

Updated numbers of the vascular flora of Cyprus including the endemism rate

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Abstract. – This inventory intends to provide updated numbers of vascular plants occurring in Cyprus. Currently, 1649 indigenous taxa (species and subspecies) are known to occur in Cyprus. In addition 254 taxa belong to various categories of neophytes. The endemism rate of the indigenous flora amounts to 8.55 %, i. e. 141 taxa, while 33 species and subspecies belong to the category of near-endemic for which Cyprus bears significant responsibility for their conservation.

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Introduction

As suggested by its name “Flora of Cyprus – a dynamic checklist” (Hand & al. 2011–) is characterised by continuous updates and additions. This is particularly the case as regards taxonomic novelties, nomenclatural changes and status of occurrence in neophytes respectively. Thus, regularly updated numbers of the flora of a certain territory are needed for purposes of biodiversity research and nature conservation. In this respect the following outline is based on a data analysis as at 15, March 2019 and aims at documenting the progress of floristic research in Cyprus.

Material and methods

Taxonomy and nomenclature follow Hand & al. (2011–) and nomenclatural authors can be found in the same source together with comments on taxonomic issues. Categories and terminology of alien taxa have been outlined in the same source and they are based on Pyšek & al. (2004) in general and specified by Hand (2004: 428). The definition of the category of “near-endemic” is explained in the section “Conventions” in Hand & al. (2011–).

Results

Taxon numbers

Currently, 1946 taxa (species and subspecies) of vascular plants have been documented to occur in the wild, of which, 1649 belong to the category “Indigenous” and 254 to the various categories of neophytes. Furthermore, 43 hybrid taxa have been found in Cyprus (for further details see tab. 1).

Tab. 1: Updated numbers of taxa of vascular plants in Cyprus (categories as defined by Hand & al. 2011–)

status	Number of species and subspecies	Number of species	Number of additional subspecies (if > 1 per species)	Percentage of the flora (species and subspecies)	Remarks
Indigenous (IN)	1649	1594	55	84.74 %	
Naturalized invasive (NA)	44	43	1	2.26 %	
Naturalized non-invasive (NN)	96	96	0	4.93 %	
Casual (CA)	114	112	2	5.86 %	
Hybrids	43	39	4	2.21 %	1 species NA
Total of taxa recorded in the wild: IN, NA, NN, CA & hybrids	1946	1884	62	100 %	
Subtotal of neophytes: NA, NN & CA	254	251	3	13.05 %	
Additional categories:					
Questionable (Q)	67	58	9		
Reported in error (ER)	4	3	1		
To be clarified	14	0	0		

Endemism

The endemism rate of indigenous species and subspecies amounts to 8.55 % ($141 \times 100/1649$) and 7.15 % ($114 \times 100/1594$) respectively.

Currently (as at 15, March 2019), the following species and subspecies are accepted in the dynamic checklist (ordered by family):

Amaranthaceae

Bosea cypria

Amaryllidaceae

Allium autumnale

Allium cupani subsp. *cypricum*

Allium cypricum subsp. *cypricum*

Allium cypricum subsp. *lefkarensis*

Allium exaltatum

Allium marathasicum

Allium willeianum

Apiaceae

Bupleurum sintenisii

Dichoropetalum kyriakae

Ferulago cypria

Pimpinella cypria

Scaligeria alziarii

Araceae

Arum cylindraceum subsp. *pitsyllianum*

Araliaceae

Hedera pastuchovii subsp. *cyprica*

Asparagaceae

Hyacinthella millingenii
Ornithogalum chionophilum
Ornithogalum pedicellare
Scilla lochia
Scilla morrisii

Asteraceae

Anthemis plutonia
Anthemis tricolor
Carlina pygmaea
Centaurea akamantis
Centaurea calcitrapa subsp. *angusticeps*
Centaurea cyprensis
Cynara makrisii
Lactuca cyprica
Lactuca tetrantha
Onopordum cyprium
Ptilostemon chamaepeuce subsp. *cyprius*
Scorzonera troodea
Senecio glaucus subsp. *cyprius*
Taraxacum aphrogenes
Taraxacum holmboei

Boraginaceae

Cynoglossum troodi
Onosma caespitosa
Onosma fruticosa
Onosma troodi

Brassicaceae

Alyssum akamasicum
Alyssum chondrogynum
Alyssum troodi
Arabis cypria
Arabis kennedyae
Arabis purpurea
Biscutella didyma subsp. *dunensis*
Brassica hilarionis
Erysimum kykkoticum
Noccaea cypria

Campanulaceae

Campanula veneris
Solenopsis antiphonitis

Caryophyllaceae

Arenaria rhodia subsp. *cypria*
Dianthus cyprius
Dianthus strictus subsp. *troodi*
Minuartia sintenisii
Minuartia subtilis subsp. *filicaulis*
Petrorhagia kennedyae

Saponaria cypria
Silene fraudatrix
Silene galataea
Silene laevigata

Cistaceae

Helianthemum obtusifolium

Colchicaceae

Colchicum troodi

Crassulaceae

Rosularia pallidiflora
Sedum cyprium
Sedum eriocarpum subsp. *porphyreum*
Sedum lampusae
Sedum microstachyum

Cyperaceae

Carex cyprica
Carex troodi
Cyperus cyprius

Dipsacaceae

Lomelosia cyprica
Pterocephalus multiflorus subsp. *multiflorus*
Pterocephalus multiflorus subsp. *obtusifolius*

Euphorbiaceae

Euphorbia cassia subsp. *rigoi*
Euphorbia lemesiana
Euphorbia veneris

Fabaceae

Astragalus cyprius
Astragalus macrocarpus subsp. *lefkarensis*
Hedysarum cyprium
Onobrychis venosa
Trifolium campestre subsp. *paphium*

Fagaceae

Quercus alnifolia

Hypericaceae

Hypericum repens

Iridaceae

Crocus cyprius
Crocus hartmannianus
Crocus veneris
Gladiolus triphyllus

Lamiaceae

Acanthoprasium integrifolium
Acinos exiguus
Acinos troodi subsp. *troodi*
Mentha longifolia subsp. *cyprica*
Micromeria chionistrae
Nepeta troodi
Origanum cordifolium
Origanum majorana (the endemic var. *tenuifolium* is the wild ancestor of var. *majorana*)
Phlomis brevibracteata
Phlomis cypria subsp. *cypria*
Phlomis cypria subsp. *occidentalis*
Salvia veneris
Salvia willeana
Scutellaria cypria subsp. *cypria*
Scutellaria cypria subsp. *elator*
Scutellaria sibthorpii
Sideritis cypria
Teucrium cyprium
Teucrium divaricatum subsp. *canescens*
Teucrium karpasiticum
Teucrium kyreniae
Teucrium micropodioides
Teucrium salaminium
Thymus integer

Liliaceae

Tulipa akamasica
Tulipa cypria

Orchidaceae

Epipactis troodi
Ophrys argolica subsp. *elegans*
Serapias aphroditae

Orobanchaceae

Odontites cyprius
Orobanche cypria
Orobanche zosimi

Papaveraceae

Corydalis rutifolia
Papaver cyprium
Papaver meikleii
Papaver paphium

Pinaceae

Cedrus brevifolia

Plumbaginaceae

Limonium cyprium
Limonium mucronulatum

Poaceae

Arrhenatherum album subsp. *cypricola*
Bromus bidentatus
Crypsis hadjikyriakou
Poa sintenisii

Primulaceae

Cyclamen cyprium

Ranunculaceae

Delphinium caseyi
Ranunculus cadmicus subsp. *cyprius*
Ranunculus kykkoensis
Ranunculus millefoliatus subsp. *leptaleus*

Rosaceae

Rosa micrantha subsp. *chionistrae*

Rubiaceae

Asperula cypria
Rubia laurae

Urticaceae

Urtica cypria

Valerianaceae

Centranthus calcitrapa subsp. *orbiculatus*

It should be noted that the following **varieties** are also endemic to Cyprus:

Astragalus echinus var. *chionistrae*
Astragalus suberosus var. *hartmannii*
Genista fasselata var. *crudelis*
Helianthemum salicifolium var. *glabrum*
Lathyrus blepharicarpos var. *cyprius*
Lythrum hyssopifolia var. *cyprium*

Maresia nana var. *glabra*
Microthlaspi natolicum var. *pentadactylonis*
Orchis anatolica var. *troodi*
Quercus alnifolia var. *argentea* (species endemic)
Trifolium pamphylicum var. *dolichodontium*
Valantia hispida var. *eburnea*

In this context, a list of 33 taxa, which are classified as **near-endemics** is presented for the first time. This category represents 2.00 % of the indigenous flora of Cyprus. Useful notes on their occurrence outside Cyprus can be found on the respective taxon pages of the online checklist (Hand & al. 2011–). As in the above list of endemics taxa are ordered by family.

Amaryllidaceae

Allium junceum

Apiaceae

Cachrys crassiloba

Apocynaceae

Cyprinia gracilis

Araceae

Arum sintenisii

Asparagaceae

Bellevalia nivalis

Asteraceae

Astartoseris triquetra

Carthamus boissieri

Filago aegaea subsp. *aristata*

Jurinea cypria

Picris cyprica

Boraginaceae

Onosma mitis

Brassicaceae

Alyssum cypricum

Campanulaceae

Campanula delicatula

Campanula podocarpa

Caryophyllaceae

Arenaria pamphylica subsp. *kyrenica*

Arenaria saponarioides

Minuartia thymifolia

Silene gemmata

Euphorbiaceae

Euphorbia dimorphocaulon

Euphorbia thompsonii

Fabaceae

Vicia lunata

Lamiaceae

Ajuga chamaepitys subsp. *cypria*

Phlomis lunariifolia

Orchidaceae

Ophrys bornmuelleri subsp. *bornmuelleri*

Ophrys bornmuelleri subsp. *grandiflora*

Ophrys umbilicata subsp. *lapethica*

Orobanchaceae

Orobanche alba subsp. *cuprea*

Plantaginaceae

Callitriche pulchra

Poaceae

Bromus intermedius subsp. *optimae*

Bromus regnii

Resedaceae

Reseda minoica

Valerianaceae

Valerianella tricerias

Violaceae

Viola rauliniana

Discussion

The updated numbers prove to be slightly higher compared to the last update (see Hand & al. 2011–, under “News” from 26, January 2017): There are nine more indigenous taxa in Cyprus. The number of taxa in the category “Naturalized invasive” is constant, whereas seven more taxa formerly treated as “Casual” have become “Naturalized non-invasive”. The absolute number of species listed as “Casual” has slightly increased (by three taxa).

Since the last update, the change on endemism rate is marginal. Only two changes affect the new list: one taxon, *Arum sintenisii*, was found outside Cyprus while another taxon, *Urtica cyprica*, is now treated at species level.

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