers absent, all flowers strap-shaped		322
321	Tubular flowers present, strap-shaped flowers absent or limited to the edge of the head		323
322	Bracts of heads herbaceous		<i>Sonchus asper</i> (L.) Hill subsp. <i>asper</i>
322	Bracts of heads stiff and spiny		<i>Scolymus hispanicus</i> L. subsp. <i>hispanicus</i>
323	Flowers yellow, yellowish or whitish		324
323	Flowers blue to pink		327





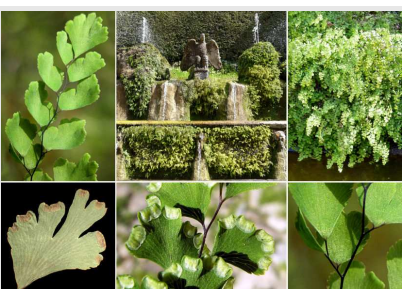
324	Heads not surrounded by radiating bracts		325
324	Heads surrounded by shiny radiating bracts, similar to strap-shaped flowers		326
325	Plant with 3-furcate spines arranged in leaf-axils		<i>Xanthium spinosum</i> L.
325	Plant with simple spines arranged on the margin of leaves		<i>Carthamus lanatus</i> L.
326	Plant perennial or biennial, hairless or with sparse hairs. Radiating bracts of heads yellowish		<i>Carlina corymbosa</i> L.
326	Plant annual, densely woolly. Radiating bracts (at least the innermost ones) purple		<i>Carlina lanata</i> L.
327	Flowers blue		328
327	Flowers pink		329







328	Heads > 4 cm across				<i>Cynara cardunculus</i> L. subsp. <i>cardunculus</i>
328	Heads < 4 cm across				<i>Carthamus caeruleus</i> L.
329	Small shrub forming compact, dense, grey cushions along the coast				<i>Centaurea horrida</i> Badarò
329	Herbaceous plants, never forming dense cushions				330
330	Involucre of heads with pinnate bracts				331
330	Involucre of heads with simple bracts				332
331	Plant > 30 cm tall. Bracts of heads strongly divergent				<i>Silybum marianum</i> (L.) Gaertn.
331	Plant < 30 cm tall. Bracts of involucre erect				<i>Carlina gummifera</i> (L.) Less.



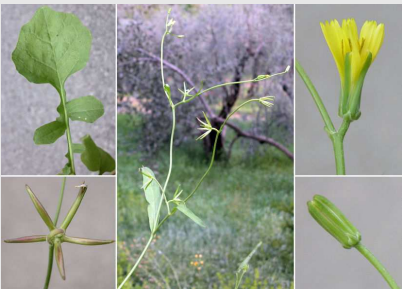


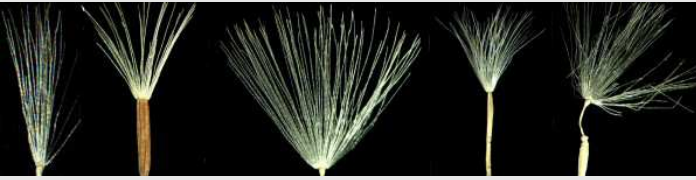


332	Pappus of feathery hairs (the pappus is visible also at flowering time: open the head and observe the base of flowers with a magnifying glass)		333
332	Pappus of simple hairs		334
333	Peripheral flowers much longer than the central ones and clearly radiating. Filaments of stamens fused together (magnifying glass!)		<i>Galactites tomentosus</i> Moench
333	Peripheral flowers not much longer than the others. Filaments of stamens free		<i>Cirsium vulgare</i> (Savi) Ten. subsp. <i>vulgare</i>
334	Centre of head with whitish to yellowish flowers, the margin with a ring of purple bracts resembling strap-shaped flowers		<i>Carlina lanata</i> L.
334	All flowers of the head pink to purple		335
335	Receptacle naked (eliminate all flowers/fruits and observe the receptacle with a lens!). Stamens with hairless filaments		<i>Onopordum horridum</i> Viv.








335	<p>Receptacle with small scales surrounding the base of fruits. Stamens with hairy filaments</p>		<p><i>Carduus pycnocephalus</i> L. subsp. <i>pycnocephalus</i></p>
336	<p>Plant totally submerged into water, or with floating leaves</p>		337
336	<p>Plant terrestrial or, if aquatic, with leaves emerging from water</p>		341
337	<p>Leaves pinnate. Flowers and fruits arranged in compound umbels</p>		<p><i>Berula erecta</i> (Huds.) Coville</p>
337	<p>Leaves palmate. Flowers and fruits not arranged in compound umbels</p>		338
338	<p>Leaves (at least the upper ones) with a well-developed, flattened blade</p>		339
338	<p>Leaves all divided into hair-like segments</p>		340
339	<p>Ripe fruits surrounded by a wing-like ridge, the unripe ones hairless. Petals 6-10 mm long</p>		<p><i>Ranunculus peltatus</i> Schrank subsp. <i>baudotii</i> (Godr.) C.D.K. Cook</p>






339	Ripe fruits, without such a ridge, the unripe ones finely hairy. Petals 4-6 mm long		<i>Ranunculus peltatus</i> Schrank subsp. fucoides (Freyn) Muñoz Garm.
340	Petals 6-10 mm long. Ripe fruits surrounded by a wing-like ridge. Sepals often blue-spotted		<i>Ranunculus peltatus</i> Schrank subsp. baudotii (Godr.) C.D.K. Cook
340	Petals 3-5.5 mm long. Ripe fruits without such a ridge. Sepals never blue-spotted		<i>Ranunculus trichophyllus</i> Chaix subsp. trichophyllus
341	Plants without flowers, reproducing by means of spores (ferns)		342
341	Plants with flowers, reproducing by means of seeds		350
342	Leaves 1-pinnate		343
342	Leaves 2-4-pinnate		344
343	Lower surface of leaves completely and densely covered by brown scales		<i>Asplenium ceterach</i> L. subsp. ceterach









343	Lower surface of leaves without scales, with brown rounded sori		<i>Polypodium cambricum</i> L.
344	Leaf-stalk erect (stem-like), 50 cm long or more		<i>Pteridium aquilinum</i> (L.) Kuhn subsp. <i>aquilinum</i>
344	Leaf-stalk < 50 cm long		345
345	Plant 40-150 cm tall. Fertile leaves much different from the sterile ones		<i>Osmunda regalis</i> L.
345	Plant < 40 cm tall. Fertile and sterile leaves similar		346
346	Annual plant. External leaves shorter and less divided than the internal ones		<i>Anogramma leptophylla</i> (L.) Link
346	Perennial plant. Leaves all similar		347
347	Leaflets fan-shaped		<i>Adiantum capillus-veneris</i> L.
347	Leaflets not fan-shaped		348







348	Sori covered by hairs, located along the margins of leaflets		<i>Cheilanthes</i> sp.
348	Sori not covered by hairs, located near the centre of leaflets		349
349	Lower leaf-segments (pinnae) longer or equal to the median segments		<i>Asplenium onopteris</i> L.
349	Lower leaf-segments shorter than the median segments		<i>Asplenium obovatum</i> Viv. subsp. <i>obovatum</i>
350	Flowers arranged in heads surrounded by an involucre of scales or bracts		351
350	Flowers not arranged in heads surrounded by an involucre		380
351	Tubular flowers absent, all flowers strap-shaped		352
351	Tubular flowers present, strap-shaped flowers absent or limited to the edge of the head		365







352	Flowers pale blue		<i>Cichorium intybus</i> L.
352	Flowers yellow		353
353	Fruit without a pappus of hairs (the pappus is also visible at flowering time: open the head and observe the base of flowers)		<i>Rhagadiolus stellatus</i> (L.) Gaertn.
353	Fruit with a pappus of hairs		354
354	Pappus of feathery hairs, at least in the central flowers (magnifying glass!)		355
354	Pappus of simple hairs or bristles		356
355	Flowering stems with leaves. Bracts of the involucre of heads arranged in 1 series		<i>Urospermum dalechampii</i> (L.) F.W. Schmidt
355	Flowering stems leafless (all leaves arranged in a basal rosette). Bracts arranged in more than 1 series		<i>Hypochaeris radicata</i> L.





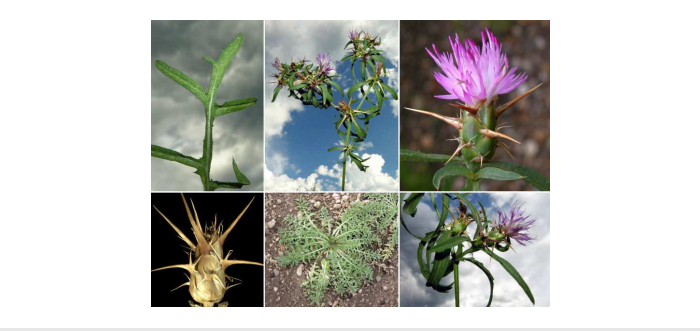

356	Fruits beakless			357
356	Fruits with a long beak			362
357	Pappus consisting of bristles			<i>Hyoseris scabra</i> L.
357	Pappus consisting of hairs			358
358	Bracts of the involucre of the head with a white margin. Fruits warty in the upper part (magnifying glass!)			<i>Reichardia picroides</i> (L.) Roth
358	Bracts of the involucre without a white margin. Fruits not warty			359
359	Stem not hollow, or with a central cavity which is less than 1.5 mm wide. Fruits not flattened			<i>Crepis biennis</i> L.
359	Stem hollow, with a large central cavity. Fruits strongly flattened			360
360	Stem leaves with a well developed stalk, which is widened at the base into a sheath clasping the stem			<i>Sonchus tenerrimus</i> L.





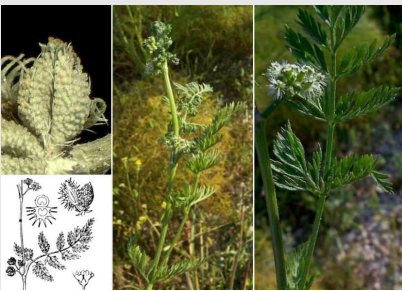

360	Stem leaves sessile, clasping the stem with the base		361
361	Leaves dull, without marginal spinules (sometimes with weak and sparse spinules), clasping the stem with acute auricles. Fruits spinulose on the ridges (magnifying glass!)		<i>Sonchus oleraceus</i> L.
361	Leaves shiny, with spinulose margins, clasping the stem with rounded auricles. Fruits not spinulose on the ridges		<i>Sonchus asper</i> (L.) Hill subsp. <i>asper</i>
362	Flowering stems leafless (all leaves arranged in a basal rosette)		<i>Taraxacum officinale</i> W.W. Weber ex F.H. Wigg. s.l.
362	Flowering stems leafy		363
363	Beak of fruit inserted in the centre of a small membranous crown (magnifying glass!)		<i>Chondrilla juncea</i> L.
363	Beak not inserted in the centre of a membranous crown		364
364	Involucre of heads with glandular hairs. Fruits very different in the same head: the external ones 5-9 mm long and beakless, the internal ones 12-17 mm long and with a beak		<i>Crepis foetida</i> L. subsp. <i>foetida</i>







	<p>Involucre hairless or 364 with simple hairs. Fruits all similar</p>		<p><i>Crepis leontodontoides</i> All.</p>
<p>365</p>	<p>Heads with marginal strap- shaped flowers</p>		<p>366</p>
<p>365</p>	<p>Heads without marginal strap- shaped flowers</p>		<p>376</p>
<p>366</p>	<p>All flowers yellow</p>		<p>367</p>
<p>366</p>	<p>At least the strap- shaped flowers white</p>		<p>370</p>
<p>367</p>	<p>Involucre of heads wider than long, with bracts arranged in more than 2 series</p>		<p>368</p>
<p>367</p>	<p>Involucre longer than wide, with bracts arranged in 1-2 series</p>		<p>369</p>
<p>368</p>	<p>Leaves deeply toothed. Central fruits cylindrical, with 10 similar ridges (magnifying glass!)</p>		<p><i>Glebionis segetum</i> (L.) Fourr.</p>


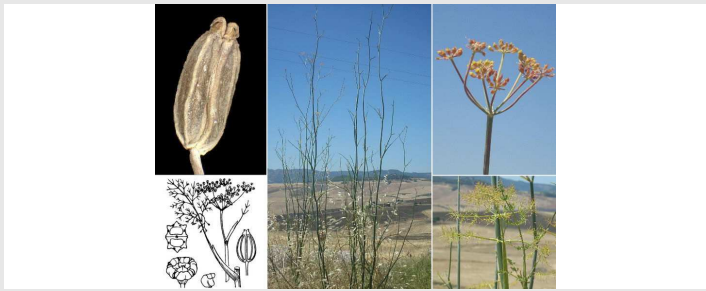






368	Leaves 2-times pinnate. Central fruits triangular-flattened, with 1 ridge thicker than the others		<i>Glebionis coronaria</i> (L.) Spach
369	Bracts of the involucre arranged in a single series		<i>Senecio leucanthemifolius</i> Poir. subsp. <i>leucanthemifolius</i>
369	Bracts of the involucre arranged in 2 series (an inner series of longer scales and an outer series of much shorter scales)		<i>Senecio lividus</i> L.
370	Centre of heads with white flowers		<i>Achillea ligustica</i> All.
370	Centre of heads with bright yellow flowers		371
371	Plant 1-2 cm tall. Heads max 8 mm across		<i>Nananthea perpusilla</i> (Loisel.) DC.
371	Plants > 10 cm tall. Heads > 8 mm across		372









372	Receptacle naked (eliminate all fruits and observe the receptacle with a lens!)		<i>Matricaria chamomilla</i> L.
372	Receptacle with small scales surrounding the base of fruits		373
373	Fruits flattened and provided with two marginal wings (magnifying glass!). Pedicels below the heads strongly thickened		<i>Anacyclus clavatus</i> (Desf.) Pers.
373	Fruits wingless. Pedicels of heads thickened or not		374
374	Scales of the receptacle obtuse (magnifying glass!)		<i>Chamaemelum fuscatum</i> (Brot.) Vasc.
374	Scales of the receptacle acute		375
375	Fruits cylindrical (magnifying glass!). Pedicels not or only slightly thickened below the heads at fruiting time		<i>Anthemis arvensis</i> L. subsp. <i>arvensis</i>
375	Fruits obscurely 4-angled. Pedicels strongly thickened below the heads at fruiting time		<i>Anthemis arvensis</i> L. subsp. <i>incrassata</i> (Loisel.) Nyman







376	Flowers yellow to whitish		377
376	Flowers blue, pink or purple		378
377	Involucre of heads with long spines		<i>Centaurea melitensis</i> L.
377	Involucre of heads not spiny		<i>Senecio vulgaris</i> L.
378	Scales of the involucre with the central spine much longer than the others		<i>Centaurea calcitrapa</i> L.
378	Scales with more or less similar spines		379
379	Stems not winged		<i>Centaurea sphaerocephala</i> L. subsp. <i>sphaerocephala</i>









379	Stems winged in upper part		<i>Centaurea napifolia</i> L.
380	Flowers and fruits arranged in compound umbels		381
380	Flowers and fruits not arranged in compound umbels		399
381	Fruits covered by spine-like outgrowths		382
381	Fruits not covered by spine-like outgrowths		386
382	Base of umbels with entire bracts (or bracts absent)		383
382	Base of umbel with deeply divided bracts		384
383	Umbels lateral. opposite to leaves, on < 5 cm long pedicels		<i>Torilis nodosa</i> (L.) Gaertn.
383	Umbels terminal, on > 5 cm long pedicels		<i>Torilis helvetica</i> (Jacq.) C.C. Gmel.







384	Stems erect. Bracts of umbels divided into linear segments. Umbels contracted and similar to a bird's nest after flowering		<i>Daucus carota</i> L. subsp. <i>carota</i>
384	Stems prostrate to ascending. Bracts divided into lanceolate or linear-lanceolate segments. Umbels not or only weakly contracted after flowering		385
385	Stems hairless to sparsely hairy		<i>Daucus carota</i> L. subsp. <i>drepanensis</i> (Arcang.) Heywood
385	Stems densely hairy		<i>Daucus carota</i> L. subsp. <i>hispanicus</i> (Gouan) Thell.
386	Flowers yellow or greenish-yellow		387
386	Flowers white (rarely pink)		390
387	Fruit strongly flattened and winged at margins		<i>Ferula communis</i> L.









387	Fruit not strongly flattened, not winged		388
388	Leaves divided into linear, thread-like segments (to 1 mm wide)		<i>Foeniculum vulgare</i> Mill. subsp. <i>piperitum</i> (Ucria) Count
388	Leaves divided into flattened segments (> 1 mm wide)		389
389	Leaves thick, fleshy, the leaflets < 1.5 cm wide		<i>Crithmum maritimum</i> L.
389	Leaves not fleshy, the leaflets > 1.5 cm wide		<i>Smyrniolus atrum</i> L.
390	Fruit strongly flattened and with an obvious thick margin		<i>Tordylium apulum</i> L.
390	Fruit not flattened		391
391	Leaves 1-pinnate		392








391	Leaves 2-4-pinnate		394
392	Fruit 2-3 times as long as wide		<i>Magydaris pastinacea</i> (Lam.) Paol.
392	Fruit 1.1-1.5 times as long as wide		393
393	Base of umbels with deeply divided bracts		<i>Berula erecta</i> (Huds.) Coville
393	Base of umbels devoid of bracts or with entire bracts		<i>Helosciadium nodiflorum</i> (L.) W.D.J. Koch
394	Leaflets > 2 mm wide		395
394	Leaflets linear to thread-like, < 2 mm wide		396
395	Umbels with 3-5 rays. Plant of dry sites		<i>Anthriscus caucalis</i> M. Bieb.






395	Umbels with 10-40 rays. Plant of wet sites		<i>Oenanthe crocata</i> L.
396	Fruit bi-globose, c. 2 times wider than long		<i>Bifora testiculata</i> (L.) Spreng.
396	Fruit different, c. as long as wide		397
397	Fruit more or less hairy, > 2 cm long		<i>Scandix pecten-veneris</i> L. subsp. <i>pecten-veneris</i>
397	Fruit hairless < 2 cm long		398
398	Perennial plant of wet sites		<i>Oenanthe globulosa</i> L.
398	Annual plant of dry sites		<i>Ammi majus</i> L.
399	Flowers without petals or with inconspicuous greenish petals		400







399	Flowers with well developed petals		401
400	Leaves palmately-lobed		<i>Ricinus communis</i> L.
400	Leaves pinnate		<i>Poterium sanguisorba</i> L. subsp. <i>balearicum</i> (Bourg. ex Nyman) Stace
401	Flowers arranged in a cylindrical spike surrounded by a large petal-like bract		<i>Helicodiceros muscivorus</i> (L. f.) Engl.
401	Inflorescence different		402
402	Flowers bilaterally symmetrical		403
402	Flowers radially symmetrical		439
403	Leaves palmately-compound		404
403	Leaves pinnately-divided or pinnately compound		405








404	Corolla without a spur		<p><i>Lupinus gussoneanus</i> Agardh</p>
404	Corolla with a spur		<p><i>Staphisagria picta</i> (Willd.) Jabbour</p>
405	Corolla with a sac-like outgrowth		406
405	Corolla without a sac-like outgrowth		407
406	Corolla (5) 7-9 mm long. Leaflets c. as long as wide		<p><i>Fumaria officinalis</i> L. subsp. <i>officinalis</i></p>
406	Corolla 9-14 mm long. Leaflets much longer than wide		<p><i>Fumaria capreolata</i> L. subsp. <i>capreolata</i></p>
407	Petals fused into a barrel-shaped corolla		<p><i>Scrophularia trifoliata</i> L.</p>








407	Petals free		408
408	Leaves deeply lobed, but not compound		409
408	Leaves compound (divided into separate leaflets)		410
409	Petals 6, pale yellow. Leaves of the basal rosettes with 1-2(-4) lobes per side. Styles and teeth of capsule 3 (magnifying glass!)		<i>Reseda lutea</i> L. subsp. <i>lutea</i>
409	Petals 5, white. Leaves of basal rosette with 5-15 lobes per side. Styles and teeth of capsule 4		<i>Reseda alba</i> L. s.l.
410	Petals 4, radiating. Fruit a capsule		<i>Hypecoum procumbens</i> L. subsp. <i>procumbens</i>
410	Petals not radiating. Fruit a legume		411
411	Leaves paripinnate (not ending with a leaflet, sometimes ending with a tendril)		412




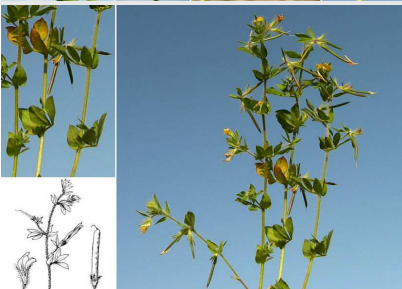


411	Leaves imparipinnate (ending with a leaflet)		427
412	Flowers yellow, yellowish or white, sometimes with a pink hue		413
412	Flowers red, pink, purple or blue		415
413	Stem winged		<i>Lathyrus ochrus</i> (L.) DC.
413	Stem not winged		414
414	All leaves without a tendril		<i>Vicia faba</i> L.
414	At least the upper leaves ending with a tendril		<i>Vicia lutea</i> L.
415	Stem winged		416
415	Stem not winged		417







416	Flowers arranged in racemes. Lower leaves without leaflets, with a winged rhachis resembling a simple leaf		<i>Lathyrus clymenum</i> L.
416	Flowers solitary. All leaves with at least a pair of leaflets		<i>Lathyrus cicera</i> L.
417	Leaves with a single pair of parallel-veined leaflets which are at least 10 times as long as wide		418
417	Leaves different: either with at least 2 pairs of leaflets, or with a single pair of leaflets which are less than 3.5 times as long as wide		419
418	Flowers red. Flower pedicels 5-20 mm long. Legume 4-7 mm wide, with prominent longitudinal veins. Seeds smooth to weakly wrinkled (magnifying glass!)		<i>Lathyrus sphaericus</i> Retz.
418	Flowers purple to blue-violet. Flower pedicels 20-70 mm long. Legume 3-4 mm wide, with a weak network of veins. Seeds clearly warty		<i>Lathyrus angulatus</i> L.
419	Flowers solitary and almost sessile, or on pedicels which are shorter than the flower. Stipules often with a dark spot		420


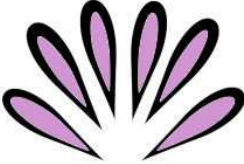




419	Flowers arranged in racemes whose pedicel is much longer than a flower. Stipules green, without dark spot		423
420	Calyx with lower teeth longer than the upper ones and an oblique mouth		<i>Vicia narbonensis</i> L. s.l.
420	Calyx with teeth of similar length and mouth perpendicular to the main axis		421
421	Leaves with 1-3 pairs of leaflets		<i>Vicia bithynica</i> (L.) L.
421	Leaves with more than 3 pairs of leaflets		422
422	Corolla 5-8 mm long. Seeds warty (magnifying glass!)		<i>Vicia lathyroides</i> L.
422	Corolla 10-30 mm long. Seeds smooth		<i>Vicia sativa</i> L. subsp. <i>nigra</i> (L.) Ehrh.
423	Calyx with teeth of similar length and mouth perpendicular to the main axis		<i>Vicia glauca</i> C. Presl subsp. <i>glauca</i>








423	Calyx with lower teeth longer than the upper ones and hence with an oblique mouth		424
424	Corolla 4-8 mm long		425
424	Corolla 8-12 mm long		426
425	Corolla 3-5 mm long. Legume with 2 seeds. inflorescence shorter than the corresponding leaf		<i>Vicia disperma</i> DC.
425	Corolla 5-8 mm long. Legume with more than 2 seeds. Inflorescence longer than the corresponding leaf		<i>Vicia tetrasperma</i> (L.) Schreb.
426	Leaves with 2-3 pairs of leaflets. Stipules toothed		<i>Vicia bithynica</i> (L.) L.
426	Leaves with more than 3 pairs of leaflets. Stipules entire		<i>Vicia villosa</i> Roth subsp. <i>villosa</i>
427	Flowers yellow, yellowish or white		428
427	Flowers red, pink, purple or blue		437









428	Leaves with only 5 leaflets (actually the 2 lowermost ones are large stipules resembling leaflets)		429
428	Leaves with more than 5 leaflets		435
429	Calyx clearly 2-lipped		430
429	Calyx regular		432
430	Plant annual. Legume curved		<i>Lotus ornithopodioides</i> L.
430	Plant perennial. Legume not curved		431
431	Plant densely silvery-hairy. Expanded portion of the keel c. 2 times as long as the nail, the apex slightly sickle-shaped		<i>Lotus creticus</i> L.
431	Plant with sparse grey hairs, Expanded portion of the keel as long as the nail, the apex forming a straight angle		<i>Lotus cytisoides</i> L. s.l.




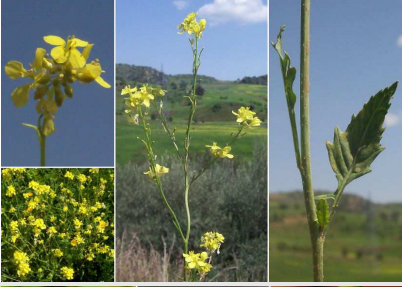



432	Plant perennial		<i>Lotus corniculatus</i> L. subsp. <i>corniculatus</i>
432	Plant annual		433
433	Calyx teeth 3-4 times as long as the tube		<i>Lotus parviflorus</i> Desf.
433	Calyx teeth max. 1.5 as long as the tube		434
434	Legume 4-8 mm wide, with a groove on the back		<i>Lotus edulis</i> L.
434	Legume 1-3 mm wide, without groove on the back		<i>Lotus angustissimus</i> L.
435	Flowers yellowish white, arranged in racemes. Legume with 2 continuous valves, hook-shaped		<i>Astragalus hamosus</i> L.
435	Flowers bright yellow, arranged in umbels. Legume not hook-shaped, restricted between seeds		436








436	Upper leaves sessile. Flowers subtended by a bract				<i>Ornithopus compressus</i> L.
436	All leaves stalked. Flowers not subtended by a bract				<i>Ornithopus pinnatus</i> (Mill.) Druce
437	Leaves with only 5 leaflets (actually the 2 lowermost ones are large stipules resembling leaflets)				<i>Lotus rectus</i> L.
437	Leaves with more than 5 leaflets				438
438	Flowers red. Legume strongly constricted between seeds				<i>Sulla coronaria</i> (L.) Medik.
438	Flowers blue-violet. Legume not constricted between seeds				<i>Astragalus pelecinus</i> (L.) Barneby subsp. <i>pelecinus</i>
439	Petals 4				440
439	Petals 5 or more				462




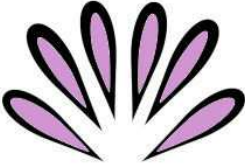


440	Petals fused at base. Flowers arranged in compact spikes at the top of leafless stems (all leaves in a basal rosette)		441
440	Petals free. Inflorescences different		443
441	Most leaves entire		<i>Plantago weldenii</i> Rchb.
441	Most leaves toothed to lobed		442
442	Leaves with acute teeth and with central undivided part strap-shaped, with more or less parallel margins. Corolla lobes c. as long as 1/2 of the tube. Spike 3-4 mm wide		<i>Plantago coronopus</i> L.
442	Leaves with ovate and cuspidate teeth, the central undivided part becoming wider towards the apex. Corolla lobes c. as long as the tube. Spike 5-6 mm wide		<i>Plantago macrorrhiza</i> Poir.
443	Stamens 8. Leaves strongly smelling of rue		<i>Ruta chalepensis</i> L.
443	Stamens more than 8 or less than 8. Leaves not smelling of rue		444






444	Stamens very numerous		445
444	Stamens (4-)6		449
445	Flowers yellow		<i>Glaucium flavum</i> Crantz
445	Flowers not yellow		446
446	Flowers pink-purple		<i>Papaver somniferum</i> L.
446	Flowers bright red		447
447	Capsule hairy. Filaments of stamens widened at apex		<i>Papaver hybridum</i> L.
447	Capsule hairless. Filaments of stamens not widened at apex		448
448	Capsule 1-1.5 times as long as wide		<i>Papaver rhoeas</i> L. subsp. <i>rhoeas</i>









448	Capsule 2-3 times as long as wide		<i>Papaver dubium</i> L. subsp. <i>dubium</i>
449	Flowers yellow to orange		450
449	Flowers of other colours		455
450	Fruit max 2.5 times as long as wide		451
450	Fruit > 4 times as long as wide		452
451	Fruit covered by pointed warts		<i>Bunias erucago</i> L.
451	Fruit smooth		<i>Rapistrum rugosum</i> (L.) All.
452	Petals 1-2.5 mm long. Fruit surmounted by a thin, < 1 mm long style		<i>Sisymbrium officinale</i> (L.) Scop.









452	Petals > 2.5 mm long. Fruit surmounted by a > 1 mm long seedless beak		453
453	Mature fruits diverging from stem		<i>Brassica tournefortii</i> Gouan
453	Mature fruits adpressed to stem		454
454	Fruit 4-angled, progressively tapering in the beak		<i>Brassica nigra</i> (L.) W.D.J. Koch
454	Fruit cylindrical, constricted at the base of the beak		<i>Hirschfeldia incana</i> (L.) Lagr.-Foss. subsp. <i>incana</i>
455	Flowers pink to violet		456
455	Flowers white		458
456	Plant succulent, with fleshy leaves, typical of coastal sand dunes		<i>Cakile maritima</i> Scop. subsp. <i>maritima</i>
456	Plant not succulent		457





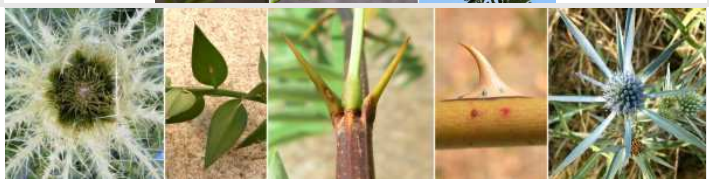

457	Fruits flattened, with large yellow glands, ending with 2 small horns. Flower pedicels 5-25 mm long. Plant perennial		<i>Matthiola sinuata</i> (L.) R. Br.
457	Fruits cylindrical, without yellow glands, ending with 3 small horns. Flower pedicels < 5 mm long. Plant annual		<i>Matthiola tricuspidata</i> (L.) R. Br.
458	Fruit triangular in outline, the apex notched, < 3 times as long as wide		459
458	Fruit different, > 4 times as long as wide		460
459	Petals 2-3 mm long, > sepals. Sepals green		<i>Capsella bursa-pastoris</i> (L.) Medik. subsp. <i>bursa-pastoris</i>
459	Petals 1.5-2 mm long, c. as long as sepals. Sepals reddish		<i>Capsella rubella</i> Reut.
460	Fruit deeply restricted between seeds		<i>Raphanus raphanistrum</i> L. subsp. <i>raphanistrum</i>






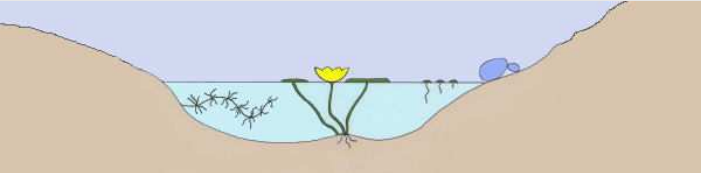
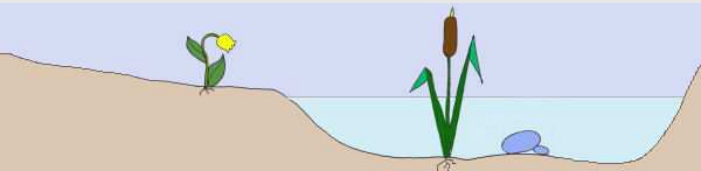
460	Fruit not restricted between seeds			461
461	Perennial aquatic plant with elliptical fruits and seeds arranged in 2 series			<i>Nasturtium officinale</i> R. Br. subsp. <i>officinale</i>
461	Annual terrestrial plant with linear fruits and seeds arranged in 1 series			<i>Cardamine hirsuta</i> L.
462	Petals fused together into a bell-shaped corolla			<i>Convolvulus althaeoides</i> L.
462	Petals free			463
463	Stamens 10 (magnifying glass!)			464
463	Stamens many more than 10			472
464	Leaves pinnately-divided			465
464	Leaves palmately-divided (or 3-furcate)			468


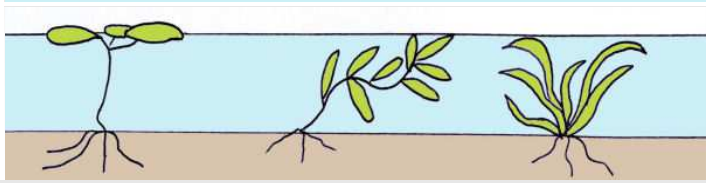





465	Leaves with only 1-2 leaflets at the base		<p><i>Erodium botrys</i> (Cav.) Bertol.</p>
465	Leaves with more than 2 leaflets		466
466	Leaves with alternating large and small leaflets. Sepals with an awn of 2-5 mm. Beak of fruit 6-10 cm long		<p><i>Erodium ciconium</i> (L.) L'Hér.</p>
466	Leaflets of similar size. Sepals with an awn of max. 1 mm. Beak of fruit 2-6 cm long		467
467	Leaves 2-3-pinnate		<p><i>Erodium cicutarium</i> (L.) L'Hér.</p>
467	Leaves 1-pinnate		<p><i>Erodium moschatum</i> (L.) L'Hér.</p>
468	Flowers white. Fruit beakless		<p><i>Saxifraga tridactylites</i> L.</p>







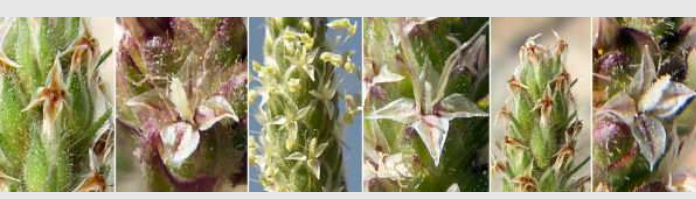
468	Flowers pink. Fruits with a long beak						469
469	Petals rounded at apex						470
469	Petals notched at apex						471
470	Leaves not compound, rounded in outline						<i>Geranium lucidum</i> L.
470	Leaves compound, pentagonal in outline						<i>Geranium purpureum</i> Vill.
471	Leaves almost completely divided						<i>Geranium dissectum</i> L.
471	Leaves divided only on 2/3-4/5 of the blade						<i>Geranium molle</i> L.
472	Flowers not yellow						473










472	Flowers yellow					477
473	Leaves pinnately divided					474
473	Leaves palmately divided					475
	Petals bright red. 474 Leaf-segments < 3 mm wide					<i>Adonis annua</i> L.
	Petals pink. Leaf-segments > 5 mm wide 474					<i>Paeonia morisii</i> Cesca, Bernardo & N.G. Passal.
475	Calyx absent. Petals more than 5					<i>Anemone hortensis</i> L. subsp. <i>hortensis</i>
475	Calyx present. Petals 5					476
476	Calyx subtended by 5-13 sepal-like bracts					<i>Malva setigera</i> Schimp. & Spenn.








476	Calyx subtended by 5-3 sepal-like bracts		<i>Malva sylvestris</i> L. subsp. <i>sylvestris</i>
477	Sepals adpressed to petals		<i>Ranunculus muricatus</i> L.
477	Sepals pointing downwards and adpressed to the flower pedicel		478
478	Petals max 1/3 as long as sepals. Fruits warty or spiny (magnifying glass!)		<i>Ranunculus parviflorus</i> L.
478	Petals c. twice as long as sepals. Fruits smooth		<i>Ranunculus sardous</i> Crantz s.l.
479	Plants with spines		480
479	Plants without spines		484
480	Leaves needle-like (they are not true leaves, but modified stems)		<i>Asparagus acutifolius</i> L.





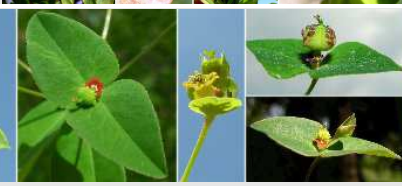


480	Leaves not needle-like			481
481	Woody climber			<i>Smilax aspera</i> L.
481	Herbaceous plants			482
482	Flowers originating on the surface of leaves (these are not true leaves, but modified stems!). Fruit a red berry			<i>Ruscus aculeatus</i> L.
482	Flowers arranged in heads. Fruit dry			483
483	Bracts surrounding the heads pinnately divided			<i>Silybum marianum</i> (L.) Gaertn.
483	Bracts entire			<i>Notobasis syriaca</i> (L.) Cass.
484	Plant totally submerged into water, or with floating leaves			485
484	Plant terrestrial or, if aquatic, with leaves emerging from water			489







485	Plant reduced to small leaflets floating on water and rooting in water		486
485	Plant rooting on soil		487
486	Leaves 0.6-1 mm thick, spongy beneath		<i>Lemna gibba</i> L.
486	Leaves < 0.6 mm thick, not spongy beneath		<i>Lemna minor</i> L.
487	Flowers with petals. Leaves clearly stalked		<i>Baldellia ranunculoides</i> (L.) Parl.
487	Flowers without petals. Leaves sessile		488
488	Marine plant forming underwater meadows, usually found stranded on beaches		<i>Posidonia oceanica</i> (L.) Delile
488	Plant found in freshwaters or in weakly salted coastal ponds		<i>Ruppia maritima</i> L.








489	Flowers arranged in a cylindrical spike surrounded by a large petal-like bract		490
489	Inflorescence different		492
490	Petal-like bract tubular, ending in a short linear appendage		<i>Arisarum vulgare</i> O. Targ. Tozz. subsp. <i>vulgare</i>
490	Petal-like bract not tubular, not ending with a thread-like appendix		491
491	Petal-like bract pure white		<i>Zantedeschia aethiopica</i> (L.) Spreng.
491	Petal-like bract greenish		<i>Arum pictum</i> L. f. subsp. <i>pictum</i>
492	Plants reproducing by spores or plants with small greenish to brownish flowers, without petals or with sepal-like petals		493
492	Plants with flowers bearing well-developed petals		646
493	Flowers arranged in dense cylindrical spikes, with 4 membranous tepals and 4 stamens (Plantago)		494












493	Plants with a different combination of characters			499
494	Flowering stems leafy			<i>Plantago afra</i> L. s.l.
494	Flowering stem leafless (all leaves arranged in a basal rosette)			495
495	Plant annual, with thin roots			496
495	Plant perennial, with thick roots			498
496	Leaves 1-5 mm wide. Inner face of seeds flat (stereomicroscope!)			<i>Plantago weldenii</i> Rchb.
496	Leaves > 5 mm wide. Inner face of seeds concave, boat-like			497
497	Lower bracts 3-4 mm long. Two sepals fused at base. Anthers with an acute appendix, c. 1/4 as long as the anther itself			<i>Plantago lagopus</i> L.
497	Lower bracts 6-8 mm long. All sepals free. Anthers with a flattened appendix, c. as long as the anther itself			<i>Plantago bellardii</i> All.




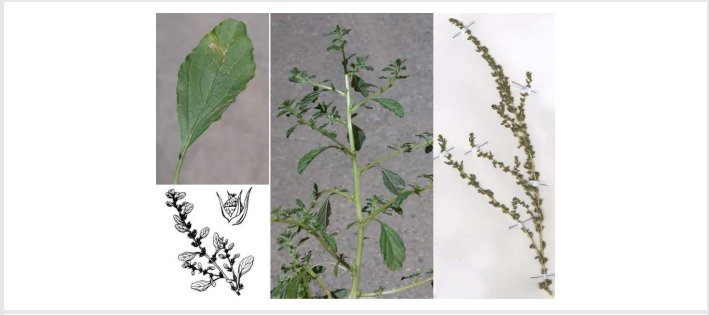


498	Spike lax, with spaced flowers at the base. Sepals > 1.5 mm wide. Leaves with tufts of white hairs		<i>Plantago albicans</i> L.
498	Spike compact. Sepals < 1.5 mm wide. Leaves hairless or with sparse hairs		<i>Plantago lanceolata</i> L.
499	Plants producing a milky sap (CAREFUL! Wash hands after touching: the sap is irritating). Inflorescences umbrella-like		500
499	Plants without a milky sap. Inflorescences not umbrella-like		508
500	Glands on the margin of the flower-cups elliptical		501
500	Glands more or less sickle-shaped		503
501	Plant perennial, woody at the base. Capsule warty		<i>Euphorbia characias</i> L.
501	Plant annual, herbaceous. Capsule smooth		502







502	Capsule winged on the back of the 3 valves				<i>Euphorbia pterococca</i> Brot.
502	Capsule not winged				<i>Euphorbia helioscopia</i> L. subsp. <i>helioscopia</i>
503	Bracts of inflorescence fused at least at base, forming a sort of disc or cup				<i>Euphorbia characias</i> L.
503	Bracts completely free			504	
504	Plant annual, herbaceous, without sterile shoots			505	
504	Plant perennial, woody at the base, usually with sterile shoots			506	
505	Bracts of inflorescence narrowly linear				<i>Euphorbia exigua</i> L. subsp. <i>exigua</i>
505	Bracts triangular				<i>Euphorbia peplus</i> L.







<p>506</p>	<p>Leaves not ending in a small awn. Seeds smooth (stereomicroscope!)</p>		<p><i>Euphorbia paralias</i> L.</p>
<p>506</p>	<p>Leaves ending in a small awn. Seeds wrinkled</p>		<p>507</p>
<p>507</p>	<p>Bracts of inflorescence rounded or notched at apex</p>		<p><i>Euphorbia pinea</i> L.</p>
<p>507</p>	<p>Bracts acute</p>		<p><i>Euphorbia pithyusa</i> L. subsp. <i>pithyusa</i></p>
<p>508</p>	<p>Leaves pinnately-veined or palmately-veined, restricted into a stalk at the base</p>		<p>509</p>
<p>508</p>	<p>Leaves parallel-veined or with indistinct veins, stalkless</p>		<p>530</p>
<p>509</p>	<p>Plants with leaves sticking to clothes and flowers arranged in leaf-axils</p>		<p>510</p>
<p>509</p>	<p>Plants with other characters</p>		<p>511</p>





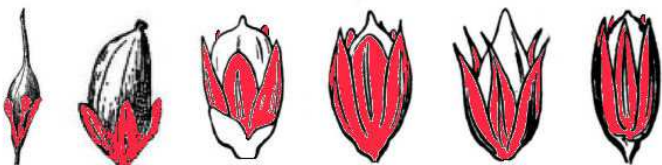

	<p>Plant annual. 510 Leaves obtuse, 1-2 cm long</p>		<p><i>Parietaria lusitanica</i> L. subsp. lusitanica</p>
	<p>Plant perennial. 510 Leaves acute, usually > 2 cm long</p>		<p><i>Parietaria judaica</i> L.</p>
<p>511</p>	<p>Leaves with a membranous sheath at the base of the stalk, surrounding the stem</p>		<p>512</p>
<p>511</p>	<p>Basal sheath absent</p>		<p>516</p>
<p>512</p>	<p>Fruit surrounded by hardened sepals ending with 3 spines</p>		<p><i>Emex spinosa</i> (L.) Campd.</p>
<p>512</p>	<p>Fruit without spines</p>		<p>513</p>
<p>513</p>	<p>Fruit with toothed or fringed wings</p>		<p>514</p>
<p>513</p>	<p>Fruit with entire wings</p>		<p>515</p>







514	Leaves progressively narrowing towards the base. Annual plant				<i>Rumex bucephalophorus</i> L. subsp. <i>bucephalophorus</i>			
514	Leaves more or less truncate or heart-shaped at base. Plant perennial				<i>Rumex pulcher</i> L. subsp. <i>pulcher</i>			
515	Fruit c. 1.5 times as long as wide				<i>Rumex conglomeratus</i> Murray			
515	Fruit c. as long as wide				<i>Rumex crispus</i> L.			
516	Leaves widened at base into membranous stipules. Plant hairless, glaucous, foul-smelling when bruised				<i>Theligonum cynocrambe</i> L.			
516	Leaves not widened at base into membranous stipules. Plant with another combination of characters (if foul-smelling, then densely hairy)				517			
517	Sepals triangular, ending in a very acute point							518



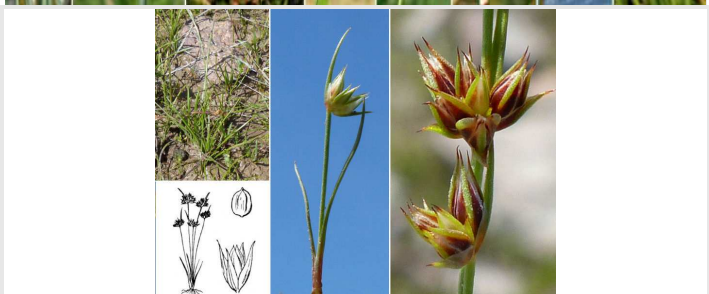



517	Sepals obtuse or rounded, not ending in an acute point		521
518	Leaves > 4 times as long as wide		<i>Amaranthus muricatus</i> (Moq.) Hieron.
518	Leaves < 4 times as long as wide		519
519	Sepals 5. Inflorescence often bright red		<i>Amaranthus cruentus</i> L.
519	Sepals 2-4. Inflorescence greenish to brownish		520
520	All flowers arranged in leaf-axils, never forming a terminal spike		<i>Amaranthus albus</i> L.
520	At least some flowers arranged in a terminal spike		<i>Amaranthus deflexus</i> L.
521	Fruit surrounded by two bracts which are more or less fused together. Flowers unisexual		522





521	Fruit without bracts. Flowers hermaphrodite		524
522	Leaves all linear, 3-4 mm wide and > 8 times as long as wide		<i>Atriplex littoralis</i> L.
522	Leaves different		523
523	Bracts of fruit fused together in the lower half. Leaves silvery white beneath. Stems cylindrical or angled		<i>Atriplex rosea</i> L.
523	Bracts fused only at the base. Leaves green beneath. Stems deeply grooved		<i>Atriplex patula</i> L.
524	Leaves (at least the basal ones) > 10 cm long. Fruit with a woody involucre		525
524	Leaves < 10 cm long. Fruit without a woody involucre		526
525	Flowers subtended by bracts also in the upper part of inflorescence		<i>Beta macrocarpa</i> Guss.






525	Flowers not subtended by bracts in the upper part of inflorescence		<i>Beta vulgaris</i> L. subsp. <i>maritima</i> (L.) Arcang.
526	Leaves without white flour-like scales (magnifying glass!)		527
526	Leaves with small white, flour-like scales at least on the underside		528
527	Tepals with a green to reddish keel at apex. Seeds shiny, 0.9-1.3 mm wide (stereo-microscope!). Axis of inflorescence and flowers without white scales		<i>Chenopodium urbicum</i> L.
527	Tepals without such a keel. Seeds dull, 1.2-1.5 mm wide. Axis of inflorescence and flowers covered in small white scales		<i>Chenopodium murale</i> L.
528	Plant smelling of rotten fish when bruised. Leaf margin entire, or with max. a couple of teeth near the base		<i>Chenopodium vulvaria</i> L.
528	Plant not foul-smelling. Leaves (at least the lower ones) with a toothed to lobed margin		529

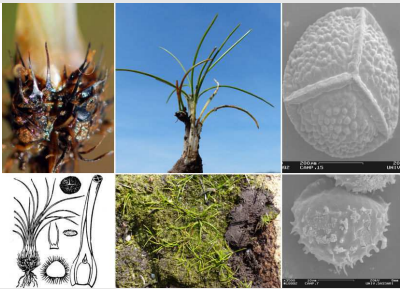

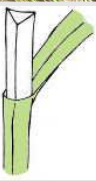




529	Leaves shiny on the upper surface, with a clearly truncate base		<i>Chenopodium urbicum</i> L.
529	Leaves dull on the upper surface, tapering towards the base		<i>Chenopodium album</i> L. subsp. <i>album</i>
530	Leaves a few mm wide and long, more or less scale-like, arranged in 4 series on creeping stems		<i>Selaginella denticulata</i> (L.) Spring
530	Leaves different		531
531	Plant woody. with leaves arranged in dense spirals on short lateral branches. Leaves smelling of camphor when bruised		<i>Camphorosma monspeliaca</i> L. subsp. <i>monspeliaca</i>
531	Plant herbaceous, the leaves different. Leaves not smelling of camphor		532
532	Flowers radially symmetrical (carefully observe a flower with a magnifying glass!)		533
532	Flowers not radially symmetrical (or plants without flowers, reproducing by means of spores)		545
533	Stems branched, the branches leafy. Steem leaves fleshy		534







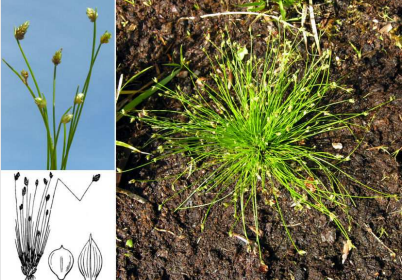
533	Stems simple or branched only in the inflorescence. Stem leaves (if present) not fleshy		536
534	Leaves restricted at base. Fruit globose, wingless		<i>Suaeda maritima</i> (L.) Dumort.
534	Leaves widened and partially clasping stem at the base. Fruit winged		535
535	Leaves not ending in a small spine, 2-4 mm wide, the base partially clasping the stem. Stem smooth, hairless		<i>Salsola soda</i> L.
535	Leaves ending in a small (1-2 mm long) spine, the base not clasping the stem. Stem hairy, rough		<i>Salsola tragus</i> L. subsp. <i>pontica</i> (Pall.) Rilke
536	Flowers arranged in erect linear spikes		<i>Triglochin barrelieri</i> Loisel.
536	Flowers not arranged in erect linear spikes		537





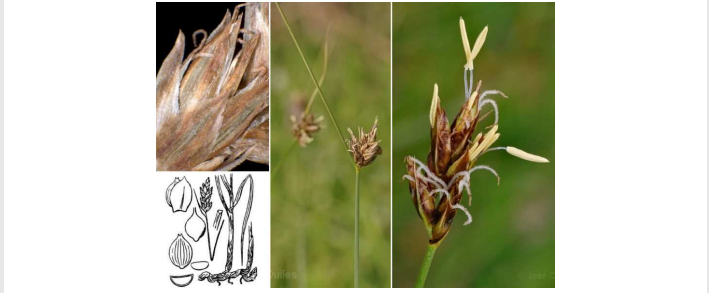


537	Annual plants of wet disturbed sites, with thin stems which are < 30 cm tall		538
537	Perennial plants with stout stems which (usually) are > 30 cm tall		541
538	Stems leafless (leaves all basal). Flowers arranged in globose heads		<i>Juncus capitatus</i> Weigel
538	Stems with at least one well-developed leaf. Flowers not arranged in globose heads		539
539	Leaves hollow inside, separated into sections by transversal septa (press a leaf between fingers)		<i>Juncus pygmaeus</i> Rich. ex Thuill.
539	Leaves thread-like or flat, without transversal septa		540
540	Inner tepals acute, longer than the capsule		<i>Juncus bufonius</i> L.
540	Inner tepals usually obtuse, as long as the capsule or shorter		<i>Juncus hybridus</i> Brot.






541	All leaves basal, similar to stems, cylindrical, stinging at the top (plant apparently without leaves)		542
541	Leaves inserted on the stem or basal, but in this case different from stems, the apex not stinging		544
542	Basal bract much longer than inflorescence		<i>Juncus effusus</i> L. subsp. <i>effusus</i>
542	Basal bract shorter or only slightly longer than inflorescence		543
543	Tepals leathery, the internal ones pointed, with 2 basal auricles. Plant forming large and dense tuft. Capsule 3-6 mm long		<i>Juncus acutus</i> L. subsp. <i>acutus</i>
543	Tepals thin, the internal ones obtuse to acute, without basal auricles. Plant forming lax tufts. Capsule 2.2-3.2(-3.8) mm long		<i>Juncus maritimus</i> Lam.








544	Inflorescence formed by one or more bundles with 2-50 flowers. Flowers not subtended by bracts		<i>Juncus articulatus</i> L.
544	Inflorescence a lax, irregular cyme. Flowers subtended by 2 small bracts (magnifying glass!)		<i>Juncus subulatus</i> Forssk.
545	Plant with a simple stem bearing 1-2 leaves and ending with a sporiferous spike		<i>Ophioglossum lusitanicum</i> L.
545	Plant different		546
546	Plants without flowering stems, reproducing by means of spores, with leaves arranged in dense tufts on swollen-bulbous stems		547
546	Plant different, with flowers, reproducing by means of seeds		549
547	Megaspores grooved (microscope!)		<i>Isoetes duriei</i> Bory
547	Megaspores warty or fimbriate-warty		548



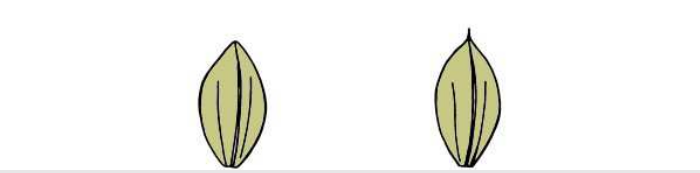
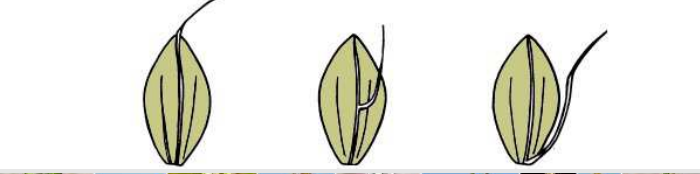


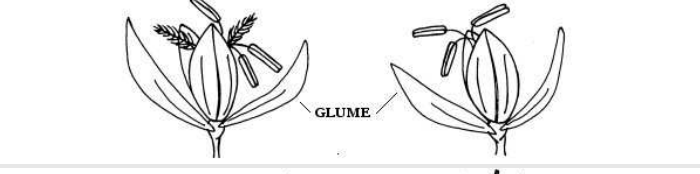


548	Megaspores warty, but not fimbriate		<i>Isoetes histrix</i> Bory
548	Megaspores warty-fimbriate		<i>Isoetes gymnocarpa</i> (Gennari) A. Braun
549	Stems not interrupted by thicker nodes		550
549	Stems interrupted by thicker nodes (Poaceae)		563
550	Stem ending with 2 superimposed cylindrical spikes, the upper one thinner, with male flowers, the lower one much thicker, with female flowers		<i>Typha angustifolia</i> L.
550	Inflorescence different		551
551	Flowers hermaphrodite (magnifying glass), always arranged in similar inflorescences		552
551	Flowers unisexual, arranged in inflorescences that differ between each other (male and female) or in different parts of the same inflorescence		556







552	Spikes formed by 2-3 flowers only (magnifying glass!)		<i>Schoenus nigricans</i> L.
552	Spikes with more than 3 flowers		553
553	Glumes arranged along 2 opposite rows		<i>Cyperus longus</i> L.
553	Glumes arranged all around the axis of inflorescence		554
554	Stem triangular in cross-section, at least in upper part		<i>Bolboschoenus maritimus</i> (L.) Palla
554	Stem circular in cross-section		555
555	Flowers arranged in globose heads		<i>Scirpoides holoschoenus</i> (L.) Soják subsp. <i>australis</i> (Murray) Soják
555	Flowers not arranged in globose heads		<i>Isolepis cernua</i> (Vahl) Roem. & Schult.






556	Spikes all similar, with both male and female flowers		557
556	Spikes different from each other, the upper ones with male flowers only (sometimes androgynous), the lower ones with female flowers		560
557	Stigmas 3 (carefully observe the flowers from more spikes: the stigmas tend to fall early!)		<i>Carex distachya</i> Desf.
557	Stigmas 2		558
558	Plant with creeping stolons, not forming dense tufts		<i>Carex divisa</i> Huds.
558	Plant without stolons, forming dense tufts		559
559	Stem 2-4 mm across		<i>Carex cuprina</i> (Heuff.) A. Kern.


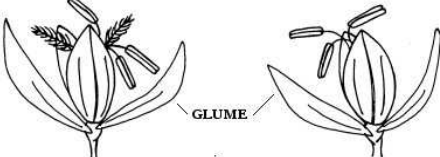
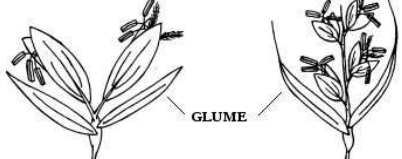




559	Stem 0.5-2 mm across		<i>Carex divulsa</i> Stokes subsp. <i>divulsa</i>
560	Plant with creeping stolons, not forming dense tufts. Inflorescence usually with 2-3 male spikes		<i>Carex flacca</i> Schreb. subsp. <i>erythrostachys</i> (Hoppe) Holub
560	Plant without stolons, forming dense tufts. Inflorescence with a single male spike		561
561	Lower bract at least as long as inflorescence		<i>Carex extensa</i> Gooden.
561	Lower bract shorter than inflorescence		562
562	Female spikes > 3 cm long. Utricles c. 2.5 mm long, with a weakly notched beak which is < 0.5 mm long		<i>Carex microcarpa</i> Bertol. ex Moris
562	Female spikes < 3 cm long. Utricles c. 4 mm long, with a bifid beak which is > 0.5 mm long		<i>Carex distans</i> L.








563	Inflorescence of 2-3 spikelets at the apex of stem, almost completely surrounded by a stiff bract		<i>Lygeum spartum</i> L.
563	Inflorescence different, the spikelets not surrounded by a stiff bract		564
564	Inflorescence with 2-many linear spikes diverging at the apex of the stem		565
564	Inflorescence a single spike or a raceme (panicle)		567
565	Ligule substituted by a tuft of hairs		<i>Cynodon dactylon</i> (L.) Pers.
565	Ligule membranous or absent		566
566	Stem ending with 2 divergent spikes		<i>Paspalum distichum</i> L.
566	Stem ending with many divergent spikes		<i>Digitaria sanguinalis</i> (L.) Scop. subsp. <i>sanguinalis</i>


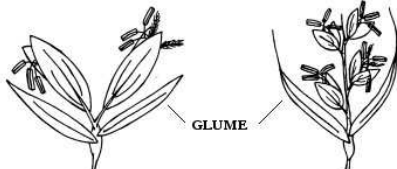



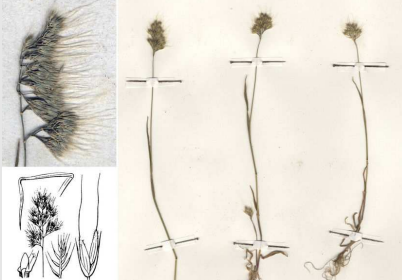

567	Inflorescence spike-like, the spikelets sessile or almost so		568
567	Inflorescence a raceme (panicle)		611
568	Spikelets awnless, at most with a very short rigid tip		569
568	Spikelets awned		586
569	Spikelets arranged on opposite sides of the stem		570
569	Spikelets arranged all around the stem		580
570	Spikelets 1-flowered		571
570	Spikelets 2-many-flowered		573
571	Spikelets with a single glume. Inflorescence stout		<i>Hainardia cylindrica</i> (Willd.) Greuter
571	Spikelets with 2 glumes. Inflorescence thin		572




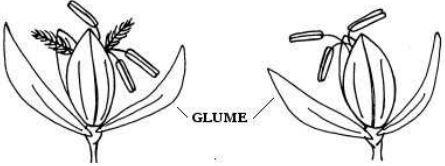
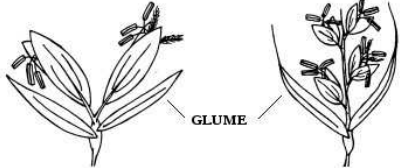
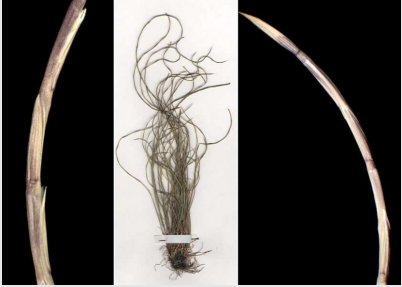


572	Keel of glumes winged (magnifying glass!)		<i>Parapholis filiformis</i> (Roth) C.E. Hubb.
572	Keel of glumes not winged		<i>Parapholis incurva</i> (L.) C.E. Hubb. subsp. <i>incurva</i>
573	Spikelets touching the stem with the narrow, convex side. Spikelets with a single glume (except the terminal one)		574
573	Spikelets not touching the stem with the narrow, convex side. Spikelets with 2 glumes		575
574	Plant perennial. with both fertile and sterile shoots		<i>Lolium perenne</i> L.
574	Plant annual, without sterile shoots		<i>Lolium rigidum</i> Gaudin s.l.
575	Spikelets < 4 mm long, arranged in pairs, one sessile and fertile, the other stalked and sterile		<i>Cynosurus cristatus</i> L.

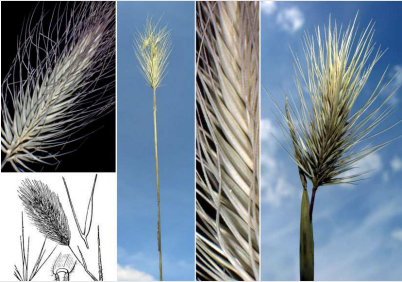



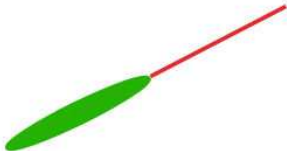



575	Spikelets different, > 4 mm long		576
576	Spikelets < 9 mm long. Annual plant to 20 cm tall		<i>Catapodium balearicum</i> (Willk.) H. Scholz
576	Spikelets > 9 mm long. Perennial plants > 20 cm tall		577
577	Plant without stolons, forming dense tufts. Inflorescence with internodes longer than the spikelets		<i>Elytrigia elongata</i> (Host) Nevski subsp. <i>elongata</i>
577	Plant with stolons, not forming dense tufts. Inflorescence with internodes longer or shorter than the spikelets		578
578	Lower internodes of inflorescence shorter than the spikelets		<i>Elytrigia juncea</i> (L.) Nevski subsp. <i>juncea</i>
578	Lower internodes of inflorescence longer than the spikelets		579
579	Inflorescence thin, almost flattened, with spaced spikelets. Plant not blue-green. Lemma acute		<i>Elytrigia repens</i> (L.) Nevski subsp. <i>repens</i>



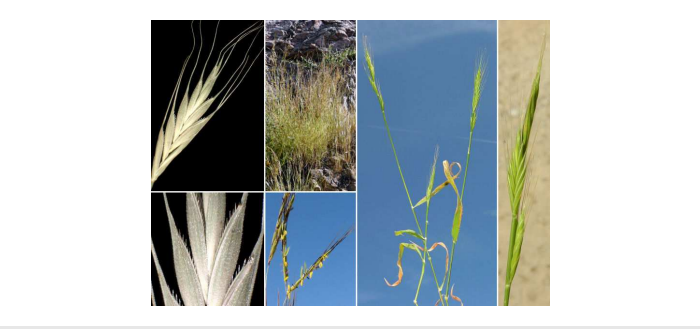
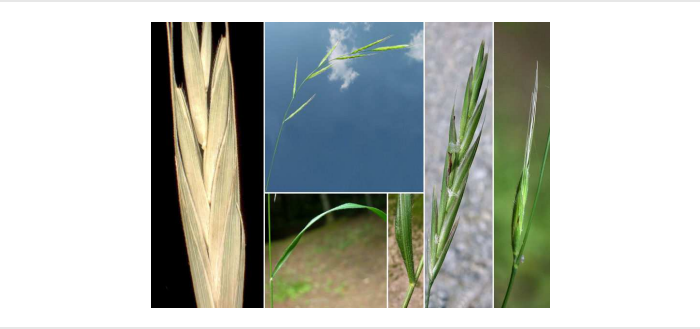

579	Inflorescence thick, almost 4-angled, with crowded spikelets. Plant blue-green. Lemma obtuse		<i>Elytrigia atherica</i> (Link) Kerguelen
580	Spikelets 1-flowered		581
580	Spikelets 2-many-flowered		585
581	Glumes boat-shaped, the back winged and the margin whitish (magnifying glass!)		582
581	Glumes different		584
582	Inflorescence ovate. Wing of glumes entire (magnifying glass!)		<i>Phalaris canariensis</i> L.
582	Inflorescence cylindrical, > 3 times as long as wide. Wing of glumes toothed-eroded		583
583	Plant perennial, with stems strongly swollen at the base, forming dense tufts		<i>Phalaris coeruleascens</i> Desf.





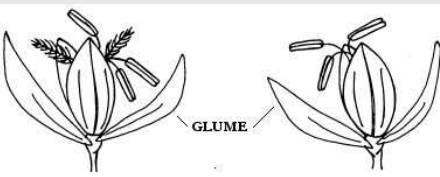

583	Plant annual, with stems not swollen at the base, not forming dense tufts		<i>Phalaris minor</i> Retz.
584	Spikelets 11-13 mm long. Plant of maritime sand dunes, forming dense tufts, the stems 60-120 cm tall, the inflorescences 20-35 cm long		<i>Ammophila arenaria</i> (L.) Link subsp. <i>arundinacea</i> H.Lindb.
584	Spikelets 5-8 mm long. Plant different		<i>Melica ciliata</i> L. subsp. <i>ciliata</i>
585	Plant annual. Leaves to 7 mm wide. Palea with 2 apical teeth and a small point between the teeth (magnifying glass!)		<i>Rostraria pubescens</i> (Lam.) Trin.
585	Plant perennial. Leaves to 3 mm long. Palea with an entire apex		<i>Melica ciliata</i> L. subsp. <i>ciliata</i>
586	Spikelets tending to point in a single direction (unilateral spike)		587
586	Spikelets pointing in all directions, or arranged on 2 opposite sides of the stem		591





587	<p>Inflorescence golden yellow, with spikelets pointing downwards. Fertile spikelets with 1 hermaphrodite and 1 sterile flower</p>		<p><i>Lamarckia aurea</i> (L.) Moench</p>
587	<p>Inflorescence with spikelets not pointing downwards. Spikelets with more than 1 fertile flower</p>		588
588	<p>Inflorescence oval, < 2 times as long as wide. Spikelets arranged in pairs, one sessile and fertile, the other stalked and sterile (or with male flowers only)</p>		589
588	<p>Inflorescence > 2 times as long as wide. Spikelets not arranged in pairs, all similar</p>		590
589	<p>Leaves 3-9 mm wide</p>		<p><i>Cynosurus echinatus</i> L.</p>
589	<p>Leaves 1-3 mm wide</p>		<p><i>Cynosurus effusus</i> Link</p>
590	<p>Lower glume reduced to a scale which is < 2 mm long (magnifying glass!)</p>		<p><i>Vulpia fasciculata</i> (Forssk.) Fritsch</p>




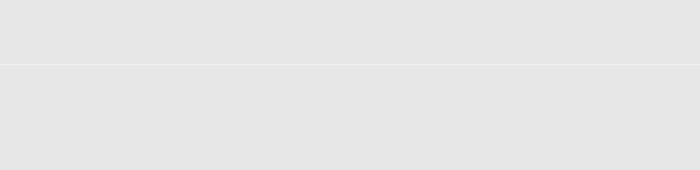

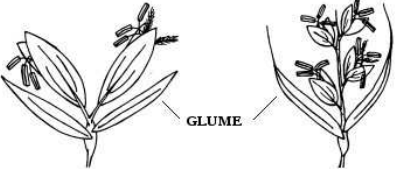


590	Lower glume > 2 mm long		<p><i>Vulpia myuros</i> (L.) C.C. Gmel. subsp. myuros</p>
591	Spikelets arranged on opposite sides of the stem		592
591	Spikelets arranged all around the stem		603
592	Spikelets with a single fertile flower		593
592	Spikelets with more than 1 fertile flower		595
593	Awn < 5 mm long. Spikelets solitary		<p><i>Psilurus incurvus</i> (Gouan) Schinz & Thell.</p>
593	Awn > 5 mm long. Spikelets arranged in groups of 3		594
594	Spikelets (incl. awns) 3-4 cm long. Central spikelet with ciliate glumes		<p><i>Hordeum murinum</i> L. subsp. <i>leporinum</i> (Link) Arcang.</p>






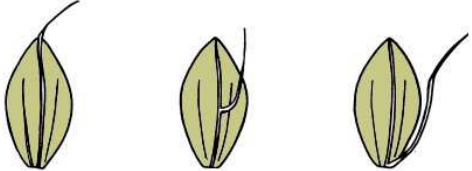
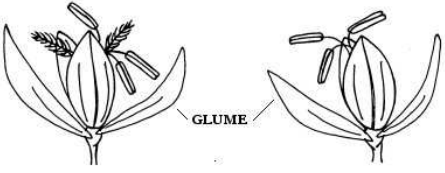
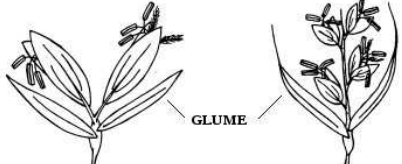
594	Spikelets (incl. awns) < 3 cm long. Glumes not ciliate		<i>Hordeum marinum</i> Huds.
595	Spikelets 2-flowered		<i>Dasypyrum villosum</i> (L.) P. Candargy
595	Spikelets 3-many-flowered		596
596	Awn bent		<i>Gaudinia fragilis</i> (L.) P. Beauv.
596	Awn straight		597
597	Spikelets touching the stem with the narrow, convex side. Spikelets with a single glume (except the terminal one)		<i>Lolium perenne</i> L.
597	Spikelets not touching the stem with the narrow, convex side. Spikelets with 2 glumes		598
598	Spikelets diverging from stem. Glumes of very unequal length		599






598	Spikelets adpressed to stem. Glumes of more or less equal length		601
599	Awn < 1 cm long		<i>Brachypodium retusum</i> (Pers.) P. Beauv.
599	Awn > 1 cm long		600
600	Inflorescence with 2-3(-4) spikelets. Awn > 1 cm long		<i>Trachynia distachya</i> (L.) Link
600	Inflorescence with more than 4 spikelets. Awn < 1 cm long		<i>Brachypodium sylvaticum</i> (Huds.) P. Beauv.
601	Glumes ending with 2-5 awns		<i>Triticum ovatum</i> (L.) Raspail
601	Glumes with a single awn		602






602	Inflorescence thin, almost flattened, with spaced spikelets. Plant not blue-green. Lemma acute		<i>Elytrigia repens</i> (L.) Nevski subsp. <i>repens</i>
602	Inflorescence thick, almost 4-angled, with crowded spikelets. Plant blue-green. Lemma obtuse		<i>Elytrigia atherica</i> (Link) Kerguelen
603	Awn 5-10 cm long		<i>Stipa capensis</i> Thunb.
603	Awn < 3 cm long		604
604	Spikelets 2-5-flowered		<i>Rostraria cristata</i> (L.) Tzvelev
604	Spikelets 1-flowered (sometimes with an additional sterile flower)		605
605	Spikelets surrounded by long, soft, woolly hairs		<i>Lagurus ovatus</i> L. subsp. <i>ovatus</i>
605	Spikelets not surrounded by long, soft, woolly hairs		606








606	Glumes swollen, restricted in the lower third (magnifying glass!)		<p><i>Gastridium ventricosum</i> (Gouan) Schinz & Thell.</p>
606	Glumes not swollen and not restricted in the lower third		607
607	Spikelets 6-12 mm long, with a fertile and a sterile flower		<p><i>Anthoxanthum aristatum</i> Boiss.</p>
607	Spikelets < 6 mm long, with a single fertile flower		608
608	Glumes winged on the back (magnifying glass!)		<p><i>Phalaris paradoxa</i> L.</p>
608	Glumes not winged on the back		609
609	Inflorescence compact. Awns shorter than the glumes. Spikelets persisting at maturity		<p><i>Alopecurus bulbosus</i> Gouan subsp. <i>bulbosus</i></p>
609	Inflorescence lax, usually lobed. Awn longer than the glumes. Spikelets falling early		610



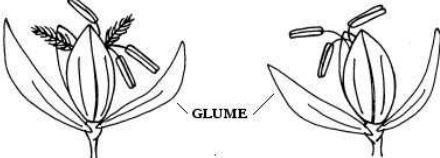
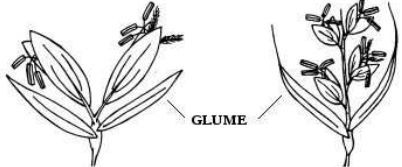


610	Glumes deeply 2-lobed at apex. Lemma awnless		<i>Polypogon subspathaceus</i> Req.
610	Glumes weakly 2-toothed at apex (magnifying glass!). Lemma awned		<i>Polypogon monspeliensis</i> (L.) Desf.
611	Inflorescences woolly, with long soft hairs		612
611	Inflorescences not woolly (spikelets hairless or with short stiff hairs)		616
612	Spikelets 1-flowered. Plant of maritime sand dunes forming very dense tufts		<i>Ammophila arenaria</i> (L.) Link subsp. <i>arundinacea</i> H.Lindb.
612	Spikelets with 2-many flowers		613
613	Stems 1-2 mm across, < 1 m tall. Inflorescence more or less linear		614
613	Stems robust, reed-like, > 3 mm across, 1-5 m tall. Inflorescence pyramidal		615







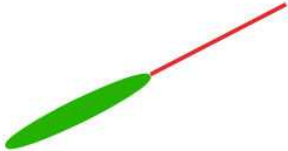
<p>614</p>	<p>Inflorescence lax, the lower branches with 10-20 spikelets</p>		<p><i>Melica ciliata</i> L. subsp. <i>magnolii</i> (Gren. & Godr.) K. Richt.</p>
<p>614</p>	<p>Inflorescence compact, cylindrical, the lowest branches with 5-7 spikelets</p>		<p><i>Melica ciliata</i> L. subsp. <i>ciliata</i></p>
<p>615</p>	<p>Leaves > 50 cm long, at the base >7 cm wide. Glumes of equal length or almost so</p>		<p><i>Arundo donax</i> L.</p>
<p>615</p>	<p>Leaves usually <50 cm long, <4 cm wide at the base. Glumes of markedly unequal length</p>		<p><i>Phragmites australis</i> (Cav.) Trin. ex Steud. s.l.</p>
<p>616</p>	<p>Spikelets awnless, at most with a very short rigid tip</p>		<p>617</p>
<p>616</p>	<p>Spikelets awned</p>		<p>630</p>
<p>617</p>	<p>Spikelets with 1 fertile flower only (sometimes with 1-2 much smaller sterile flowers)</p>		<p>618</p>
<p>617</p>	<p>Spikelets with at least 2 fertile flowers</p>		<p>621</p>







618	One of the glumes much shorter than the other		<i>Sporobolus virginicus</i> (L.) Kunth
618	Glumes of almost equal length		619
619	Lemma hairy at the base. Spikelets > 9 mm long. Plant of maritime sand dunes, forming large dense tufts		<i>Ammophila arenaria</i> (L.) Link subsp. <i>arundinacea</i> H.Lindb.
619	Lemma not hairy at the base. Spikelets < 9 mm long. Plants of other habitats, not forming such dense tufts		620
620	Spikelets falling early at maturity. Plant with short stolons		<i>Polypogon viridis</i> (Gouan) Breistr.
620	Spikelets persisting at maturity. Plant with long creeping stolons		<i>Agrostis stolonifera</i> L. subsp. <i>stolonifera</i>
621	Spikelets more or less heart-shaped, c. as long as wide, pendulous on thin peduncles		622
621	Spikelets different		623







622	<p>Inflorescence poor, with 3-8 spikelets which are >12 mm long</p>		<p><i>Briza maxima</i> L.</p>
622	<p>Inflorescence rich, with more than 8 spikelets which are < 7 mm long</p>		<p><i>Briza minor</i> L.</p>
623	<p>Inflorescences poor, with widely spaced drooping spikelets. At least one glume equal to or longer than lemma</p>		<p><i>Melica minuta</i> L. subsp. <i>minuta</i></p>
623	<p>Inflorescences rich. Both glumes much shorter than lemma</p>		<p>624</p>
624	<p>Spikelets more or less pointing in the same direction, subsessile and crowded in dense bundles</p>		<p><i>Dactylis glomerata</i> L. subsp. <i>hispanica</i> (Roth) Nyman</p>
624	<p>Spikelets not pointing in all directions and not crowded in dense bundles</p>		<p>625</p>
625	<p>Spikelets ovate, at most 2-3 times as long as wide, usually with (3-)4-5(-6) flowers, and shorter than 4 mm</p>		<p>626</p>







625	Spikelets > (2-)3 times as long as wide, usually with more than 5 flowers, and longer than 4 mm		627
626	Plant annual, without sterile shoots, < 30 cm tall		<i>Poa annua</i> L.
626	Plant perennial, usually with both fertile and sterile shoots, > 30 cm tall		<i>Poa trivialis</i> L. subsp. <i>trivialis</i>
627	Glumes with an obtuse or truncate apex. Plant exclusively found in wet sites		628
627	Glumes with an acute apex. Plant not exclusively found in wet sites		629
628	Plant of freshwaters. Leaf-sheaths entirely closed. Lemma with 7-11 veins (magnifying glass!)		<i>Glyceria notata</i> Chevall.
628	Plant of salty brackish waters. Leaf-sheaths open at least in upper half. Lemma with 5 indistinct veins		<i>Puccinellia festuciformis</i> (Host) Parl. subsp. <i>lagascana</i> M.A. Juliá & J.M. Monts.




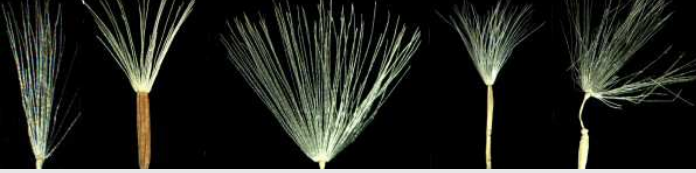


	<p>Plant perennial, 629 with sterile shoots, to over 1 m tall</p>		<p><i>Schedonorus arundinaceus</i> (Schreb.) Dumort. s.l.</p>
	<p>Plant annual, without sterile shoots, to max 30 cm tall (usually less)</p>		<p><i>Catapodium rigidum</i> (L.) C.E. Hubb. subsp. <i>rigidum</i></p>
<p>630 Spikelets 1- flowered</p>		<p>631</p>	
<p>630 Spikelets with at least 2 fertile flowers</p>		<p>636</p>	
<p>631 Spikelets paired or arranged in groups of 3</p>		<p>632</p>	
<p>631 Spikelets solitary</p>		<p>633</p>	
<p>632 Spikelets arranged in groups of 3</p>		<p><i>Sorghum halepense</i> (L.) Pers.</p>	
<p>632 Spikelets arranged in pairs</p>		<p><i>Hyparrhenia hirta</i> (L.) Stapf subsp. <i>hirta</i></p>	








633	Awn 5-10 cm long		<i>Stipa capensis</i> Thunb.
633	Awn < 3 cm long		634
634	Awn straight		<i>Piptatherum miliaceum</i> (L.) Coss. subsp. <i>miliaceum</i>
634	Awn bent		635
635	Plant annual, without stolons. Glumes swollen, restricted in the lower third (magnifying glass!)		<i>Gastridium ventricosum</i> (Gouan) Schinz & Thell.
635	Plant perennial, with long creeping stolons. Glumes different		<i>Agrostis stolonifera</i> L. subsp. <i>stolonifera</i>
636	Awn bent, attached to the back of glumes of or lemma		637
636	Awn straight, attached to the apex of glumes of or lemma		641







637	Spikelets < 8 mm long, 2-flowered		638
637	Spikelets > 8 mm long, 3-many-flowered		639
638	Spikelets crowded at the apex of branches, on pedicels which are max 2 times as long as them. Branches of inflorescence erect		<i>Aira caryophyllea</i> L. subsp. <i>caryophyllea</i>
638	Spikelets widely spaced, on pedicels with are 2-8 times as long as them. Branches of inflorescence not erect		<i>Aira elegantissima</i> Schur subsp. <i>elegantissima</i>
639	Individual flowers persisting within the glumes at maturity. Cultivated plant		<i>Avena sativa</i> L. s.l.
639	Individual flowers falling early at maturity, mature spikelets consisting of 2 glumes only. Wild plants		640
640	Lemma with 2 apical threads resembling awns, 4-6 mm long. Glumes 15-30 mm long		<i>Avena barbata</i> Pott ex Link subsp. <i>barbata</i>






640	Lemma with 2 short apical teeth. Glumes 30-40 mm long		<i>Avena sterilis</i> L. s.l.
641	Glumes of very unequal length: the lower one 1/2-1/10 as long as the upper one		<i>Vulpia ligustica</i> (All.) Link
641	Glumes of moderately unequal length, the lower one more than 1/2 as long as the upper one		642
642	Spikelets spindle-shaped, with ovate glumes which are < 9 mm long and divergent awns		<i>Bromus hordeaceus</i> L. subsp. <i>hordeaceus</i>
642	Spikelets linear, with linear-lanceolate glumes which are > 9 mm long and straight awns		643
643	Spikelets (incl. awns) 2-5 cm long, almost sessile, usually reddish at maturity		<i>Anisantha rubens</i> (L.) Nevski
643	Spikelets (incl. awns) 3-9 cm long, stalked, green or reddish at maturity		644

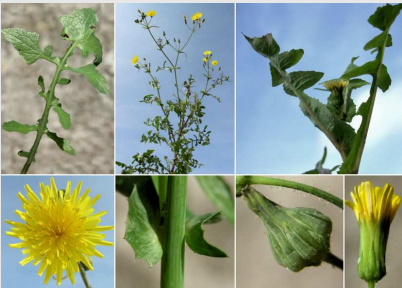





644	<p>Inflorescence contracted, with short (1-3 cm), more or less erect branches. Spikelets more or less erect. Lemma < 20 mm long, the awn 20-25 mm long</p>		<p><i>Anisantha madritensis</i> (L.) Nevski subsp. <i>madritensis</i></p>
644	<p>Inflorescence lax and wide, the lower branches 1-8 cm long, spreading. Lower spikelets more or less horizontal. Lemma > 20 mm long, the awn > 25 mm long</p>		645
645	<p>Lowest branches of inflorescence to 8 cm long, arranged in whorls of 3-6</p>		<p><i>Anisantha diandra</i> (Roth) Tutin</p>
645	<p>Lowest branches of inflorescence to 3 cm long, arranged in whorls of 1-3</p>		<p><i>Anisantha rigida</i> (Roth) Hyl.</p>
646	<p>Flowers arranged in heads surrounded by an involucre of scales or bracts</p>		647
646	<p>Flowers not arranged in heads surrounded by an involucre</p>		691
647	<p>Tubular flowers absent, all flowers strap-shaped</p>		648
647	<p>Tubular flowers present, strap-shaped flowers absent or limited to the edge of the head</p>		665








648	Flowers blue		<i>Cichorium intybus</i> L.
648	Flowers yellow		649
649	Pappus of feathery hairs (the pappus is visible even at flowering time: open the head and observe the base of flowers with a magnifying glass)		650
649	Pappus of simple hairs		655
650	Bracts of the involucre arranged in 1-2 series		651
650	Bracts arranged in more than 2 series		653
651	Receptacle naked. Stems leafy		<i>Urospermum picroides</i> (L.) Scop. ex F.W. Schmidt
651	Receptacle with small scales surrounding the base of fruits (magnifying glass!). Leaves all arranged in a rosette at the base of stems		652







652	Plant annual, with thin roots. Stem with hairs becoming denser upwards		<i>Hypochaeris achyrophorus</i> L.
652	Plant perennial, with thick roots. Stems hairless or homogeneously hairy		<i>Hypochaeris laevigata</i> (L.) Ces., Pass. & Gibelli
653	Receptacle naked (eliminate all flowers/fruits and observe the receptacle with a lens!)		<i>Leontodon tuberosus</i> L.
653	Receptacle with small scales surrounding the base of fruits		654
654	Plant perennial. with a woody rhizome		<i>Hypochaeris radicata</i> L.
654	Plant annual. with thin roots		<i>Hypochaeris glabra</i> L.
655	Fruits (at least the central ones) with a long beak		656


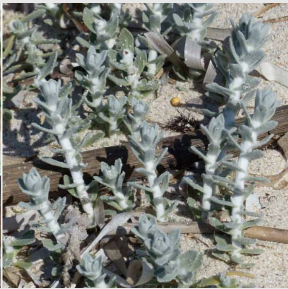






















655	Fruits beakless		660
656	Flowering stems leafless (all leaves arranged in a basal rosette)		657
656	Flowering stems leafy		658
657	Plant with a stout vertical root. Fruits warty in the upper part (magnifying glass!)		<i>Taraxacum officinale</i> W.W. Weber ex F.H. Wigg. s.l.
657	Plant with tuber-like subterranean organs. Fruits not warty		<i>Sonchus bulbosus</i> (L.) N. Kilian & Greuter subsp. <i>bulbosus</i>
658	Beak of fruit inserted in the centre of a small membranous crown (magnifying glass!)		<i>Chondrilla juncea</i> L.
658	Beak not inserted in the centre of a membranous crown		659
659	Fruits of very unequal length: the external ones beakless and 5-9 mm long, the inner ones with a beak and 12-17 mm long		<i>Crepis foetida</i> L. subsp. <i>foetida</i>


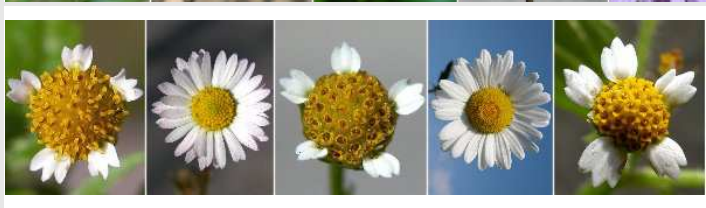






659	Fruits more or less all similar				<p><i>Crepis bellidifolia</i> Loisel.</p>
660	Pappus of stiff bristles or of scales				661
660	Pappus of hairs				662
661	Fruits > 5 mm long, the external ones with a membranous crown, the inner ones with a pappus of scales (magnifying glass!)				<p><i>Hedypnois rhagadioloides</i> (L.) F.W. Schmidt</p>
661	Fruits < 4 mm long, all with a pappus of scales				<p><i>Tolpis umbellata</i> Bertol.</p>
662	Bracts of the involucre of the head with a white margin. Fruits warty in the upper part (magnifying glass!)				<p><i>Reichardia picroides</i> (L.) Roth</p>
662	Bracts of the involucre without a white margin. Fruits not warty				663







663	Stem hollow, with a large central cavity. Fruits strongly flattened		<i>Sonchus oleraceus</i> L.
663	Stem not hollow, or with a central cavity which is less than 1.5 mm wide. Fruits not flattened		664
664	Fruits slightly tapering at apex. Pappus snow-white		<i>Crepis biennis</i> L.
664	Fruits slightly thicker at apex. Pappus dirty-white		<i>Andryala integrifolia</i> L.
665	Heads with tubular flowers only (strap-shaped marginal flowers missing)		666
665	Heads with strap-shaped marginal flowers		679
666	Flowers blue		<i>Carthamus caeruleus</i> L.
666	Flowers yellow or whitish		667
667	Plant green		668







667	Plant grey- to white-hairy					670
668	Heads yellow, usually > 6 mm across. Plant foul-smelling when bruised					<i>Dittrichia graveolens</i> (L.) Greuter
668	Heads whitish, < 6 mm across. Plant not foul-smelling					669
669	Heads with very short, erect, strap-shaped marginal flowers (magnifying glass!)					<i>Erigeron canadensis</i> L.
669	Heads without strap-shaped marginal flowers					<i>Erigeron bonariensis</i> L.
670	Heads crowded and surrounded by a series of leaves arranged like the rays of a star					671
670	Heads not surrounded by such leaves					673
671	Leaves surrounding the heads c. as long as wide					<i>Filago tyrrhenica</i> Chrtek & Holub
671	Leaves surrounding the heads 2-4 times as long as wide					672







672	Lower leaves spatulate, those surrounding the heads rounded and 2-3 times as long as the heads				<i>Filago pygmaea</i> L.
672	Lower leaves lanceolate, those surrounding the heads mucronate and 3-4 times as long as the heads				<i>Filago asterisciflora</i> (Lam.) Sweet
673	Plant perennial, woody at least at base		674		
673	Plant annual, herbaceous		677		
674	Heads solitary		675		
674	Heads not solitary		676		
675	Leaves linear-spatulate, 3-4 x 20-30 mm. Scales of the involucre of heads with a non-wavy margin at apex (lente!)		<i>Phagnalon rupestre</i> (L.) DC. s.l.		
675	Leaves linear, 2-3 x 30-50 mm. Scales with a wavy margin at apex		<i>Phagnalon saxatile</i> (L.) Cass.		







676	Leaves not linear, < 5 times as long as wide		 		<i>Achillea maritima</i> (L.) Ehrend. & Y.P. Guo subsp. <i>maritima</i>
676	Leaves linear, > 5 times as long as wide		  		<i>Helichrysum microphyllum</i> Cambess. subsp. <i>tyrrhenicum</i> Bacch., Brullo & Giusso
677	Scales of the involucre of heads obtuse (lente!)		  		<i>Filago gallica</i> L.
677	Scales of the involucre acute			678	
678	Leaves adpressed to stems, usually < 3 mm wide		 		<i>Filago germanica</i> (L.) Huds.
678	Leaves diverging from stems, usually > 3 mm wide		   		<i>Filago pyramidata</i> L.
679	Strap-shaped (marginal) flowers white, blue, pink or purple	    		680	
679	All flowers of the head yellow	    		686	

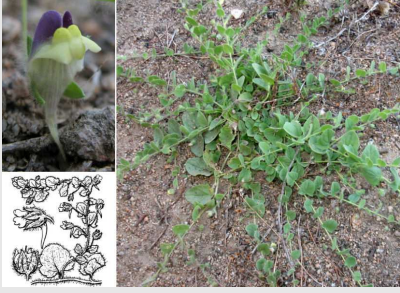





680	Strap-shaped (marginal) flowers blue, pink or purple					681
680	Strap-shaped (marginal) flowers white (sometimes with a reddish hue on the lower surface)					682
681	Heads < 6 mm across					<i>Symphotrichum squamatum</i> (Spreng.) G.L. Nesom
681	Heads > 6 mm across					<i>Tripolium pannonicum</i> (Jacq.) Dobroc. subsp. <i>pannonicum</i>
682	Involucre of heads < 6 mm wide					683
682	Involucre of heads > 6 mm wide					684
683	Heads cylindrical/pear-shaped, with involucre scales arranged in 3 series					<i>Erigeron canadensis</i> L.
683	Heads obconical, with scales arranged in several series					<i>Symphotrichum squamatum</i> (Spreng.) G.L. Nesom



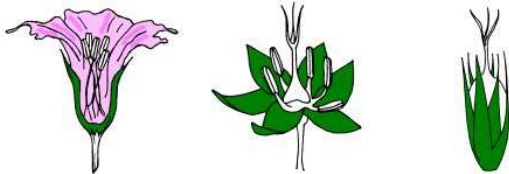
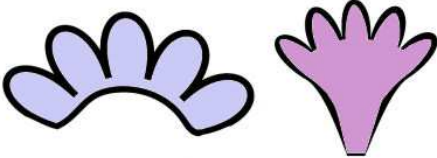


684	Fruits without a pappus of hairs (the pappus is visible also at flowering time: open the head and observe the base of flowers with a magnifying glass)		<i>Bellium bellidioides</i> L.
684	Fruits without a pappus of hairs		685
685	Plant annual. Stems often leafy and branched in the lower part		<i>Bellis annua</i> L. subsp. <i>annua</i>
685	Plant perennial. Stems naked (all leaves arranged in a rosette at the base of stem)		<i>Bellis perennis</i> L.
686	Heads surrounded by conspicuous radiating bracts which become hard and spiny at maturity		<i>Pallenis spinosa</i> (L.) Cass. subsp. <i>spinosa</i>
686	Heads not surrounded by such bracts		687
687	Fruits without a pappus of hairs (pappus transformed in a membranous crown or consisting of bristles)		688







687	Fruits with a pappus of hairs (the pappus is visible also at flowering time: open the head and observe the base of flowers with a magnifying glass)		689
688	Scales of the involucre of heads with a membranous apex. Fruits not curved (the fruits are visible also at flowering time: open the head and observe the base of flowers with a magnifying glass)		<i>Coleostephus myconis</i> (L.) Cass. ex Rchb. f.
688	Scales without a membranous apex. Fruits strongly curved, banana-like		<i>Calendula arvensis</i> (Vaill.) L.
689	Plant succulent, with fleshy leaves		<i>Limbarda crithmoides</i> (L.) Dumort. subsp. <i>longifolia</i> (Arcang.) Greuter
689	Plant not succulent		690
690	Strap-shaped flowers very short, not radiating. Pappus surrounded at the base by membranous scales (lente!)		<i>Pulicaria odora</i> (L.) Rchb.
690	Strap-shaped flowers well-developed, radiating. Pappus not surrounded at the base by membranous scales		<i>Dittrichia viscosa</i> (L.) Greuter subsp. <i>viscosa</i>







691	Flowers and fruits arranged in compound umbels (i.e. umbels whose rays bear a smaller umbel with the flowers)		<i>Bupleurum semicompositum</i> L.
691	Flowers and fruits not arranged in compound umbels		692
692	Flowers bilaterally symmetrical		693
692	Flowers radially symmetrical		717
693	Corolla with a spur or a sac-like outgrowth		694
693	Corolla different		703
694	Corolla of 6 (3+3) petal-like tepals, the lowest one very different from the others. Leaves parallel-veined (Orchids)		695
694	Corolla different. Leaves not parallel-veined or with indistinct veins		696
695	Labellum (lower petal) entire		<i>Anacamptis papilionacea</i> (L.) R.M. Bateman, Pridgeon & M.W. Chase








695	Labellum (lower petal) 3-lobed		<p><i>Anacamptis longicornu</i> (Poir.) R.M. Bateman, Pridgeon & M.W. Chase</p>
696	Leaves, truncate, hastate or heart-shaped at base		697
696	Leaves with a different base		701
697	Leaves hastate, the stalk shorter than the blade		698
697	Leaves heart-shaped at base, the stalk longer than the blade		700
698	Flowers lilac, 4-6 mm long		<p><i>Kickxia cirrhosa</i> (L.) Fritsch</p>
698	Flowers at least in part yellow, > 7 mm long		699
699	Spur curved, pointing upwards		<p><i>Kickxia commutata</i> (Bernh. ex Rechb.) Fritsch subsp. <i>commutata</i></p>







699	Spur straight		<p><i>Kickxia elatine</i> (L.) Dumort. subsp. <i>crinita</i> (Mabille) Greuter</p>
700	Leaves with 3 lobes		<p><i>Cymbalaria aequitriloba</i> (Viv.) A. Chev. subsp. <i>aequitriloba</i></p>
700	Leaves with 5-9 lobes		<p><i>Cymbalaria muralis</i> G. Gaertn., B. Mey. & Scherb. subsp. <i>muralis</i></p>
701	Corolla with a sac-like outgrowth at the base		<p><i>Antirrhinum majus</i> L. subsp. <i>majus</i></p>
701	Corolla with a long acute spur		702
702	Flowers purple		<p><i>Linaria pelisseriana</i> (L.) Mill.</p>






702	Flowers yellow to whitish		<i>Linaria triphylla</i> (L.) Mill.
703	Flowers > 1 cm wide, with 4 free petals and 8 stamens		<i>Oenothera sinuosa</i> W.L.Wagner & Hoch
703	Flowers different		704
704	Calyx absent or of petal-like sepals		705
704	Calyx present, the sepals green		709
705	Petals fused together at least at the base		706
705	Petals free, one of them (labellum) very different from the others (Orchids)		708
706	Leaves heart-shaped at base		<i>Aristolochia rotunda</i> <i>L. subsp. insularis</i> (E. Nardi & Arrigoni) Gamisans
706	Leaves not heart-shaped at base		707







707	Stamens with anthers longer than filaments		<i>Gladiolus italicus</i> Mill.
707	Stamens with anthers max. as long as filaments		<i>Gladiolus x byzantinus</i> Mill.
708	Labellum (lower petal) hairy at margin, not divided into an upper and a lower part by a restriction		<i>Ophrys tenthredinifera</i> Willd.
708	Labellum hairless, divided into two parts by a restriction		<i>Serapias lingua</i> L.
709	Leaves truncate or heart-shaped at base		710
709	Leaves neither truncate nor heart-shaped at base		712
710	Leaf margin entire. Petals free. Fruit a legume		<i>Lathyrus aphaca</i> L. subsp. <i>aphaca</i>






710	Leaf margin toothed. Petals fused together. Fruit a capsule		711
711	Corolla barrel-shaped, dark purple		<i>Scrophularia peregrina</i> L.
711	Corolla not barrel-shaped, whitish		<i>Veronica cymbalaria</i> Bodard subsp. <i>cymbalaria</i>
712	Flowers yellow. Fruit a legume		<i>Scorpiurus muricatus</i> L.
712	Flowers not yellow. Fruit not a legume		713
713	Leaves toothed, hairless or with soft hairs		<i>Solenopsis laurentia</i> (L.) C. Presl
713	Leaves not toothed, with stiff stinging hairs		714














714	All stamens included in the corolla-tube		<i>Echium parviflorum</i> Moench
714	At least some stamens protruding from the corolla-tube		715
715	Flowers pale-coloured (whitish or whitish-blue, sometimes yellowish white)		<i>Echium italicum</i> L. s.l.
715	Flowers intensely coloured (blue, purple etc.)		716
716	Corolla hairy only in the veins and along the margin		<i>Echium plantagineum</i> L.
716	Corolla homogeneously hairy		<i>Echium vulgare</i> L. s.l.
717	Plant succulent, with fleshy leaves		718
717	Plant not succulent		726
718	Leaves rounded or kidney-shaped, with a long petiole		719







718	Leaves different		720
719	Inflorescence occupying most of the stem. Flowers drooping. Petals ovate-acuminate		<i>Umbilicus rupestris</i> (Salisb.) Dandy
719	Inflorescence occupying less than half of the stem. Flowers horizontal. Petals acute		<i>Umbilicus horizontalis</i> (Guss.) DC.
720	Leaves flattened on both sides		721
720	Leaves linear, cylindrical or globose, not flattened on both sides		722
721	Flowers whitish to pale pink. Herbaceous plant		<i>Phedimus stellatus</i> (L.) Raf.
721	Flowers yellow. Plant woody at the base		<i>Aeonium arboreum</i> (L.) Webb & Berthel.
722	Petals 4		<i>Bulliardia vaillantii</i> (Willd.) DC








722	Petals 5 or more				723
723	Flowers yellow				<i>Sedum litoreum</i> Guss.
723	Flowers not yellow				724
724	Flowers blue				<i>Sedum caeruleum</i> L.
724	Flowers pink or white				725
725	Plant glandular-hairy at least in upper part				<i>Sedum rubens</i> L.
725	Plant hairless				<i>Sedum andegavense</i> (DC.) Desv.
726	Base of leaf-stalks with a membranous sheath surrounding the stem				727
726	Base of the stalk without such a sheath				728







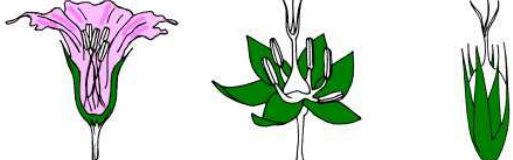
727	Plant blue-green. Sheaths with 8-12 veins, clasping almost completely the stem. Fruits 4-6 mm wide		<i>Polygonum maritimum</i> L.
727	Plant green. Sheaths with 4-6 veins, clasping the stem only at the base of the internodes. Fruits 2-3.5 mm wide		<i>Polygonum aviculare</i> L. subsp. <i>aviculare</i>
728	Small shrubs, woody at least at the base		729
728	Herbaceous plants		731
729	Leaves more or less heart-shaped at base. Flowers > 1 cm across		<i>Malva micans</i> (L.) Alef. subsp. <i>micans</i>
729	Leaves not heart-shaped at base. Flowers < 1 cm across		730
730	Leaves parallel-veined > 3 cm long		<i>Ruscus hypoglossum</i> L.






730	Leaves not parallel-veined, < 3 cm long		<i>Cressa cretica</i> L.
731	Petals 3		<i>Baldellia ranunculoides</i> (L.) Parl.
731	Petals more than 3		732
732	Petals 4		733
732	Petals more than 4		750
733	Flowers with 4 inconspicuous, membranous petals and 4 stamens, arranged in compact spikes at the top of stems		734
733	Flowers different, not arranged in compact spikes		740
734	Flowering stems leafy		<i>Plantago afra</i> L. s.l.
734	Flowering stem leafless (all leaves arranged in a basal rosette)		735
735	Plant annual, with thin roots		736










735	Plant perennial, with thick roots				738
736	Leaves 1-5 mm wide. Inner face of seeds flat (stereomicroscope!)				<i>Plantago weldenii</i> Rchb.
736	Leaves > 5 mm wide. Inner face of seeds concave, boat-like				737
737	Lower bracts 3-4 mm long. Two sepals fused at base. Anthers with an acute appendix, c. 1/4 as long as the anther itself				<i>Plantago lagopus</i> L.
737	Lower bracts 6-8 mm long. All sepals free. Anthers with a flattened appendix, c. as long as the anther itself				<i>Plantago bellardii</i> All.
738	Margin of leaves with teeth which are at least 3 mm long				<i>Plantago macrorhiza</i> Poir.
738	Margin of leaves smooth or with indistinct teeth				739
739	Spike lax, with spaced flowers at the base. Sepals > 1.5 mm wide. Leaves with tufts of white hairs				<i>Plantago albicans</i> L.

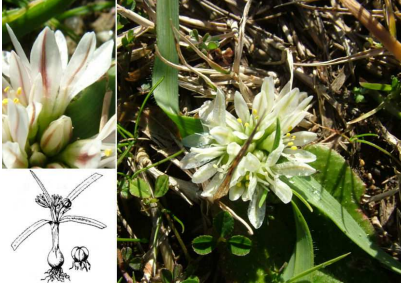




739	Spike compact. Sepals < 1.5 mm wide. Leaves hairless or with sparse hairs		<i>Plantago lanceolata</i> L.
740	Flowers pale to bright yellow		741
740	Flowers not yellow		744
741	Fruit > 5 times as long as wide		<i>Erysimum cheiri</i> (L.) Crantz
741	Fruit < 4 times as long as wide		742
742	Leaves clasping stem with base		<i>Neslia paniculata</i> (L.) Desv. subsp. <i>paniculata</i>
742	Leaves not clasping stem with base		743
743	Fruit covered by spiny warts		<i>Bunias erucago</i> L.



743	Fruits smooth, divided in 2 superimposed parts, the upper one much wider		<i>Rapistrum rugosum</i> (L.) All.
744	Flowers pink to purple		745
744	Flowers white		748
745	Stamens 8. Ovary inferior, very long and well-visible below the corolla		746
745	Stamens 6 (4 + 2). Ovary superior		747
746	Stigma not lobed		<i>Epilobium tetragonum</i> L. subsp. <i>tetragonum</i>
746	Stigma with 4 lobes arranged crosswise		<i>Epilobium lanceolatum</i> Sebast. & Mauri
747	Fruit < 3 times as long as wide		<i>Lobularia maritima</i> (L.) Desv. subsp. <i>maritima</i>








747	Fruit > 5 times as long as wide		<i>Matthiola incana</i> (L.) R. Br. subsp. <i>incana</i>
748	Fruit not triangular. Leaves not clasping stem with base		<i>Lobularia maritima</i> (L.) Desv. subsp. <i>maritima</i>
748	Fruit triangular in outline, notched at apex. Leaves clasping stem with base		749
749	Petals 2-3 mm long, > sepals. Sepals green		<i>Capsella bursa-pastoris</i> (L.) Medik. subsp. <i>bursa-pastoris</i>
749	Petals 1.5-2 mm long, c. as long as sepals. Sepals reddish		<i>Capsella rubella</i> Reut.
750	Calyx absent		751
750	Calyx present		781

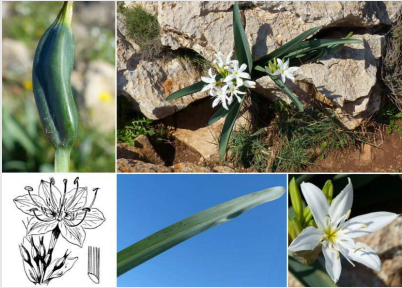




751	Leaves heart-shaped at base		<i>Dioscorea communis</i> (L.) Caddick & Wilkin
751	Leaves not heart-shaped at base		752
752	Flowers erect, originating directly from the ground or borne on very short pedicels		753
752	Flowers different		758
753	Stamens 6 (3+3)		<i>Colchicum neapolitanum</i> (Ten.) Ten.
753	Stamens 3		754
754	Corolla with a long tube which reaches the ground. Stigmas widened at the apex, fan- or trumped-shaped		<i>Crocus minimus</i> DC.
754	Corolla with a short tube inserted on an aboveground pedicel. Stigmas thread-like		755
755	Pistil longer than stamens		756

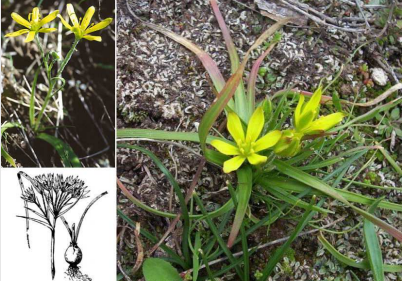





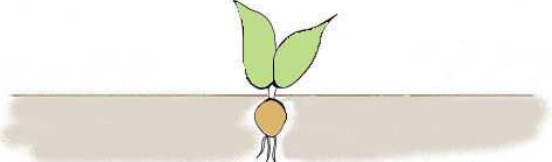
755	Pistil as long as stamens, or shorter				757		
756	Petals spatulate, rounded at apex. Corolla with a purple or violet throat				<i>Romulea requienii</i> Parl.		
756	Petals elliptical, acute (rarely rounded). Corolla with a white or yellow throat				<i>Romulea ligustica</i> Parl.		
757	Corolla hairless, < 13 mm long. Upper flower bract widely membranous				<i>Romulea columnae</i> Sebast. & Mauri		
757	Corolla with a hairy throat, > 13 mm long. Upper flower bract green or narrowly membranous				<i>Romulea ramiflora</i> Ten. subsp. <i>ramiflora</i>		
758	Plants strongly smelling of garlic when bruised. Flowers arranged in simple umbels						759
758	Plants not smelling of garlic						767
759	Leaves not all arranged at the same level along the stem						760
759	Leaves originating from different points along the stem						764






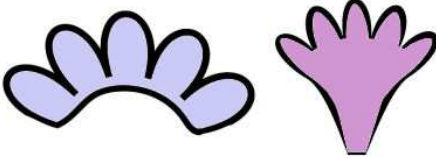

760	<p>Inflorescence sessile or almost so, arranged in the centre of a rosette near the ground</p>		<p><i>Allium chamaemoly</i> L. subsp. <i>chamaemoly</i></p>
760	<p>Inflorescence brought by a well-developed stem which is several cm long</p>		<p>761</p>
761	<p>Leaves clearly hairy</p>		<p><i>Allium subhirsutum</i> L.</p>
761	<p>Leaves hairless or almost so</p>		<p>762</p>
762	<p>Stems with 3 acute angles, flaccid after flowering. Stigma 3-lobed</p>		<p><i>Allium triquetrum</i> L.</p>
762	<p>Stems cylindrical or with 3 obtuse angles, erect after flowering. Stigma not lobed</p>		<p>763</p>
763	<p>Flowers white</p>		<p><i>Allium subhirsutum</i> L.</p>






763	Flowers pink		<i>Allium roseum</i> L.
764	Filaments of stamens simple		765
764	Filaments of stamens ending in 3 triangular teeth, the central one bearing the anther		766
765	Umbels conical, the flower pedicels erect or ascending. Plant 9-25 cm tall		<i>Allium parviflorum</i> Viv.
765	Umbels subglobose or hemispherical. Plant 20-100 cm tall		<i>Allium roseum</i> L.
766	Stamens shorter than petals		<i>Allium ampeloprasum</i> L.
766	Stamens much longer than petals		<i>Allium commutatum</i> Guss.






767	Flowers with 3 stamens, fan-shaped styles, external tepals much longer than the internal ones		768
767	Flowers different		769
768	Plant bulbous, to 20 cm tall		<i>Moraea sisyrinchium</i> (L.) Ker Gawl.
768	Plant rhizomatose, > 20 cm tall		<i>Iris germanica</i> L.
769	Flowers with a tubular or cup-shaped paracorolla in the centre		770
769	Flowers without such a paracorolla		773
770	Stamens inserted between the teeth of the paracorolla, protruding		771
770	Stamens inserted below the paracorolla, not protruding		772
771	Leaves > 3 cm wide. Corolla-tube < 2 cm long		<i>Panocratium maritimum</i> L.







771	Leaves 1-1.5 cm wide. Corolla-tube 5-8 cm long		<i>Pancratium illyricum</i> L.
772	Plant flowering in autumn (September-November)		<i>Narcissus obsoletus</i> (Haw.) Steud.
772	Plant flowering in winter, spring or summer (January-July)		<i>Narcissus tazetta</i> L. subsp. <i>tazetta</i>
773	Ovary inferior, visible as a swelling below the corolla		<i>Leucojum roseum</i> F. Martin
773	Ovary superior		774
774	Petals fused together for most of their length		<i>Muscari comosum</i> (L.) Mill.
774	Petals free (or fused only at the base)		775







775	Flowers bright yellow		<i>Gagea granatellii</i> (Parl.) Parl.
775	Flowers not yellow		776
776	Flowers blue to blue-violet		777
776	Flowers white to pink		778
777	Leaves flat, 5-30 mm wide		<i>Prospero obtusifolia</i> (Poir.) Speta subsp. <i>intermedia</i> (Guss.) Soldano & F. Conti
777	Leaves subcylindrical, 1-3 mm wide		<i>Prospero autumnalis</i> (L.) Speta subsp. <i>autumnalis</i>
778	Plant with a rhizome		<i>Asphodelus ramosus</i> L. subsp. <i>ramosus</i>
778	Plant with a bulb		779



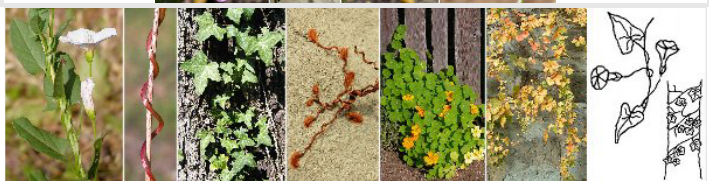




779	Inflorescences with less than 10 flowers. Stamens with flattened filaments		<i>Ornithogalum corsicum</i> Jord. & Fourr.
779	Inflorescences with more than 10 flowers. Stamens with cylindrical filaments		780
780	Bulb > 10 cm across. Stems > 60 cm tall. Leaves > 5 cm wide		<i>Charybdis pancratiun</i> (Steinh.) Speta
780	Bulb < 10 cm across. Stems < 60 cm tall. Leaves < 5 cm wide		<i>Charybdis undulata</i> (Desf.) Speta
781	Petals free		782
781	Petals fused together at least at the base		801
782	Petals deep blue, apparently free, but actually fused at base into a very short tube, with a white scale at the base		<i>Borago officinalis</i> L.
782	Petals different, completely free and without a white scale at the base		783








783	Stamens with filaments fused together into a sort of column surrounding the style		784
783	Stamens with free filaments		788
784	Calyx subtended by 5-13 sepal-like bracts		<i>Malva setigera</i> Schimp. & Spenn.
784	Calyx subtended by 2-3 sepal-like bracts		785
785	Bracts below the calyx fused at base		786
785	Bracts below the calyx completely free		787
786	Plant not sticky and not foul-smelling. Stipules much less than 1.5 cm wide		<i>Malva multiflora</i> (Cav.) Soldano, Banfi & Galasso
786	Plant sticky and foul-smelling. Stipules to 1.5 cm wide		<i>Malva micans</i> (L.) Alef. subsp. <i>micans</i>
787	Corolla c. twice as long as calyx		<i>Malva sylvestris</i> L. subsp. <i>sylvestris</i>







787	Corolla c. as long as calyx		<i>Malva parviflora</i> L.
788	Stamens very numerous (more than 12)		789
788	Stamens max. 12		793
789	Leaves all arranged in a basal rosette and stem simple, bearing a single flower		<i>Ranunculus bulbatus</i> L.
789	Plant different, the flowering stems bearing at least a leaf		790
790	All leaves entire or weakly lobed		<i>Ranunculus ophioglossifolius</i> Vill.
790	At least the upper leaves deeply divided		791
791	Plant perennial		<i>Ranunculus cordiger</i> Viv. subsp. <i>diffusus</i> (Moris) Arrigoni
791	Plant annual		792







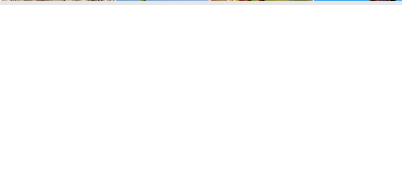

792	Sepals pointing upwards, adpressed to the petals		<i>Ranunculus muricatus</i> L.
792	Sepals pointing downwards, adpressed to the flower pedicel		<i>Ranunculus parviflorus</i> L.
793	Flowers bright yellow		794
793	Flowers of other colours		795
794	Leaf-margin smooth		<i>Linum trigynum</i> L.
794	Leaf-margin minutely toothed		<i>Linum strictum</i> L. subsp. <i>strictum</i>
795	Petals 6		<i>Lythrum hyssopifolia</i> L.




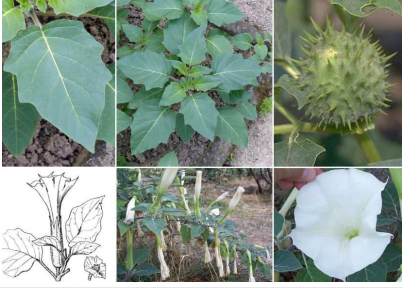

795	Petals 5			796
796	Stamens 5			797
796	Stamens 10			798
797	Petals to 2 mm long			<i>Corrigiola telephiifolia</i> Pourr.
797	Petals > 5 mm long			<i>Linum bienne</i> Mill.
798	Flowers white. Leaves 3-lobed. Fruit a capsule			<i>Saxifraga tridactylites</i> L.
798	Flowers (at least in part) pink to purple. Leaves pinnate. Fruit of 5 nutlets surmounted by a long beak			799
799	Flowers pale pink with a network of darker veins. Plant perennial, woody at the base			<i>Erodium corsicum</i> Léman
799	Petals deep pink. Plant annual			800







800	Apex of fruit (below the beak) with 2 small grooves surrounded by concentric ridges (magnifying glass!)		<i>Erodium malacoides</i> (L.) L'Hér. subsp. <i>malacoides</i>
800	Apex of fruit with grooves not surrounded by concentric ridges		<i>Erodium chium</i> (L.) Willd.
801	Stems long-creeping or twining		802
801	Stems neither creeping nor twining		807
802	Corolla with well-developed lobes (not bell-shaped). Fruit fleshy		803
802	Corolla with indistinct lobes (bell-shaped). Fruit dry		804
803	Stems creeping, without tendrils. Fruit hairy		<i>Ecballium elaterium</i> (L.) A. Rich.
803	Stems twining, with tendrils, Fruit hairless		<i>Bryonia marmorata</i> E. Petit











804	Calyx partially hidden by 2 leafy bracts		805
804	Calyx not hidden by 2 leafy bracts		806
805	Flowers pink. Stems creeping		<i>Calystegia soldanella</i> (L.) Roem. & Schult.
805	Flowers white. Stems twining		<i>Convolvulus sepium</i> L. subsp. <i>sepium</i>
806	Flowers pink or white. Plant perennial		<i>Convolvulus arvensis</i> L.
806	Flowers blue. Plant annual		<i>Convolvulus siculus</i> L. subsp. <i>siculus</i>
807	Flowers pale to bright yellow		808
807	Flowers not yellow		812






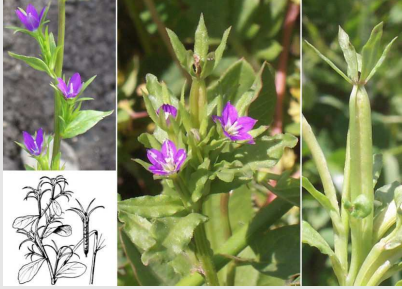
808	Corolla tubular, cylindrical, ending with very short teeth. Plant hairless		<i>Cerinthe major</i> L. subsp. <i>major</i>
808	Corolla different. Plant hairy		809
809	Corolla pale yellow with a dark centre, the tube well-developed		<i>Hyoscyamus albus</i> L.
809	Corolla completely yellow, without a well developed tube (petals fused together only at the base)		810
810	Inflorescence with a single flower in the axil of each bract		<i>Verbascum creticum</i> (L.) Kuntze
810	Inflorescence with 3-7 flowers in the axil of each bract		811
811	Filaments of stamens with whitish to yellowish hairs		<i>Verbascum pulverulentum</i> Vill.

811	Filaments of stamens with violet hairs		<i>Verbascum conocarpum</i> Moris subsp. <i>conocarpum</i>
812	Leaves all basal (plant without a stem or with a leafless stem)		813
812	Leaves present also on the flowering stems		817
813	Leaves heart-shaped at base. Flowers solitary		<i>Cyclamen repandum</i> Sm. subsp. <i>repandum</i>
813	Leaves not heart-shaped at base. Flowers numerous		814
814	Leaves > 10 cm long, pinnately-veined		<i>Limonium narbonense</i> Mill.
814	Leaves < 10 cm long, parallel-veined or with a single main vein		815
815	Inflorescence formed, at least in the lower half, by sterile branches		<i>Limonium acutifolium</i> (Rchb.) Salmon subsp. <i>acutifolium</i>

815	Inflorescence formed only by flowering branches (rarely with a few sterile branches at the base)		816
816	Spikes with 8-13 spikelets per cm		<i>Limonium laetum</i> (Nyman) Pignatti
816	Spikes with 4-8 spikelets per cm		<i>Limonium glomeratum</i> (Tausch) Erben
817	Flowers resembling a white trumpet which is > 5 cm long. Fruit dry and spiny		818
817	Plant with different characters		819
818	Corolla > 10 cm long. Fruit with soft spines		<i>Datura inoxia</i> Mill.
818	Corolla < 10 cm long. Fruit with stiff spines		<i>Datura ferox</i> L.

819	Flowers white or whitish		820
819	Flowers not white		824
820	Petals acute. Fruit fleshy		821
820	Petals rounded. Fruit dry		822
821	Ripe fruit black		<i>Solanum nigrum</i> L.
821	Ripe fruit yellow or red		<i>Solanum villosum</i> Mill.
822	Plant hairless		<i>Solanum valerandi</i> L.
822	Plant hairy		823

823	Calyx teeth shorter than calyx-tube (lente!)				<i>Heliotropium supinum</i> L.			
823	Calyx divided almost to the base				<i>Heliotropium europaeum</i> L.			
824	Corolla blue with a yellow ring in the centre				<i>Myosotis ramosissima</i> Rochel subsp. <i>ramosissima</i>			
824	Corolla different				825			
825	Corolla rotate, with an indistinct tube (petals fused together only at the very base)				<i>Borago officinalis</i> L.			
825	Corolla with a cylindrical tube (sometimes very short, but evident) or bell-shaped							826
826	Corolla more or less bell-shaped, the tube > 3 mm long							827
826	Corolla not bell-shaped, the tube < 3 mm long				828			

827	Corolla without white scales in the centre. Fruit a capsule		<i>Campanula erinus</i> L.
827	Corolla with 5 white scales in the centre. Fruit not a capsule		<i>Anchusa crispa</i> Viv. subsp. <i>crispa</i>
828	Corolla with rounded lobes. Fruit not a capsule. Ovary superior		<i>Cynoglossum creticum</i> Mill.
828	Corolla with more or less triangular, acute lobes. Fruit a capsule. Ovary inferior		829
829	Calyx-teeth < 3 times as long as wide, shorter than the tube		<i>Legousia hybrida</i> (L.) Delarbre
829	Calyx-teeth 4-6 times as long as wide, c. as long as the tube		<i>Legousia falcata</i> (Ten.) Janch.

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Index

Preface	3
Introduction	5
Field guide	13
Literature	225

List of species

Acacia saligna (Labill.) H.L.Wendl.
Achillea ligustica All.
Achillea maritima (L.) Ehrend. & Y.P. Guo subsp. *maritima*
Adiantum capillus-veneris L.
Adonis annua L.
Aeonium arboreum (L.) Webb & Berthel.
Agave americana L.
Agrostis stolonifera L. subsp. *stolonifera*
Aira caryophyllea L. subsp. *caryophyllea*
Aira elegantissima Schur subsp. *elegantissima*
Ajuga iva (L.) Schreb. subsp. *iva*
Albizia julibrissin Durazz.
Allium ampeloprasum L.
Allium chamaemoly L. subsp. *chamaemoly*
Allium commutatum Guss.
Allium parviflorum Viv.
Allium roseum L.
Allium subhirsutum L.
Allium triquetrum L.
Aloe arborescens Mill.
Alopecurus bulbosus Gouan subsp. *bulbosus*
Amaranthus albus L.
Amaranthus cruentus L.
Amaranthus deflexus L.
Amaranthus muricatus (Moq.) Hieron.
Ammi majus L.
Ammophila arenaria (L.) Link subsp. *arundinacea* H.Lindb.
Anacamptis longicornu (Poir.) R.M. Bateman, Pridgeon & M.W. Chase
Anacamptis papilionacea (L.) R.M. Bateman, Pridgeon & M.W. Chase
Anacyclus clavatus (Desf.) Pers.
Anagyris foetida L.
Anchusa crispa Viv. subsp. *crispa*
Andryala integrifolia L.
Anemone hortensis L. subsp. *hortensis*
Anisantha diandra (Roth) Tutin
Anisantha madritensis (L.) Nevski subsp. *madritensis*
Anisantha rigida (Roth) Hyl.
Anisantha rubens (L.) Nevski
Anogramma leptophylla (L.) Link
Anthemis arvensis L. subsp. *arvensis*
Anthemis arvensis L. subsp. *incrassata* (Loisel.) Nyman
Anthoxanthum aristatum Boiss.
Anthriscus caucalis M. Bieb.
Antirrhinum majus L. subsp. *majus*
Arbutus unedo L.
Arenaria balearica L.
Arisarum vulgare O. Targ. Tozz. subsp. *vulgare*

Aristolochia rotunda L. subsp. *insularis* (E. Nardi & Arrigoni) Gamisans
Artemisia arborescens (Vaill.) L.
Arthrocnemum macrostachyum (Moric.) K. Koch
Arum pictum L. f. subsp. *pictum*
Arundo donax L.
Asparagus acutifolius L.
Asparagus albus L.
Asphodelus ramosus L. subsp. *ramosus*
Asplenium ceterach L. subsp. *ceterach*
Asplenium obovatum Viv. subsp. *obovatum*
Asplenium onopteris L.
Astragalus hamosus L.
Astragalus pelecinus (L.) Barneby subsp. *pelecinus*
Astragalus terraccianoii Vals.
Atriplex littoralis L.
Atriplex patula L.
Atriplex prostrata Boucher ex DC.
Atriplex rosea L.
Austrocylindropuntia cylindrica (Lam.) Backeb.
Avena barbata Pott ex Link subsp. *barbata*
Avena sativa L. s.l.
Avena sterilis L. s.l.
Baldellia ranunculoides (L.) Parl.
Bartsia trixago L.
Bellis annua L. subsp. *annua*
Bellis perennis L.
Bellium bellidioides L.
Berula erecta (Huds.) Coville
Beta macrocarpa Guss.
Beta vulgaris L. subsp. *maritima* (L.) Arcang.
Bifora testiculata (L.) Spreng.
Blackstonia perfoliata (L.) Huds. subsp. *imperfoliata* (L. f.) Franco & Rocha Afonso
Bolboschoenus maritimus (L.) Palla
Borago officinalis L.
Bougainvillea sp.
Brachypodium retusum (Pers.) P. Beauv.
Brachypodium sylvaticum (Huds.) P. Beauv.
Brassica nigra (L.) W.D.J. Koch
Brassica tournefortii Gouan
Briza maxima L.
Briza minor L.
Bromus hordeaceus L. subsp. *hordeaceus*
Bryonia marmorata E. Petit
Bulliarda vaillantii (Willd.) DC
Bunias erucago L.
Bupleurum semicompositum L.
Cakile maritima Scop. subsp. *maritima*
Calendula arvensis (Vaill.) L.
Callitriche hamulata Kütz. ex W.D.J. Koch
Callitriche stagnalis Scop.
Calystegia soldanella (L.) Roem. & Schult.
Campanula erinus L.
Camphorosma monspeliaca L. subsp. *monspeliaca*
Cannabis sativa L.
Capsella bursa-pastoris (L.) Medik. subsp. *bursa-pastoris*
Capsella rubella Reut.
Cardamine hirsuta L.
Carduus pycnocephalus L. subsp. *pycnocephalus*
Carex cuprina (Heuff.) A. Kern.
Carex distachya Desf.
Carex distans L.
Carex divisa Huds.

Carex divulsa Stokes subsp. *divulsa*
Carex extensa Gooden.
Carex flacca Schreb. subsp. *erythrostachys* (Hoppe) Holub
Carex microcarpa Bertol. ex Moris
Carlina corymbosa L.
Carlina gummifera (L.) Less.
Carlina lanata L.
Carpobrotus acinaciformis (L.) L. Bolus
Carthamus caeruleus L.
Carthamus lanatus L.
Castanea sativa Mill.
Catapodium balearicum (Willk.) H. Scholz
Catapodium rigidum (L.) C.E. Hubb. subsp. *rigidum*
Centaurea calcitrapa L.
Centaurea horrida Badarò
Centaurea melitensis L.
Centaurea napifolia L.
Centaurea sphaerocephala L. subsp. *sphaerocephala*
Centaurium erythraea Rafn subsp. *erythraea*
Centaurium maritimum (L.) Fritsch
Centaurium pulchellum (Sw.) Druce subsp. *pulchellum*
Centaurium tenuiflorum (Hoffmanns. & Link) Fritsch subsp. *acutiflorum* (Schott) Zeltner
Centranthus calcitrapae (L.) Dufur. subsp. *calcitrapae*
Cerastium brachypetalum Desp. ex Pers. s.l.
Cerastium glomeratum Thuill.
Cerastium semidecandrum L.
Ceratonia siliqua L.
Cerintho major L. subsp. *major*
Chamaemelum fuscatum (Brot.) Vasc.
Chamaerops humilis L.
Chamaesyce peplis (L.) Prokh.
Charybdis pancration (Steinh.) Speta
Charybdis undulata (Desf.) Speta
Cheilanthes sp.
Chenopodium album L. subsp. *album*
Chenopodium murale L.
Chenopodium urbicum L.
Chenopodium vulvaria L.
Chondrilla juncea L.
Cichorium intybus L.
Cirsium vulgare (Savi) Ten. subsp. *vulgare*
Cistus monspeliensis L.
Cistus salviifolius L.
Clematis cirrhosa L.
Clematis vitalba L.
Colchicum neapolitanum (Ten.) Ten.
Coleostephus myconis (L.) Cass. ex Rchb. f.
Convolvulus althaeoides L.
Convolvulus arvensis L.
Convolvulus sepium L. subsp. *sepium*
Convolvulus siculus L. subsp. *siculus*
Corrigiola telephiifolia Pourr.
Crassula tillaea Lest.-Garl.
Crepis bellidifolia Loisel.
Crepis biennis L.
Crepis foetida L. subsp. *foetida*
Crepis leontodontoides All.
Cressa cretica L.
Crithmum maritimum L.
Crocus minimus DC.
Cupressus arizonica Greene
Cuscuta planiflora Ten.

Cyclamen repandum Sm. subsp. *repandum*
Cymbalaria aequitriloba (Viv.) A. Chev. subsp. *aequitriloba*
Cymbalaria muralis G. Gaertn., B. Mey. & Scherb. subsp. *muralis*
Cynara cardunculus L. subsp. *cardunculus*
Cynodon dactylon (L.) Pers.
Cynoglossum creticum Mill.
Cynosurus cristatus L.
Cynosurus echinatus L.
Cynosurus effusus Link
Cyperus longus L.
Cytinus hypocistis (L.) L.
Cytisus laniger DC.
Cytisus spinosus (L.) Lam.
Dactylis glomerata L. subsp. *hispanica* (Roth) Nyman
Daphne gnidium L.
Dasyphyrum villosum (L.) P. Candargy
Datura ferox L.
Datura inoxia Mill.
Daucus carota L. subsp. *carota*
Daucus carota L. subsp. *drepanensis* (Arcang.) Heywood
Daucus carota L. subsp. *hispanicus* (Gouan) Thell.
Digitaria sanguinalis (L.) Scop. subsp. *sanguinalis*
Dioscorea communis (L.) Caddick & Wilkin
Dipsacus ferox Loisel.
Dittrichia graveolens (L.) Greuter
Dittrichia viscosa (L.) Greuter subsp. *viscosa*
Ecballium elaterium (L.) A. Rich.
Echium italicum L. s.l.
Echium parviflorum Moench
Echium plantagineum L.
Echium vulgare L. s.l.
Eleocharis palustris (L.) Roem. & Schult. subsp. *palustris*
Elytrigia atherica (Link) Kerguélen
Elytrigia elongata (Host) Nevski subsp. *elongata*
Elytrigia juncea (L.) Nevski subsp. *juncea*
Elytrigia repens (L.) Nevski subsp. *repens*
Emex spinosa (L.) Campd.
Epilobium hirsutum L.
Epilobium lanceolatum Sebast. & Mauri
Epilobium tetragonum L. subsp. *tetragonum*
Erica arborea L.
Erigeron bonariensis L.
Erigeron canadensis L.
Erodium botrys (Cav.) Bertol.
Erodium chium (L.) Willd.
Erodium ciconium (L.) L'Hér.
Erodium cicutarium (L.) L'Hér.
Erodium corsicum Léman
Erodium malacoides (L.) L'Hér. subsp. *malacoides*
Erodium moschatum (L.) L'Hér.
Eryngium campestre L.
Eryngium maritimum L.
Erysimum cheiri (L.) Crantz
Eucalyptus camaldulensis Dehnh.
Eudianthe coeli-rosa (L.) Endl.
Eudianthe laeta Rchb. ex Willk.
Euonymus japonicus L. f.
Euphorbia characias L.
Euphorbia dendroides L.
Euphorbia exigua L. subsp. *exigua*
Euphorbia helioscopia L. subsp. *helioscopia*
Euphorbia paralias L.

Euphorbia peplus L.
Euphorbia pinea L.
Euphorbia pithyusa L. subsp. *pithyusa*
Euphorbia pterococca Brot.
Ferula communis L.
Ficus carica L.
Filago asterisciflora (Lam.) Sweet
Filago gallica L.
Filago germanica (L.) Huds.
Filago pygmaea L.
Filago pyramidata L.
Filago tyrrhenica Chrtek & Holub
Foeniculum vulgare Mill. subsp. *piperitum* (Ucria) Count
Frankenia hirsuta L.
Frankenia pulverulenta L. subsp. *pulverulenta*
Fumaria capreolata L. subsp. *capreolata*
Fumaria officinalis L. subsp. *officinalis*
Gagea granatellii (Parl.) Parl.
Galactites tomentosus Moench
Galinsoga parviflora Cav.
Galium aparine L.
Galium divaricatum Lam.
Galium murale (L.) All.
Galium verrucosum Huds. subsp. *halophilum* (Ponzo) Lambinon
Gastroidium ventricosum (Gouan) Schinz & Thell.
Gaudinia fragilis (L.) P. Beauv.
Genista corsica (Loisel.) DC.
Geranium dissectum L.
Geranium lucidum L.
Geranium molle L.
Geranium purpureum Vill.
Gladiolus italicus Mill.
Gladiolus × *byzantinus* Mill.
Glaucium flavum Crantz
Glebionis coronaria (L.) Spach
Glebionis segetum (L.) Fourr.
Glyceria notata Chevall.
Hainardia cylindrica (Willd.) Greuter
Halimione portulacoides (L.) Aellen
Hedypnois rhagadioloides (L.) F.W. Schmidt
Helichrysum microphyllum Cambess. subsp. *tyrrhenicum* Bacch., Brullo & Giusso
Helicodiceros muscivorus (L. f.) Engl.
Heliotropium europaeum L.
Heliotropium supinum L.
Helosciadium nodiflorum (L.) W.D.J. Koch
Hibiscus syriacus L.
Hirschfeldia incana (L.) Lagr.-Foss. subsp. *incana*
Hordeum marinum Huds.
Hordeum murinum L. subsp. *leporinum* (Link) Arcang.
Hyoscyamus albus L.
Hyoseris scabra L.
Hyparrhenia hirta (L.) Stapf subsp. *hirta*
Hypocoum procumbens L. subsp. *procumbens*
Hypericum humifusum L.
Hypericum perforatum L. subsp. *perforatum*
Hypericum tetrapterum Fr.
Hypochaeris achyrophorus L.
Hypochaeris glabra L.
Hypochaeris laevigata (L.) Ces., Pass. & Gibelli
Hypochaeris radicata L.
Iris germanica L.
Isoëtes duriei Bory

Isoetes gymnocarpa (Gennari) A. Braun
Isoetes histrix Bory
Isolepis cernua (Vahl) Roem. & Schult.
Jacobaea maritima (L.) Pelsler & Meijden subsp. *maritima*
Juncus acutus L. subsp. *acutus*
Juncus articulatus L.
Juncus bufonius L.
Juncus capitatus Weigel
Juncus effusus L. subsp. *effusus*
Juncus hybridus Brot.
Juncus maritimus Lam.
Juncus pygmaeus Rich. ex Thuill.
Juncus subulatus Forssk.
Juniperus oxycedrus L.
Juniperus phoenicea L. subsp. *turbinata* (Guss.) Nyman
Kickxia cirrhosa (L.) Fritsch
Kickxia commutata (Bernh. ex Rchb.) Fritsch subsp. *commutata*
Kickxia elatine (L.) Dumort. subsp. *crinita* (Mabille) Greuter
Lagurus ovatus L. subsp. *ovatus*
Lamarckia aurea (L.) Moench
Lamium amplexicaule L.
Lamium bifidum Cirillo subsp. *bifidum*
Lathyrus angulatus L.
Lathyrus aphaca L. subsp. *aphaca*
Lathyrus cicera L.
Lathyrus clymenum L.
Lathyrus ochrus (L.) DC.
Lathyrus sphaericus Retz.
Lavandula stoechas L. subsp. *stoechas*
Legousia falcata (Ten.) Janch.
Legousia hybrida (L.) Delarbre
Lemna gibba L.
Lemna minor L.
Leontodon tuberosus L.
Leucojum roseum F. Martin
Ligustrum lucidum W.T. Aiton
Limbaria crithmoides (L.) Dumort. subsp. *longifolia* (Arcang.) Greuter
Limonium acutifolium (Rchb.) Salmon subsp. *acutifolium*
Limonium glomeratum (Tausch) Erben
Limonium laetum (Nyman) Pignatti
Limonium narbonense Mill.
Linaria pelisseriana (L.) Mill.
Linaria triphylla (L.) Mill.
Linum bienne Mill.
Linum radiola L.
Linum strictum L. subsp. *strictum*
Linum trigynum L.
Lobularia maritima (L.) Desv. subsp. *maritima*
Lolium perenne L.
Lolium rigidum Gaudin s.l.
Lonicera implexa Aiton subsp. *implexa*
Lotus angustissimus L.
Lotus conimbricensis Brot.
Lotus corniculatus L. subsp. *corniculatus*
Lotus creticus L.
Lotus cytisoides L. s.l.
Lotus edulis L.
Lotus ornithopodioides L.
Lotus parviflorus Desf.
Lotus rectus L.
Lupinus gussoneanus Agardh
Lygeum spartum L.

Lysimachia arvensis (L.) U. Manns & Anderb. s.l.
Lysimachia foemina (Mill.) U. Manns & Anderb.
Lysimachia linum-stellatum L.
Lythrum hyssopifolia L.
Magydaris pastinacea (Lam.) Paol.
Malva micans (L.) Alef. subsp. *micans*
Malva multiflora (Cav.) Soldano, Banfi & Galasso
Malva parviflora L.
Malva setigera Schimp. & Spenn.
Malva sylvestris L. subsp. *sylvestris*
Marrubium vulgare L.
Matricaria chamomilla L.
Matthiola incana (L.) R. Br. subsp. *incana*
Matthiola sinuata (L.) R. Br.
Matthiola tricuspidata (L.) R. Br.
Medicago arabica (L.) Huds.
Medicago intertexta (L.) Mill.
Medicago littoralis Loisel.
Medicago lupulina L.
Medicago marina L.
Medicago minima (L.) L.
Medicago murex Willd.
Medicago orbicularis (L.) Bartal.
Medicago polymorpha L.
Medicago rigidula (L.) All.
Medicago rugosa Desr.
Medicago sativa L.
Medicago truncatula Gaertn.
Melica ciliata L. subsp. *ciliata*
Melica ciliata L. subsp. *magnolii* (Gren. & Godr.) K. Richt.
Melica minuta L. subsp. *minuta*
Melilotus elegans Ser.
Melilotus indicus (L.) All.
Melilotus neapolitanus Ten.
Melilotus siculus (Turra) B.D. Jacks.
Melilotus sulcatus Desf.
Melittis melissophyllum L. s.l.
Mentha pulegium L. subsp. *pulegium*
Mentha × *piperita* L.
Mercurialis annua L.
Mesembryanthemum nodiflorum L.
Misopates orontium (L.) Raf.
Moehringia pentandra Gay
Moenchia erecta (L.) G. Gaertn., B. Mey. & Scherb. s.l.
Montia fontana L. subsp. *amporitana* Sennen
Moraea sisyrrinchium (L.) Ker Gawl.
Morus alba L.
Muscari comosum (L.) Mill.
Myoporum insulare R.Br.
Myosotis ramosissima Rochel subsp. *ramosissima*
Myriophyllum spicatum L.
Myrtus communis L. subsp. *communis*
Nananthea perpusilla (Loisel.) DC.
Narcissus obsoletus (Haw.) Steud.
Narcissus tazetta L. subsp. *tazetta*
Nasturtium officinale R. Br. subsp. *officinale*
Nerium oleander L. subsp. *oleander*
Neslia paniculata (L.) Desv. subsp. *paniculata*
Notobasis syriaca (L.) Cass.
Oenanthe crocata L.
Oenanthe globulosa L.
Oenothera sinuosa W.L.Wagner & Hoch

Olea europaea L.
Olea europaea L. var. *sylvestris* Brot.
Ononis reclinata L.
Ononis spinosa L. s.l.
Onopordum horridum Viv.
Ophioglossum lusitanicum L.
Ophrys tenthredinifera Willd.
Opuntia ficus-indica (L.) Mill.
Ornithogalum corsicum Jord. & Fourr.
Ornithopus compressus L.
Ornithopus pinnatus (Mill.) Druce
Orobanche amethystea Thuill.
Orobanche australis Bertol.
Orobanche crenata Forssk.
Orobanche hederæ Duby
Orobanche minor Sm.
Orobanche nana (Reut.) Beck
Orobanche sanguinea C. Presl
Osmunda regalis L.
Oxalis pes-caprae L.
Oxalis purpurata Jacq.
Paeonia morisii Cesca, Bernardo & N.G. Passal.
Pallenis spinosa (L.) Cass. subsp. *spinosa*
Pancreatium illyricum L.
Pancreatium maritimum L.
Papaver dubium L. subsp. *dubium*
Papaver hybridum L.
Papaver rhoeas L. subsp. *rhoeas*
Papaver somniferum L.
Parapholis filiformis (Roth) C.E. Hubb.
Parapholis incurva (L.) C.E. Hubb. subsp. *incurva*
Parentucellia latifolia (L.) Caruel
Parentucellia viscosa (L.) Caruel
Parietaria judaica L.
Parietaria lusitanica L. subsp. *lusitanica*
Paronychia echinulata Chater
Paspalum distichum L.
Passiflora caerulea L.
Petrorhagia dubia (Raf.) G. López & Romo
Petrorhagia prolifera (L.) P.W. Ball & Heywood
Phagnalon rupestre (L.) DC. s.l.
Phagnalon saxatile (L.) Cass.
Phalaris canariensis L.
Phalaris coerulescens Desf.
Phalaris minor Retz.
Phalaris paradoxa L.
Phedimus stellatus (L.) Raf.
Phillyrea angustifolia L.
Phillyrea latifolia L.
Phoenix canariensis Chabaud
Phoenix dactylifera L.
Phragmites australis (Cav.) Trin. ex Steud. s.l.
Pinus canariensis C. Sm.
Pinus halepensis Mill. subsp. *halepensis*
Pinus pinaster Aiton subsp. *pinaster*
Pinus pinea L.
Piptatherum miliaceum (L.) Coss. subsp. *miliaceum*
Pistacia lentiscus L.
Pittosporum tobira (Thunb.) W.T. Aiton
Plantago afra L. s.l.
Plantago albicans L.
Plantago bellardii All.

Plantago coronopus L.
Plantago lagopus L.
Plantago lanceolata L.
Plantago macrorhiza Poir.
Plantago weldenii Rchb.
Platycladus orientalis (L.) Franco
Poa annua L.
Poa trivialis L. subsp. *trivialis*
Polycarpon tetraphyllum (L.) L. subsp. *alsinifolium* (Biv.) Ball
Polycarpon tetraphyllum (L.) L. subsp. *tetraphyllum*
Polygonum aviculare L. subsp. *aviculare*
Polygonum maritimum L.
Polypodium cambricum L.
Polypogon monspeliensis (L.) Desf.
Polypogon subspathaceus Req.
Polypogon viridis (Gouan) Breistr.
Populus alba L.
Populus nigra L.
Portulaca oleracea L. subsp. *oleracea*
Posidonia oceanica (L.) Delile
Poterium sanguisorba L. subsp. *balearicum* (Bourg. ex Nyman) Stace
Prasium majus L.
Prospero autumnalis (L.) Speta subsp. *autumnalis*
Prospero obtusifolia (Poir.) Speta subsp. *intermedia* (Guss.) Soldano & F. Conti
Prunus avium L. subsp. *avium*
Prunus cerasus L.
Prunus persica (L.) Batsch
Psilurus incurvus (Gouan) Schinz & Thell.
Pteridium aquilinum (L.) Kuhn subsp. *aquilinum*
Puccinellia festuciformis (Host) Parl. subsp. *lagascana* M.A. Juliá & J.M. Monts.
Pulicaria odora (L.) Rchb.
Quercus congesta C. Presl
Quercus ilex L. subsp. *ilex*
Quercus suber L.
Ranunculus bullatus L.
Ranunculus cordiger Viv. subsp. *diffusus* (Moris) Arrigoni
Ranunculus muricatus L.
Ranunculus ophioglossifolius Vill.
Ranunculus parviflorus L.
Ranunculus peltatus Schrank subsp. *baudotii* (Godr.) C.D.K. Cook
Ranunculus peltatus Schrank subsp. *fucoides* (Freyn) Muñoz Garm.
Ranunculus sardous Crantz s.l.
Ranunculus trichophyllus Chaix subsp. *trichophyllus*
Raphanus raphanistrum L. subsp. *raphanistrum*
Rapistrum rugosum (L.) All.
Reichardia picroides (L.) Roth
Reseda alba L. s.l.
Reseda lutea L. subsp. *lutea*
Rhagadiolus stellatus (L.) Gaertn.
Rhamnus alaternus L. subsp. *alaternus*
Ricinus communis L.
Robinia pseudoacacia L.
Romulea columnae Sebast. & Mauri
Romulea ligustica Parl.
Romulea ramiflora Ten. subsp. *ramiflora*
Romulea requienii Parl.
Rosmarinus officinalis L.
Rostraria cristata (L.) Tzvelev
Rostraria pubescens (Lam.) Trin.
Rubia peregrina L. subsp. *peregrina*
Rubus ulmifolius Schott
Rumex bucephalophorus L. subsp. *bucephalophorus*

Rumex conglomeratus Murray
Rumex crispus L.
Rumex pulcher L. subsp. *pulcher*
Ruppia maritima L.
Ruscus aculeatus L.
Ruscus hypoglossum L.
Ruta chalepensis L.
Sagina apetala Ard. subsp. *apetala*
Sagina maritima Don
Salicornia patula Duval-Jouve
Salix alba L.
Salsola soda L.
Salsola tragus L. subsp. *pontica* (Pall.) Rilke
Salsola vermiculata L.
Salvia verbenaca L.
Samolus valerandi L.
Sarcocornia fruticosa (L.) A.J. Scott
Sarcocornia perennis (Mill.) A.J. Scott subsp. *perennis*
Saxifraga tridactylites L.
Scandix pecten-veneris L. subsp. *pecten-veneris*
Schedonorus arundinaceus (Schreb.) Dumort. s.l.
Schenkia spicata (L.) G. Mans.
Schinus molle L.
Schoenus nigricans L.
Scirpoides holoschoenus (L.) Soják subsp. *australis* (Murray) Soják
Scolymus hispanicus L. subsp. *hispanicus*
Scorpiurus muricatus L.
Scrophularia peregrina L.
Scrophularia trifoliata L.
Sedum andegavense (DC.) Desv.
Sedum caeruleum L.
Sedum litoreum Guss.
Sedum rubens L.
Selaginella denticulata (L.) Spring
Senecio angulatus L. f.
Senecio leucanthemifolius Poir. subsp. *leucanthemifolius*
Senecio lividus L.
Senecio vulgaris L.
Serapias lingua L.
Sherardia arvensis L.
Sideritis romana L. subsp. *romana*
Silene beguinotii Vals.
Silene canescens Ten.
Silene colorata Poir.
Silene gallica L.
Silene inaperta L.
Silene nodulosa Viv.
Silene nummica Vals.
Silene succulenta Forssk. subsp. *corsica* (DC.) Nyman
Silene vulgaris (Moench) Garcke subsp. *tenoreana* (Colla) Soldano & F. Conti
Silene vulgaris (Moench) Garcke subsp. *vulgaris*
Silybum marianum (L.) Gaertn.
Sisymbrium officinale (L.) Scop.
Sixalix atropurpurea (L.) Greuter & Burdet subsp. *grandiflora* (Scop.) Soldano & F. Conti
Smilax aspera L.
Smyrniolum olusatrum L.
Solanum nigrum L.
Solanum villosum Mill.
Solenopsis laurentia (L.) C. Presl
Sonchus asper (L.) Hill subsp. *asper*
Sonchus bulbosus (L.) N. Kilian & Greuter subsp. *bulbosus*
Sonchus oleraceus L.

Sonchus tenerrimus L.
Sorghum halepense (L.) Pers.
Spartium junceum L.
Spergula arvensis L.
Spergularia rubra (L.) J. Presl & C. Presl
Spergularia salina J. Presl & C. Presl
Sporobolus virginicus (L.) Kunth
Stachys arvensis (L.) L.
Stachys glutinosa L.
Staphisagria picta (Willd.) Jabbour
Stellaria media (L.) Vill. subsp. *media*
Stipa capensis Thunb.
Suaeda maritima (L.) Dumort.
Sulla coronaria (L.) Medik.
Symphotrichum squamatum (Spreng.) G.L. Nesom
Syringa vulgaris L.
Tamarix africana Poir.
Tamarix dalmatica Baum
Tamarix tetragyna Ehrenb.
Taraxacum officinale W.W. Weber ex F.H. Wigg. s.l.
Teucrium marum L.
Teucrium massiliense L.
Theligonum cynocrambe L.
Thymelaea hirsuta (L.) Endl.
Tolpis umbellata Bertol.
Tordylium apulum L.
Torilis helvetica (Jacq.) C.C. Gmel.
Torilis nodosa (L.) Gaertn.
Trachynia distachya (L.) Link
Tribulus terrestris L.
Trifolium angustifolium L. subsp. *angustifolium*
Trifolium arvense L. subsp. *arvense*
Trifolium bocconeii Savi
Trifolium campestre Schreb.
Trifolium cherleri L.
Trifolium fragiferum L. subsp. *fragiferum*
Trifolium glomeratum L.
Trifolium incarnatum L. subsp. *molinerii* (Hornem.) Ces.
Trifolium lappaceum L.
Trifolium ligusticum Loisel.
Trifolium micranthum Viv.
Trifolium nigrescens Viv. subsp. *nigrescens*
Trifolium ochroleucon Huds.
Trifolium pratense L. s.l.
Trifolium repens L.
Trifolium resupinatum L.
Trifolium scabrum L. subsp. *scabrum*
Trifolium spumosum L.
Trifolium squamosum L.
Trifolium squarrosum L.
Trifolium stellatum L.
Trifolium subterraneum L.
Trifolium suffocatum L.
Trifolium tomentosum L.
Triglochin barbelieri Loisel.
Tripolium pannonicum (Jacq.) Dobrocz. subsp. *pannonicum*
Triticum ovatum (L.) Raspail
Tropaeolum majus L.
Tuberaria guttata (L.) Fourr.
Typha angustifolia L.
Ulmus minor Mill. subsp. *minor*
Umbilicus horizontalis (Guss.) DC.

Umbilicus rupestris (Salisb.) Dandy
Urospermum dalechampii (L.) F.W. Schmidt
Urospermum picroides (L.) Scop. ex F.W. Schmidt
Urtica membranacea Poir. ex Savigny
Urtica pilulifera L.
Urtica urens L.
Vachellia karroo (Hayne) Banfi & Galasso
Valantia muralis L.
Valerianella microcarpa Loisel.
Verbascum conocarpum Moris subsp. *conocarpum*
Verbascum creticum (L.) Kuntze
Verbascum pulverulentum Vill.
Veronica cymbalaria Bodard subsp. *cymbalaria*
Vicia bithynica (L.) L.
Vicia disperma DC.
Vicia faba L.
Vicia glauca C. Presl subsp. *glauca*
Vicia lathyroides L.
Vicia lutea L.
Vicia narbonensis L. s.l.
Vicia sativa L. subsp. *nigra* (L.) Ehrh.
Vicia tetrasperma (L.) Schreb.
Vicia villosa Roth subsp. *villosa*
Vincetoxicum hirundinaria Medik. subsp. *contiguum* (W.D.J. Koch) Markgr.
Vitex agnus-castus L.
Vitis vinifera L. subsp. *vinifera*
Vulpia fasciculata (Forssk.) Fritsch
Vulpia ligustica (All.) Link
Vulpia myuros (L.) C.C. Gmel. subsp. *myuros*
Xanthium spinosum L.
Zannichellia palustris L. s.l.
Zantedeschia aethiopica (L.) Spreng.

