

A checklist of the flowering plants and ferns of
Peramagroon

v1 2015



Acknowledgements

Many people have contributed time and expertise to this checklist.

In particular, we would like to thank - Nabeel A. Abdulhassan, Anna Bachmann, Carl Berthold, Dr Alan Forrest, Awara Hamankhan, Dr Sabina Knees, Professor Lytton John Musselman, Christine Page, Dr Sarbargh Salih, Dr Ihsan Al-Shehbaz

Tony Miller, Awara Hamakhan, Saman A. Ahmed & Sophie Neale

A checklist of the flowering plants and ferns of Peramagroon

Background

Peramagroon is a narrow mountain range located, at its closest, 20 km northwest of the city of Sulaimani, in the Sulaimani Governorate of Kurdistan, Northern Iraq. The range forms a long ridge which runs in a SE to NW direction and covers some 167 km² centred on 35° 45' 37"N 45° 14' 22"E and reaches 2613m at its highest point. The rocks are mainly of marls, shale and limestone of Cretaceous and Eocene age and there is a small lava flow which spreads onto the plain from the western escarpment. There are three main zones of natural vegetation: riverine woodland, oak forests (1000-1800m) and subalpine (above 1800m).

Method

Data for the checklist was gathered from the following sources: species accounts in the Flora of Iraq (Ghazanfar 1966-) and Flora Iranica (Rechinger 1963-); an unpublished MSc thesis (Faris 1983); a brief survey of literature; specimens held in the herbaria of the Royal Botanic Garden Edinburgh and Royal Botanic Gardens Kew and recent field collections and observations. A provisional list of flowering plants and ferns was then assembled. The records were placed in a data base with the source of each record recorded.

The Checklist

A total 811 plant taxa were recorded from Peramagroon. This list must be considered provisional: the taxonomic status of 26 taxa is uncertain and 17 taxa are only known from single collections made over 150 years ago. Five new (as yet undescribed) species were found: a *Sedum* (Crassulaceae) a *Pteroccephalus* (Dipsacaceae), an *Orobanche* (Orobanchaceae) and two species of *Allium* (Alliaceae). Of the c.120 plants endemic to Iraq 19 (22.8%) are found on Peramagroon (see fig 1.) and five species are endemic to Peramagroon (see fig. 2). The field surveys carried by Nature Iraq and RBG Edinburgh during the Darwin surveys found 289 plants not previously recorded on the mountain. These surveys failed to locate 155 species recorded in the literature from Peramagroon. There are various reasons for this. The most important being that the sub-alpine zone was probably not sufficiently surveyed at the right times of year. Certain plants found by Faris in the 1980s were not located during the recent surveys. Perhaps the most notable of these is *Primula gaubaeana* Bornm. which is not known elsewhere in Iraq.

Fig .1 Iraqi Endemic plants found on Peramagroon

<i>Anthemis micrantha</i> Boiss. & Hausskn.	<i>Camelinopsis kurdica</i> (A.G.Mill.) Al-Shehb. & A.G.Mill.
<i>Centaurea gudrunensis</i> Boiss. & Hausskn.	<i>Astracantha zoharyi</i> (Eig) Podlech
<i>Cousinia gigantospaera</i> Rech.f.	<i>Alcea kurdica</i> (Schlecht.) Alef.
<i>Cousinia macrolepis</i> Boiss. & Hausskn.	<i>Acantholimon petraeum</i> Bunge
<i>Cousinia mazu-shirinensis</i> Rech.f.	<i>Delphinium micranthum</i> Boiss. & Hohen.
<i>Alyssum penjwinense</i> Dudley	<i>Asperula friabilis</i> Schönb.-Tem.

Scrophularia kurdica Eig
Leutea rechingeri (Leute) M. Pimen.
Pimpinella hadacii Engstrand
Ornithogalum iraqense Feinbr.

Ornithogalum kurdicum Bornm.
Scilla kurdistanica Speta
Fritillaria crassifolia Boiss. & Huet

Fig. 2 Plants endemic to Peramagroon

Anthemis micrantha Boiss. & Hausskn.
Centaurea gudrunensis Boiss. & Hausskn.
Cousinia macrolepis Boiss. & Hausskn.

Astracantha zoharyi (Eig) Podlech
Pimpinella hadacii Engstrand
Cousinia gigantospaera Rech.f.

Botanical Importance of Peramagroon

The mountain range supports a rich biodiversity of national and international importance. It is included within the Irano-Anatolian Biodiversity Hotspot, one of a network of 34 sites throughout the world recognised by Conservation International to have a rich biodiversity. It also lies within the Zagros Mountains Forest Steppe Ecoregion which the World Wildlife Fund designates as a critically threatened habitat and hotspot. Peramagroon Mountain itself is recognised by Bird Life International as an Important Bird Area and has been identified as a Key Biodiversity Area by Nature Iraq.

The total species of flowering plants and ferns in Iraq is estimated at 3300. Of these 811, that is 24.5%, occur on Peramagroon. The total land area of Iraq is 435052 Km². The total land area of Peramagroon is 167 Km² which is 0.038% of the total land area of Iraq. Of the c.120 plants endemic to Iraq 19 (22.8%) are found on Peramagroon.

This means that:

- Almost 25% of Iraqi plants are found on Peramagroon which represents less than one hundredth of the land area of Iraq
- Over 20% of the plants only found in Iraq are found on Peramagroon

References

Faris, Y.S. (1983). The vascular plants of Pira Magrun mountain. MSc thesis submitted to the College of Science University of Salahaddin, Iraq.

Rechinger, K.H., ed., (1963-). Flora Iranica: Flora des iranischen Hochlandes und der umrahmenden Gebirge, Graz, Austria.

Ghazanfar, S.A., et al. (present editor) (1966-). Flora of Iraq, Ministry of Agriculture, Baghdad, Iraq & Royal Botanic Gardens, Kew, UK.

<http://www.conservation.org/How/Pages/Hotspots.aspx>

<http://www.worldwildlife.org/biomes>

<http://www.birdlife.org/worldwide/programmes/important-bird-and-biodiversity-areas-ibas>

<http://www.natureiraq.org/key-biodiversity-areas.html>

DICOTS**ACANTHACEAE**

Acanthus dioscoridis L.

ACERACEAE

Acer monspessulanum L.

ADOXACEAE

Sambucus ebulus L.

AMARANTHACEAE

Amaranthus graecizans L.

ANACARDIACEAE

Pistacia eurycapa Yalt.

Pistacia khinjuk Stocks

Rhus coriaria L.

APOCYNACEAE

Periploca graeca L.

ARALIACEAE

Hedera helix L.

ARISTOLOCHIACEAE

Aristolochia bottae Jaub. & Spach.

BERBERIDACEAE

Bongardia chrysogonum (L.) Spach

Leontice leontopetalum L.

BIEBERSTEINIACEAE

Biebersteinia multifida DC.

BORAGINACEAE

Anchusa azurea Mill. = *Anchusa italica*

Anchusa italica Retz.

Anchusa strigosa Banks & Sol.

Asperugo procumbens L.

Brunnera orientalis (Schenk) I.M. Johnston.

Buglissoides arvense (L.) I.M. Johnston = *Lithospermum arvense*

Buglissoides incrassatum (Guss.) I.M. Johnston = *Lithospermum incrassatum*

Echium italicum L.

Heliotropium lasiocarpum Fisch. & C.A.Mey.

Lappula sinaica (A.DC.) Asch. & Schweinf.

Lithospermum arvense L.

Lithospermum incrassatum Guss.

Lithospermum tenuiflorum L.f.

Myosotis laxa Lehm.

Myosotis ramosissima Rochel

Myosotis refracta Boiss.

Myosotis sparsifolia J.C.Mikan ex Pohl

Onosma albo-rosea Fisch. & C.A.Mey.

Onosma haussknechtii Bornm.

Onosma lanceolata Boiss. & Hausskn.

Onosma latifolia Boiss. & Hausskn.

Onosma ovalifolia Kotschy & Boiss.

Onosma rascheyana Boiss.

Onosma rostellatum Lehm.

Onosma sericeum Willd.

Onosma trachytricha Boiss.

Paracaryum intermedium (Fresen.) Lisky

Phyllocara aucheri (A.DC.) Gusuleac

Rindera lanata (Lam.) Bunge

Rochelia disperma (L.f.) K. Koch

Rochelia persica Bunge ex Boiss.

Solenanthus circinatus Ledeb.

Symphytum kurdicum Boiss. & Hausskn.

Trichodesma incanum (Bunge) A. DC.

CAMPANULACEAE

Asyneuma persicum (A.DC.) Bornm.

Campanula acutiloba Vatke

Campanula erinus L.

Campanula flaccidula Vatke

Campanula perpusilla A.DC.

Campanula propinqua Fisch. & C.A.Mey.

Campanula reuteriana Boiss. & Balansa = *Campanula propinqua*

Campanula sclerotricha Boiss.

Legousia falcata (Ten.) Fritsch ex Janch.

Mindium laevigatum (Vent.) Rech.f. & Schiman-Czeika

CAPPARACEAE

Cleome noena Boiss.

CAPRIFOLIACEAE

Lonicera arborea Boiss.

CARYOPHYLLACEAE

Acanthophyllum kurdicum Boiss. & Hausskn.

Ankyropetalum gyposophilloides Fenzl

Arenaria leptoclados (Reichenb.) Guss. = *Arenaria serpyllifolia* subsp. *leptoclados*

Arenaria serpyllifolia L.

Buffonia oliveriana Ser.

Cerastium dichotomum L.

Cerastium glomeratum Thuill.

Dianthus orientalis Adams

Dianthus pendulus Boiss. & Blanche

Dianthus strictus Banks & Sol.

Gypsophila boissieriana Hausskn. & Bornm.

Gypsophila polyclada Fenzl ex Boiss.

Habrosia spinulifera (Ser.) Boiss.

Holosteam umbellatum L.

Lepyrodiclis holostioides (C.A. Mey.) Fenzl

Lepyrodiclis paniculata Stapf = *Mesostemma kotschyana*

Mesostemma kotschyanum (Fenzl ex Boiss.) Vved.

Minuartia hamata (Hausskn.) Mattf.

Minuartia hybrida (Vill.) Schischkin

Minuartia meyeri (Boiss.) Bornm.

Paronychia kurdica Boiss.

Petrorhagia cretica (L.) Ball & Heywood

Silene ampullata Boiss.

Silene araratica Schischk.

Silene atociodes Boiss. = *Silene aegyptiaca*

Silene chlorifolia Sm.

Silene commelinifolia Boiss.

Silene conoidea L.

Silene dichotoma Ehrh.

Silene latifolia Poir.
 Silene montbretiana Boiss.
 Silene piri Faris & Musawi ined
 Silene propinqua Schischk.
 Silene schizopetala Bornm.
 Silene swertiifolia Boiss.
 Stellaria media (L.) Vill.
 Vaccaria grandiflora (Fisch. ex DC.) Jaub. & Spach
 Vaccaria pyramidata Medik. = Vaccaria grandiflora
 Velezia rigida L.

CERATOPHYLLACEAE

Ceratophyllum demersum L.

CHENOPODIACEAE

Chenopodium album L.
 Chenopodium opulifolium Schrad. ex W.D.J.Koch & Ziz
 Chenopodium vulvaria L.
 Noaea mucronata (Forssk.) Aschers. & Schweinf.
 Salsola canescens (Moq.) Boiss.

CISTACEAE

Helianthemum ledifolium (L.) Mill.
 Helianthemum salicifolium (L.) Mill.

COMPOSITAE

Achillea arabica Kotschy
 Achillea biebersteini Hub.-Mor. = Achillea arabica
 Achillea Eig DC.
 Anacyclus nigellifolius Boiss.
 Anthemis brevicuspis Bornm.
 Anthemis feinbruniae Eig. = Anthemis brevicuspis
 Anthemis haussknechtii Boiss. & Reut.
 Anthemis hyalina DC.
 Anthemis micrantha Boiss. & Hausskn.
 Anthemis odontostephana var tubicina Boiss.
 Anthemis pseudocotula Boiss.
 Anthemis schizostephana Boiss. & Hausskn.
 Anthemis tinctoria L. = Cota tinctoria
 Anthemis tubicina Boiss. & Hausskn. = Anthemis
 odontostephana var tubicina
 Arctium minus (Hill) Bernh.
 Artemisia haussknechtii Boiss.
 Carduus argentatus L.
 Carduus pycnocephalus L.
 Carlina kurdica Meusel & Kästner
 Carthamus lanatus L.
 Carthamus oxycantha M. Bieb.
 Centaurea aggregata Fisch. & C. A. Mey.
 Centaurea aucheri (DC.) Wagenitz
 Centaurea behen L.
 Centaurea bruguieriana (DC.) Hand.-Mazz.
 Centaurea cardunculus .Mazz. = Centaurea regia subsp.
 cynarocephala
 Centaurea deinacantha Boiss. & Hausskn. = Centaurea
 urvillei subsp. deinacantha
 Centaurea gudrunensis Boiss. & Hausskn.
 Centaurea hyalolepis Boiss.
 Centaurea iberica Trev. ex Sprengel
 Centaurea irritans Wagenitz
 Centaurea ochrocephala Wagenitz
 Centaurea persica Boiss.
 Centaurea regia Boiss.
 Centaurea rhizantha C.A. Mey.
 Centaurea rigida Banks & Sol.
 Centaurea solstitialis L.
 Centaurea triumphetii All.

Centaurea urvillei DC.
 Centaurea virgata Lam.
 Cephalorrhynchus microcephalus (DC.) Schchian = Lactuca
 microcephala
 Cephalorrhynchus rechingerianum Tuisl = Lactuca
 rechingeriana
 Chardinia orientalis (L.) Kuntze
 Cichorium pumilum Jacq.
 Cichorium intybus L.
 Cirsium congestum Fisch. & C. A. Mey.
 Cirsium libanoticum DC.
 Cnicus benedictus L. = Centaurea benedicta
 Conyza canadensis (L.) Cronquist
 Cota tinctoria (L.) J.Gay
 Cousinia gigantospaera Rech.f.
 Cousinia haussknechtii C. Winkl.
 Cousinia kopetdaghensis Iljin
 Cousinia macrolepis Boiss. & Hausskn.
 Cousinia mazu-shirinensis Rech.f.
 Cousinia straussii Hausskn. & C. Winkl.
 Crepis alpina L.
 Crepis foetida L.
 Crepis kotschyana (Boiss.) Boiss.
 Crepis micrantha Czerep.
 Crepis pulchra L.
 Crepis sancta (L.) Babcock
 Crupina crupinastrum (Moris) Vis.
 Crupina intermedia (Mutel) Walp.
 Cymbolaena griffithii (A.Gray) Wagenitz
 Echinops bithynicus Boiss. = Echinops spinosissimus subsp.
 bithynicus
 Echinops blancheanus Boiss. = Echinops polyceras
 Echinops Echinops spinosissimus subsp. bithynicus
 (Boiss.) Greuter
 Echinops inermis Boiss. & Hausskn.
 Echinops parviflorus Boiss. & Buhse
 Echinops sp A
 Echinops sp B
 Echinops tenuisectus Rech.f.
 Eclipta prostrata (L.) L.
 Erigeron amorphoglossum Boiss. = Psychogeton
 amorphoglossus
 Filago arvensis L.
 Garhadiolus hedypnois Jaub. & Spach
 Gundelia tournefortii L.
 Helichrysum armenium var glanduliferum Sch.Bip. =
 Helichrysum glanduliferum
 Helichrysum glanduliferum Sch.Bip. Ex Sch.Bip.
 Jurinea carduiformis (Jaub. & Spach) Boiss.
 Klasea cerinthifolia (Sm.) Greuter & Wagenitz
 Klasea grandifolia (P.H.Davis) Greuter & Wagenitz
 Lactuca orientalis (Boiss.) Boiss.
 Lactuca aculeata Boiss. & Kotschy
 Lactuca microcephala DC.
 Lactuca rechingeriana (Tuisl) N.Kilian & Greuter
 Lactuca saligna L.
 Lactuca scarioloides Boiss.
 Lactuca tuberosus (Jacq.) Grossh.
 Lactuca viminea (L.) J.Presl & C.Presl
 Lapsana communis subsp. grandiflora (M.Bieb.) P.D.Sell
 Lapsana grandiflora M.Bieb. = Lapsana communis subsp.
 grandiflora
 Notobasis syriaca (L.) Cass.
 Onopordon charduchorum Bornm. & Beauverd
 Outreya carduiformis Jaub. & Spach
 Picnomon acarna (L.) Cass.
 Picris strigosa M. Bieb.
 Psychogeton amorphoglossus (Boiss.) Novopokr.

Psychrogeton nigromontanus (Boiss. & Buhse) Grierson
 Pulicaria dysenterica (L.) Gaertn.
 Pulicaria gnaphalodes (Vent.) Boiss.
 Rhagadiolus angulosus (Jaub. & Spach) Kupicha =
 Garhadiolus hedynois
 Rhagadiolus edulis Gaertn.
 Rhagadiolus stellatus (L.) Gaertn.
 Scariola orientalis (Boiss.) Sojak = Lactuca orientalis
 Scariola viminea (L.) F.W. Schmidt = Lactuca viminea
 Scorzoneria bulbipes Boiss. & Hausskn. ex Boiss. &
 Hausskn. = Scorzoneria incisa
 Scorzoneria incisa DC.
 Scorzoneria latifolia (Fisch. & C.A.Mey.) DC.
 Scorzoneria papposa DC.
 Scorzoneria phaeopappa (Boiss.) Boiss.
 Scorzoneria semicana DC.
 Scorzoneria syriaca Boiss. & Blanche = Scorzoneria
 semicana
 Scorzoneria veratrifolia Fenzl
 Senecio doriiformis DC.
 Senecio leucanthemifolius Poir.
 Senecio vernalis Waldst. & Kitabel = Sen. Leucanthifolius
 var vernalis
 Serratula cerinthifolia (Sm.) Boiss. = Klasea cerinthifolia
 Serratula grandifolia P.H. Davis = Klasea grandifolia
 Silybum marianum (L.) Gaertn.
 Sonchus asper (L.) Hill.
 Steptorhamphus tuberosus (Jacq.) Gross. = Lactuca
 tuberosus
 Tanacetum argyrophyllum (C. Koch) Tzvel. = Tanacetum
 polycephalum
 Tanacetum kotschyi Boiss
 Tanacetum polycephalum Schulz-Bip.
 Taraxacum sp. 1
 Taraxacum sp. 2
 Tragopogon bupthalmoides (DC.) Boiss.
 Tragopogon coelosyriacus Boiss. = Tragopogon porrifolius
 subsp. longirostris
 Tragopogon porrifolius ssp. longirostris (Sch.Bip.)
 Greuter
 Tripleurospermum microcephalum (Boiss.) Bornm.
 Urospermum picroides (L.) Scop.
 Xanthium strumarium L.
 Xeranthemum annuum L.
 Xeranthemum cylindricum Spreng.
 Xeranthemum squarrosus Boiss. = Xeranthemum annuum
 Zoegia lepturea L.

CONVOLVULACEAE

Convolvulus arvensis L.
 Convolvulus stachydifolium Choisy
 Cuscuta lehmanniana Bunge

CRASSULACEAE

Rosularia sempervivum (M. Bieb.) Berger
 Sedum hispanicum L.
 Sedum sp nov
 Umbilicus horizontalis (Guss.) DC.
 Umbilicus intermedius Boiss. = Umbilicus horizontalis var
 intermedius
 Umbilicus tropaeolifolius Boiss.

CRUCIFERAE

Aethionema arabicum (L.) Andr. ex DC.
 Aethionema carneum (Banks & Sol.) B.Fedtsch.
 Aethionema grandiflorum Boiss. & Hohen.
 Alyssum penjwinense Dudley
 Alyssum stapfii Vierh.
 Alyssum strictum Willd.

Alyssum strigosum Banks & Sol.
 Alyssum szowitziaum Fisch. & C. A. Mey.
 Anchonium elichrysofolium (DC.) Boiss.
 Arabis aucheri Boiss.
 Arabis auriculata Lam. = Arabis nova
 Arabis caucasica Willd.
 Arabis nova Vill.
 Aubrieta parviflora Boiss.
 Biscutella didyma L.
 Brossardia papyracea Boiss. = Noccaea papyracea
 Calepina irregularis (Asso) Thell.
 (Bornm. & Gauba) A. G. Miller
 Camelinopsis campylopoda subsp. kurdica A.G.Mill. =
 Camelinopsis kurdica
 Camelinopsis kurdica (A.G.Mill.) Al-Shehbaz &
 A.G.Mill.
 Capsella bursa-pastoris (L.) Medik.
 Cardamine hirsuta L.
 Clypeola aspera (Grauer) Turrill
 Clypeola jonthlaspi L.
 Clypeola lappacea Boiss.
 Conringia perfoliata
 Draba nuda (Bél.) Al-Shehbaz & M.Koch
 Draba verna L. = Erophila nuda
 Erophila minima C.A.Mey.
 Erophila verna (L.) DC.
 Eruca sativa Mill.
 Erysimum gladiferum Boiss. & Hausskn.
 Erysimum kurdicum Boiss. & Hausskn.
 Erysimum repandum L.
 Fibigia clypeata (L.) Medik.
 Fibigia suffruticosa (Vent.) Sweet
 Graellsia saxifragifolia (DC.) Boiss.
 Hesperis odorata F.Dvořák
 Hirschfeldia incana (L.) Lagr.-Foss.
 Isatis buschiana Schischk.
 Isatis cappadocica Desv.
 Isatis lusitanica L.
 Isatis tinctoria L.
 Lepidium draba L.
 Nasturtium officinale R.Br.
 Neslia apiculata Fisch., C.A.Mey. & Avé-Lall.
 Noccaea papyracea (Boiss.) Khosravi, Mummenhoff &
 Mohsenzadeh
 Parlatoria cakiloidea Boiss.
 Sameraria stylophora (Jaub. & Spach) Boiss.
 Sinapis arvensis L.
 Sisymbrium officinale (L.) Scop.
 Sisymbrium septulatum DC.
 Thlaspi perfoliatum L.

CUCURBITACEAE

Bryonia multiflora Boiss.

CYNOCRAMBACEAE

Theligonium cynocrambe L.

DIPSACACEAE

Cephalaria dichaeophora Boiss.
 Cephalaria setosa Boiss. & Hohen.
 Cephalaria syriaca (L.) Schrader
 Dipsacus laciniatus L.
 Lomelosia palestina (L.) Raf.
 Pterocephalus brevis Coult. ex DC.
 Pterocephalus canus Coult. ex DC.
 Pterocephalus pyrethrifolius Boiss. & Hohen.
 Pterocephalus sp nov

Scabiosa macrochaete Boiss. & Hausskn.
Scabiosa palestina L. = Tremalstema palestinum
Tremastelma palestinum (L.) Janchen

EUPHORBIACEAE

Chrozophora tinctoria (L.) A. Juss.
Euphorbia aucheri Boiss.
Euphorbia chamaesyce L.
Euphorbia condylocarpa M. Bieb.
Euphorbia denticulata Lam.
Euphorbia falcata L.
Euphorbia helioscopia L.
Euphorbia macroclada Boiss.
Euphorbia phymatosperma Boiss.
Euphorbia szovitsii Fisch. & C.A.Mey.

FABACEAE

Anagyris foetida L.
Astracantha adscendens (Boiss. & Hausskn.) Podlech
Astracantha aff acetabulosa (C.C.Towns.) Podlech
Astracantha amblolepis (Fisch.) Podlech
Astracantha basianicus (Boiss. & Hausskn.) Podlech
Astracantha caspica (M.Bieb.) Podlech
Astracantha cephalotes (Banks & Sol.) Podl.
Astracantha compacta (Lam.) Podl.
Astracantha garaensis (Sirj.) Podlech
Astracantha gossypina (Fisch.) Podlech
Astracantha michauxiana (Boiss.) Podlech
Astracantha microcephala (Willd.) Podlech
Astracantha octopus (C.C.Towns.) Podlech
Astracantha rhodochroa (Boiss. & Hausskn.) Podlech
Astracantha zoharyi (Eig) Podlech
Astragalus adscendens Boiss. & Hausskn. = Astracantha adscendens
Astragalus aff acetabulosus = Astracantha acetabulosa
Astragalus aff brachystachyus DC.
Astragalus amblolepis Fischer = Astracantha amblolepis
Astragalus brachystachyus DC.
Astragalus caspius Bieb. = Astracantha caspica
Astragalus cephalotes Banks & Sol. = Astracantha cephalotes
Astragalus cf basianicus Boiss. & Hausskn. = Astracantha basianica
Astragalus cf poryphyrodon C.C. Towns.
Astragalus compactus Lam. = Astracantha compacta
Astragalus echinops Auch. ex Boiss.
Astragalus entomophyllus Boiss. & Hausskn.
Astragalus eriocarpus DC.
Astragalus garaensis Sirj. = Astracantha garaensis
Astragalus gossypinus Fusch. ex Hoh. = Astracantha gossypina
Astragalus gudrunensis Boiss.
Astragalus kirrindicus Boiss. & Hausskn.
Astragalus lagopoides Lam.
Astragalus lagurus Willd. = Astracantha lagopoides
Astragalus macrocephalus Willd.
Astragalus michauxianus Boiss. = Astracantha michauxiana
Astragalus micrancistrus Boiss. & Hausskn.
Astragalus microcephalus Willd. = Astracantha microcephala
Astragalus mollis Bieb. = Astragalus eriocarpus
Astragalus nervistipulus Boiss.
Astragalus octopus C.C. Towns. = Astracantha octopus
Astragalus ovinus Boiss.
Astragalus pulchellus Boiss. = Astragalus singarense
Astragalus rawianus C.C. Towns.
Astragalus rhodochrous Boiss. & Hausskn. = Astracantha rhodochroa
Astragalus rhodochroa Coronilla scorpioides
Astragalus zoharyi Eig = Astracantha zoharyi (Eig) Podlech
Hymenocarpus circinnatus (L.) Savi

Lathyrus aphaca L.
Lathyrus boissieri Sirj.
Lathyrus cicera L.
Lathyrus inconspicuus L.
Lathyrus vinealis Boiss. & Noë
Lens orientalis (Boiss.) Hand.-Mazz.
Lotus corniculatus L.
Lotus gebelia Vent.
Medicago constricta Dur.
Medicago coronata (L.) Bartal.
Medicago lupulina L.
Medicago minima (L.) L.
Medicago orbicularis (L.) Bartal.
Medicago polymorpha L.
Medicago radiata L.
Medicago rigidula (L.) All.
Melilotus indicus (L.) All.
Onobrychis caput-galli (L.) Lam.
Onobrychis carduchorum C.C. Towns.
Onobrychis kotschyana Fenzl
Onobrychis megatophros Boiss.
Onobrychis schahuensis Bornm.
Pisum sativum L.
Prosopis farcta (Banks & Sol.) J.F.Macbr.
Scorpiurus muricatus L.
Trifolium campestre Schreb.
Trifolium dasyurum C.Presl
Trifolium echinatum M.Bieb.
Trifolium fragiferum L.
Trifolium grandiflorum Schreb.
Trifolium hirtum All.
Trifolium leucanthum M. Bieb.
Trifolium pilulare Boiss.
Trifolium purpureum Loisel.
Trifolium resupinatum L.
Trifolium scabrum L.
Trifolium spumosum L.
Trifolium stellatum L.
Trifolium tomentosum L.
Trigonella caelesyriaca Boiss.
Trigonella filipes Boiss.
Trigonella monantha C.A. Mey.
Trigonella spruneriana Boiss.
Trigonella strangulata Boiss.
Vicia ervilia (L.) Willd.
Vicia narbonensis L.
Vicia sativa L.
Vicia tenuifolia Roth
Vicia vinealis

FAGACEAE

Quercus aegilops L. = Quercus ithaburensis subsp. macrolepis
Quercus infectoria G. Olivier
Quercus ithaburensis subsp. macrolepis (Kotschy) Hedge & Yalt.

GENTIANACEAE

Centaurium pulchellum (Sw) Druce
Gentiana olivieri Griseb.

GERANIACEAE

Erodium ciconium (L.) L'Hér.
Erodium cicutarium (L.) L'Hér.
Geranium lucidum L.
Geranium persicum Schönb.-Tem.
Geranium rotundifolium L.

Geranium steppereus P.H.Davis

HYPERICACEAE

Hypericum amblysepalum Hochst.
Hypericum asperulum Jaub. & Spach
Hypericum lysimachioides Boiss. & Noë
Hypericum perforatum L.
Hypericum scabrum L.
Hypericum triquetrifolium Turra

JUGLANDACEAE

Juglans regia L.

LABIATAE

Ajuga austroiranica Rech.f.
Ballota aucheri Boiss.
Eremostachys laciniata (L.) Bunge
Lallemantia iberica (M.Bieb.) Fisch. & C.A.Mey
Lamium amplexicaule L.
Lamium garganicum L.
 Lamium striatum Sibth. Et Sm. = *Lamium garganicum*
Lycopus europaeus L.
Marrubium astracanicum Jacq.
Marrubium cuneatum Banks & Sol.
Mentha longifolia (L.) L.
Micromeria myrtifolia Boiss. & Hohen.
Nepeta humilis Benth.
Nepeta kurdica Hausskn. & Bornm.
Nepeta leucostegia Boiss. & Heldr.
Nepeta petraea Benth.
Nepeta speciosa Boiss. & Noë
Phlomis anisodonta Boiss.
Phlomis bruguieri Desf.
Phlomis kurdica Rech.f.
Phlomis lanceolata Boiss. & Hohen.
Phlomis rigida Labill.
 Salvia acetabulosa L. = *Salvia multicaulis*
Salvia indica L.
Salvia multicaulis Vahl
Salvia palaestina Benth.
Salvia spinosa L.
Salvia trichclada Benth.
Satureja sp aff *macrospiphonia* Boiss.
 Scutellaria fruticosa Desf. = *Scutellaria pinnatifida*
Scutellaria pinnatifida A. Hamilt.
Scutellaria velenovskyi Rech.f.
Stachys ballotiformis Vatke
Stachys cf *magalodonta* P.H.Davis
Stachys cretica L.
Stachys kotchy Boiss. & Hohen.
Stachys kurdica Boiss. & Hohen.
Stachys lavandulaefolia Vahl
Teucrium chamaedrys L.
Teucrium parviflorum Schreb.
Teucrium polium L.
Teucrium procerum Boiss. & Blanche
Thymus eriocalyx (Ronniger) Jalas
Thymus kotschyanus Boiss. & Hohen.
Thymus pubescens Boiss. & Kotschy ex Celak.
Thymus syriacus Boiss.
Ziziphora capitata L.
Ziziphora clinopodioides Lam.

LINACEAE

Linum corymbulosum Reichb.

Linum nodiflorum L.
Linum strictum L.

LORANTHACEAE

Loranthus europaeus Jacq.

LYTHRACEAE

Lythrum salicaria L.
Lythrum silenoides Boiss. & Noë
Punica granatum L.

MALVACEAE

Alcea cf *sulphurea* (Boiss. & Hohen.) Alef.
Alcea kurdica (Schlecht.) Alef.
Malva neglecta Wallr.
Malva nicaensis All.

MORACEAE

Ficus carica L.
Morus alba L.
Morus ngra L.

ONAGRACEAE

Epilobium hirsutum L.

OROBANCHACEAE

Bungea trifida (Vahl) C.A.Mey.
Orobanche aegyptiaca Pers.
Orobanche anatolica Boiss. & Reut.
Orobanche arenaria Borkh.
Orobanche cernua Loeffl.
Orobanche coelestis (Reut.) Boiss. & Reut. ex Beck
Orobanche kurdica Boiss. & Hausskn.
Orobanche lavandulacea Reichb.
Orobanche ovata Blakelock
Orobanche ramosa L.
Orobanche sp nov
Phelypaea coccinea (Bieb.) Poir.

PAPAVERACEAE

Corydalis rutiflora (Sm.) DC
Fumaria asepala Boiss.
Fumaria densiflora DC.
Fumaria parviflora Lam.
Papaver armeniacum (L.) DC.
Papaver cf *bornmuelleri* Fedde
Papaver cylindricum (L.) DC.
Papaver dubium L.
Papaver fugax Poir.
Papaver glaucum Boiss. & Hausskn.
Papaver macrostomum Boiss. & Huet.

PLANTAGINACEAE

Plantago lanceolata L.
Veronica anagallis-aquatica L.
Veronica anagalloides Guss.
Veronica bozakmannii M.A.Fisch.
Veronica intercedens Bornm.
Veronica macrostachya Vahl
Veronica orientalis Mill.
Veronica polita Fr.
Veronica viscosa Boiss.

PLUMBAGINACEAE

Acantholimon armenum Boiss. & A.Huet
Acantholimon blackelockii Mobayen
Acantholimon petraeum Bunge

Plumbago eruopaea L.

POLYGONACEAE

Polygonum lapathifolium
Polygonum aviculare L.
Polygonum bellardii All.
Polygonum equisetiforme Sm.
Rheum ribes L.
Rumex patientia L.
Rumex pulcher L.
Rumex scutatus L.
Rumex tuberosus L.

PORTULACAEAE

Portulaca oleracea L.

PRIMULACEAE

Anagallis arvensis L.
Dionysia odora Fenzl
Primula gaubaeana Bornm.

RANUNCULACEAE

Adonis microcarpa DC.
Anemone coronaria L.
Ceratophyllum falcatum (L.) Pers.
Delphinium kurdicum Boiss. & Hohen.
Delphinium macrostachyum Boiss. & Huth
Delphinium micranthum Boiss. & Hohen.
Delphinium oliverianum DC.
 Delphinium quercetorum Boiss. & Hausskn. = *Delphinium tuberosum*
Delphinium tuberosum Auch. Ex Boiss.
Eranthis hyemalis (L.) Salisb.
Nigella nigellastrum (L.) Willk.
Nigella oxypetala Boiss.
Ranunculus arvensis L.
Ranunculus asiaticus L.
Ranunculus aucheri Boiss.
Ranunculus cornutus DC.
Ranunculus diversifolius Boiss. & Kotschy
Ranunculus kochii Ledeb.
Ranunculus macrorhynchus Boiss.
Ranunculus oxyspermus Willd.
Ranunculus pinardi (Stev.) Boiss.
Ranunculus sericeus Banks & Sol.
Thalictrum sultanabadense Stapf

RHAMNACEAE

Paliurus spina-christi Mill.
Rhamnus cornifolius Boiss. & Hohen.
Rhamnus kurdicus Boiss. & Hohen.

ROSACEAE

Alchemilla persica Rothm.
Amygdalus arabicus Olivier
Amygdalus argentea (Lam.) Rehd.
Amygdalus communis L.
Amygdalus kotschyi Boiss. & Hohen.
Cerasus brachypetala Boiss.
Cerasus mahleb (L.) Mill.
Cerasus microcarpa (C.A. Mey.) Boiss.
 Cerasus orientalis Spach = *Amygdalus argentea*
Cotoneaster racemiflorus (Desf.) K. Koch
Crataegus azarolus L.
Crataegus meyeri Pojark.
Crataegus monogyna Jacq.

Potentilla reptans L.
Potentilla speciosa Willd.
Poterium lasiocarpus Boiss. & Hausskn. ex Boiss.
Poterium sanguisorba L.
Pyrus malus L.
Pyrus syriaca Boiss.
Rosa canina L.
Rosa elymaitica Boiss. & Hausskn.
Rosa foetida Herm.
Rosa gallica L.
Rubus sanctus Schreb.

RUBIACEAE

Asperula arvensis L.
Asperula friabilis Schönb.-Tem.
Asperula glomerata (Bieb.) Griseb.
Asperula insignis (Vatke) Ehrend.
Asperula setosa Jaub. & Spach
Callipeltis cucullaris (L.) Rothm.
Crucianella parviflora Ehrend.
Cruciata taurica (Pall. ex Willd.) Ehrend.
Galium aparine L.
Galium ceratopodium Boiss.
Galium consanguineum Boiss.
Galium garwensis Faris & Musawi ined
Galium haussknechtii Ehrend.
Galium mite Boiss. & Hohen.
Galium nabelekii Ehrend. & Schonb. Tem
Galium nigricans Boiss.
Galium pseudokurdicum (Ehrend.) Schonb.-Tem.
Galium setaceum Lam.
Galium spurium L.
Galium tricornutum Dandy
Rubia tinctorum L.
Sherardia arvensis L.

RUTACEAE

Haplophyllum buxbaumii (Poir) G. Don

SALICACEAE

Populus nigra L.
Salix acmophylla Boiss.
Salix alba L.
Salix cf. babylonica L.

SAXIFRAGACEAE

Saxifraga tridactylites L.

SCROPHULARIACEAE

Kickix elatine (L.) Dumort.
Linaria chalepensis (L.) Mill.
Linaria kurdica Boiss. & Hohen.
Parentucella latifolia Caruel
Scrophularia kurdica Eig
Scrophularia libanotica Boiss.
Scrophularia xanthoglossa Bodard
Verbascum agrimoniifolium (C. Koch) Hub.-Mor.
Verbascum alceoides Boiss. & Hausskn.
Verbascum haussknechtianum Hub.-Mor.
Verbascum macrocarpum Boiss.
Verbascum orientalis Mill.
Verbascum pseudodigitalis Nábělek
Verbascum sinuatum L.

SOLANACEAE

Datura innoxia Mill.
Hyoscyamus aureus L.

Hyoscyamus reticulatus L.
Solanum nigrum L.
Solanum sp

TAMARICACEAE

Tamarix ramosissima Ledeb.

THYMELAEACEAE

Daphne mucronata Royle

ULMACEAE

Ulmus androssowii Litw.

UMBELLIFERAE

Actinolema eryngioides Fenzl
Ammi visnaga (L.) Lam.
Anethum graveolens L.
Apium nodiflorum (L.) Lag.
Artemisia squamata L.
Bifora testiculata (L.) Roth
 Bunium elegans (Fenzl) Freyn = Bunium. Paucifolium
Bunium pauciflorum DC.
Bupleurum falcatum L.
 Bupleurum haussknechtii Boiss. equal B leucocladum var.
 haussknechtii
Bupleurum leucocladum Boiss.
Chaerophyllum crinitum Boiss.
Conium maculatum L.
Eryngium glomeratum Lam.
Eryngium pyramidale Boiss. & Hausskn.
Eryngium thyrsoideum Boiss.
Ferula orientalis L.
Ferulago macrocarpa (Fenzl) Boiss.
Ferulago stellata Boiss.
Grammosciadium scabridum Boiss.
Hellenocarum amplifolium
Heptaptera anisoptera
Korshinskia assyriaca (Freyn & Bornm.) Pimenov &
Kljuykov
Lagoecia cuminoides L.
Leutea rechingeri (Leute) M. Pimen.
Lisaea heterocarpa (DC.) Boiss.
Lisaea strigosa (Banks & Sol.) Eig
Malabaila secacul (Miller) Boiss.
Myrrhoides nodosa (L.) Cannon
 Physocaulis nodosus (L.) W.D.J.Koch = myrrhoides nodosa
Pimpinella eriocarpa Banks & Sol.
Pimpinella hadacii Engstrand
Pimpinella kotschyana Boiss.
 Prangos haussknechtii Boiss. = Prangos asperula subsp
 haussknechtii
Prangos pabularia Lindl.
Prangos uloptera DC.
Pseudoedmondia syriaca (Boiss.) Tamamsch.
 Scaligera assyriaca Freyn. & Bornm. = Korshinkia assyriaca
Scandix iberica Bieb.
Scandix pecten-veneris L.
Scandix stellata Banks & Sol.
Sclerochorton haussknechtii Boiss.
Smyrniopsis aucheri Boiss.
Smyrniium cordifolium Boiss.
Torilis leptophylla (L.) Reichnb.
Torilis stocksiana (Boiss.) Drude
Trigonosciadium viscidulum Boiss. & Hausskn.
Turgenia latifolia (L.) Hoffm.
 Turgeniopsis absinthifolia (Vent.) DC. = T.foeniculacea
Turgeniopsis foeniculacea (Fenzl.) Boiss.

Zosima absinthifolia Link

URTICACEAE

Parietaria judaica L.

VALERIANACEAE

Valerianella dactylophylla Boiss. & Hohen.
Valerianella kotschyii Boiss.
Valerianella muricata (Stev.) Baxt.
Valerianella vesicaria (L.) Moench

VERBENACEAE

Verbena officinalis L.
Vitex agnus-christi

VIOLACEAE

Viola modesta Fenzl
Viola odorata L.

VITACEAE

Vitis vinifera L.

MONOCOTS

ALLIACEAE

Allium akaka Gmelin
Allium ampeloprasum L.
Allium atroviolaceum Boiss.
Allium cf myrianthum Boiss.
Allium cf paniculatum L.
 Allium haemanthoides Boiss. = Allium akaka
Allium jesdianum Boiss. & Buhse
Allium macrochaetum Boiss. & Hausskn.
Allium noeanum Reut. ex Regel
Allium pnaneranthem Boiss. & Hausskn.
Allium rotundum L.
Allium sp nov aff stamineum 1 Boiss. & Hausskn.
Allium sp nov aff stamineum 2 Boiss. & Hausskn.
Allium stamineum Boiss. & Hausskn.

ARACEAE

Arum conocephalum Kotschy ex Schott

ASPARAGACEAE

Bellevalia decolorans Bornm.
Bellevalia kurdistanica Feinbr.
Bellevalia longipes Post
Leopoldia comosa (L.) Parl.
Leopoldia longipes (Boiss.) Losinsk.
 Muscari comosum (L.) Mill. = Leopoldia comosa
 Muscari inconstriatum Rech.f. = Pseudomuscari
 inconstriatum
 Muscari longipes Boiss. = Leopoldia longipes
Muscari neglectum Guss. ex Ten.
Ornithogalum brachystachys C. Koch
Ornithogalum cuspidatum Bertol.
Ornithogalum iraqense Feinbr.
Ornithogalum kurdicum Bornm.
Pseudoedmusari inconstriatum (Rech.f.) Garbari
Pushkinia scilloides Adams
Scilla kurdistanica Speta
Scilla persica Hausskn.

ASPHODELACEAE

Eremurus spectabilis Bieb.

COLCHICACEAE

Colchicum crocifolium Boiss.

Colchicum kotschyi Boiss.

CYPERACEAE

Blysmus compressus (L.) Panz. ex Link
Carex diluta Bieb.
Carex divisa Huds.
Carex elata All.
Carex pachystylis Gay
Carex polyphylla Kar. & Kir.
Fimbristylis bisumbellata (Forssk.) Bubani
Pycurus flavidus (L.) P. Beauv. ex Rchb.
Scirpioides hotoschoenus (L.) Sojak

IRIDACEAE

Crocus biflorus Mill.
Crocus cancellatus Herb.
Gladiolus italicus Mill.
Gynandris sisyrrinchium (L.) Parl.
Iris aucheri (Baker) Sealy
Iris persica L.

IXIOLIRIACEAE

Ixiolirion tataricum (Pall.) J.A. & J.H. Schultes

JUNCACEAE

Juncus articulatus L.
Juncus bufonius L.
Juncus fontanesii J. Gay
Juncus inflexus L.

LILIACEAE

Fritillaria crassifolia - green form Boiss. & Huet
Fritillaria crassifolia - thin purple form Boiss. & Huet
 Fritillaria grossheimiana Losinsk. = *Fritillaria crassifolia*
Fritillaria persica Boiss. & Huet
Gagea anisanthus C. Koch
Gagea chloranthae (Bieb.) J.A. & J.H. Schultes
Gagea confusa A. Terr.
Gagea gageoides (Zucc.) Vved.
Gagea villosa (M.Bieb.) Sweet
Tulipa systola Stapf

ORCHIDACEAE

Cephalanthera kurdica Bornm. ex Kraenzl.
Dactylorhiza umbrosa (Kar. & Kir.) Nevski
Epipactis veratrifolia Boiss.
Himantoglossum affine (Boiss.) Schl.
Himantoglossum hircanicum (L.) W.D.J. Koch
Ophrys schulzei Bornm. & H. Fleischm.
Ophrys sphegodes Mill.
Orchis anatolica Boiss.
Orchis collina Banks & Sol. ex Russel
Orchis coriophora L.
Orchis mascula L.
Orchis palustris Jacq.

POACEAE

Aegilops biuncialis Vis.
Aegilops columnaris Zhuk.
Aegilops cylindrica Host
 Aegilops lorentii Hochst. = *Aegilops biuncialis*
Aegilops triuncialis L.
Aegilops umbellulata Zhuk.
 Agropyron elongatiforme Drobov = *Elymus repens*
 Agropyron intermedium (Host.) P. Beauv. = *Elymus hispidus*
 Agropyron podperae Nab. = *Elymus hispidus*
 Agropyron repens (L.) P. Beauv. = *Elymus repens*

Agrostis stolonifera L.
Alopecurus arundinaceus Poir.
Alopecurus utriculatus Banks & Sol.
Arrhenatherum elatius (L.) B. Beauv. ex J.S. & C.B. Presl
Arrhenatherum kotschyi Boiss.
Avena fatua L.
Avena barbata Pott ex Link
Avena clauda Dur.
Avena ludoviciana Dur.
Boissiera squarrosa (Banks & Sol.) Neveski
Brachiaria eruciformis (Sm.) Griseb.
Brachypodium pinnatum (L.) P. Beauv.
Briza humilis Bieb.
Bromus commutatus Schrad.
Bromus danthoniae Trin.
Bromus lanceolatus Roth
Bromus scoparius L.
Bromus sterilis L.
Bromus tectorum L.
Bromus tomentellus Boiss.
Calamagrostis pseudophragmites (Hall.f) Koel.
Chrysopogon gryllus (L.) Trin.
Dactylis glomerata L.
Dichanthium annulatum (Forssk.) Stapf
Echinaria capitata (L.) Desv.
Elymus hispidus (Opiz) Melderis
Elymus repens (L.) Gould
Enneapogon persicus Boiss.
Eragrostis diarrhena (Schult.) Steud.
Eremopoa persica (Trin.) Rozhev.
Heterantherium piliferum (Banks & Sol.) Hochst.
Hordeum bulbosum L.
Hordeum distichon L.
Hordeum geniculatum All.
Hordeum glaucum Steud.
Hordeum leporinum Link
Hordeum spontaneum C. Koch
Hordeum vulgare L.
Koeleria berythea (Boiss. & Blanche) Holub
Lolium persicum Boiss. & Hohen.
Lolium rigidum Gaud.
 Lophochloa phleoides (Vill.) Rchb. = *Rostraria cristata*
Melica canescens (Regel) Lavr.
Melica inaequiglumis Boiss.
Melica persica Kunth
Milium pedicillare (Bornm.) Rozhev. Ex Meld.
 Nardurus maritimus (L.) Murb. = *Vulpia unilateralis*
Oryzopsis holciformis (Bieb.) Hach.
Pennisetum orientale L.
Phalaris paradoxa L.
Phleum boissieri Bornm.
Phleum exaratum Griseb.
Phragmites australis (Cav.) Trin. ex Steud.
Poa angustifolia L.
Poa bulbosa L.
Poa trivialis L.
Polypogon monspeliensis (L.) Desf.
Polypogon semiverticillatus (Forssk.) Hyl.
Psathyrostachys fragilis (Boiss. Nevski)
Rostraria cristata cristata (L.) Tzvelev
Secale montanum Guss.
Sorghum halepense (L.) Pers.
Stipa barbata Desf.
Stipa bromoides (L.) Dorfler.
Taeniatherum asperum (Simokia) Nevski
Taeniatherum crinitum (Schreb.) Nevski

Trachynia distachya (L.) Link
Triticum boeoticum Boiss.
Triticum dicoccoides (Koern. ex Aschers. & Graebn.)
 Aaronsohn
Triticum durum Desf.
Vulpia myuros (L.) Gmel.
Vulpia persica (Boiss. & Buhse) V. Krecz & Bobr.
Vulpia unilateralis (L.) Murb.
Zea mays L.

TYPHACEAE

Typha domingensis L.

FERNS

ASPLENIACEAE

Ceterach officinarum DC.

EQUISETACEAE

Equisetum ramosissimum Desf.

PTERIDACEAE

Anogramma leptophylla (L.) Link
Cheilanthes fragrans (L.f.) Sw.
Cheilanthes persica (Bory) Melt. ex Kuhn
Cystopteris fragilis (L.) Bernh.