

# Further noteworthy records of vascular plants in Cyprus (1997–2018) and some status clarifications

Ralf Hand

Abstract. – This paper deals with specimen-based records of 74 taxa, most of them having a scattered occurrence or restricted distribution range in Cyprus. The following taxa are new to Cyprus or have been found in the wild for the first time: *Aristida adscensionis* subsp. *adscensionis*, *Buglossoides incrassata* subsp. *splitgerberi*, *Cenchrus setaceus*, *Chenopodium rubrum*, *Gazania rigens*, *Malus domestica*, *Mespilus germanica*, *Mirabilis jalapa*, *Pyrus communis*, *Sambucus nigra* and *Spartium junceum*. The new combination *Urtica cypria* (H. Lindb.) Hand for the endemic nettle species is proposed.

Addresses. – Ralf Hand, Winterfeldtstr. 25, D-10781 Berlin, Germany; ralfhand@gmx.de

## Introduction

This paper is a continuation of a series started two years ago (Hand 2017), in which the intention and criteria for the selection of taxa and data were outlined. The new instalment again focusses on taxa new for Cyprus, taxa with a very scattered distribution on the island or taxa with restricted distribution range in a single or few phytogeographical divisions. In various cases occurrence status is clarified.

## Material and Methods

Taxonomy and nomenclature follow Hand & al. (2011–), herbarium abbreviations Thiers (2019). First records for any phytogeographical unit are marked with a "+". Plants listed in the Red Data Book are marked with the abbreviation RDB followed by the status, which is explained in full detail by Tsintides & al. (2007). Known data on distribution of taxa in Cyprus are not repeated here but can be found in the online checklist for Cyprus (Hand & al. 2011), which aims at a complete recording of specimen-based records. Georeferenced data are not presented here but are stored in a database. They will be published at a later date making them accessible via the above-mentioned website.

## Results

### *Pteridophyta*

#### *Pteridaceae*

*Pteris vittata* L. – RDB: EN

Division 1: Miliou, on Aneirades trail near Moni Agion Anargyron, a few m above Kolokouris dam, shaded ground in riverine forest, 1 plant only, alt. 155 m, 25.12.2017, R. Hand 8926 (B).

## **Spermatophyta**

### ***Adoxaceae***

#### ***Sambucus nigra* L.**

+ Division 2: Palaiomylos, S edge of village, by road to Foini, on steep banks in deep shade, alt. 1030 m, 17.6.2018, *R. Hand 9019* (B).

Mentioned by Meikle (1977) for various places in Cyprus but the species has not been accepted in the checklist for Cyprus (Hand & al. 2011–) because all occurrences seem to refer to planted shrubs. In the above-mentioned site less than ten shrubs were seen on very steep banks where they are certainly not planted but most probably naturalised from nearby gardens and orchards. For the time being, to be classified as "Casual".

### ***Amaryllidaceae***

#### ***Allium dentiferum* Webb & Berthel.**

+ Division 2: Prodromos, below road to Pano Platres, c. 250 m SSE petrol station, alt. 1350 m, 22.9.2010, *R. Hand S-185* (seeds) & *C. S. Christodoulou*, cultivated until 27.7.2011 and 31.7.2013 respectively, *M. Cubr 48067, 49436* (B-garden herbarium).

### ***Araceae***

#### ***Arum concinatum* Schott**

+ Division 1: Miliou, lower part of Anerades trail, riverine forest, alt. 217 m, 1.5.2017, *R. Hand 8235* (B).

### ***Araliaceae***

#### ***Hedera helix* L. s. str.**

Division 1: Akoursos, Kataraktis gorge by road SE of village, small gorge, limestone, alt. 420 m, 19.12.2016, *R. Hand 8085* (B).

This population is characterised by blackish berries and belongs to *H. helix* f. *helix*, not to f. *poetarum* (Nyman) McAll. & Rutherford., which can be found in various places in division 1 (Papachristoforou in Tsintides & al. 2007).

### ***Asteraceae***

#### ***Anthemis cotula* L.**

+ Division 1: Stroumpi, at the N edge of the village, bank of a track, alt. c. 510 m, 18.5.1999, *R. Hand 3312* (B).

***Bidens pilosa* L.**

+ Division 1: Chlorakas, by coast SW of old village, coastal walkway near Rododafni Hotel, flowerbed, alt. 8 m, 22.12.2018, *R. Hand* 9203 (B).

***Carthamus dentatus* subsp. *ruber* (Link) Hanelt**

Erratum: The specimen *Hand* 3752 listed under *C. boissieri* Halácsy in *Hand* (2003) refers to the above-mentioned subspecies.

***Centaurea iberica* Spreng.**

+ Division 6: Evrychou, E of stream by bridge SW of old village, at turn-off to Temvria, ruderal site, alt. 406 m, 15.6.2018, *R. Hand* 9004 (B).

***Cichorium intybus* L.**

+ Division 1: Pegeia, at coastal track E of Ag. Phanentes, waste ground, alt. c. 10 m, 2.5.1997, *R. Hand* 1221 (B).

***Galinsoga parviflora* Cav.**

+ Division 2: Moutoullas, by nature trail Loutra tis Rigainas SSE of village, E side of stream between the 2 bridges, as a weed in orchard, alt. 801 m, 14.6.2018, *R. Hand* 9001 (B).

Hitherto classified as "Casual" for Cyprus but in the new site near Moutoullas is to be found in rich populations.

***Gazania rigens* (L.) Gaertn. s. l.**

+ Division 1: Chlorakas, at Agios Georgios museum by the coast, spontaneously in pavement crevices, grown nearby, alt. 5 m, 19.12.2016, *R. Hand* 8087 (B)

First record for Cyprus. As in other Mediterranean countries and in the British Isles (Tison & de Foucault 2014, Stace 2019) the species, native to southern Africa, is widely grown on the island, e. g. along the coastal walkway between Kissonerga and Kato Pafos. Often it can be found there in "semi-wild" populations comparable to *Carpobrotus* species – once planted and neglected after some time. At the site mentioned above a few definitely self-sown individuals occurred. Attention should be paid to future developments. Currently, the species can be classified as "Casual". *G. rigens* behaves more or less as an invasive in parts of the Mediterranean and in Australia. Taxonomy of the species is still unsettled because many authors prefer lumping of taxa in this hybridising species complex, which are segregated by other authors (see, e. g., Howis & al. 2009, Laguna Lumbreras & Ferrer Gallego 2013, Talavera & Talavera 2017).

***Lapsana communis* L. subsp. *communis***

Division 2: Kalopanagiotis, by Setrachos stream below Lampadistis bridge, close to Agios Irakleidios site, shaded place, alt. 656 m, 13.6.2018, *R. Hand* 8989 (B).

Also seen in various places downstream in the wider Kalopanagiotis area. It seems to be spreading in the central Troodos area since its first records described by Hadjikyriakou & al. (2004).

***Tolpis umbellata* Bertol.** (Syn.: *T. barbata* sensu Meikle, non (L.) Gaertn.)

Division 2: Pafos forest, Cedar valley area, ridge S of Konizi site, rocky hill, alt. 1192 m, 14.6.2018, *R. Hand* 8996 (B).

This record documents a new altitudinal maximum for Cyprus. Hitherto known from altitudes up to 600 m above sea level (Meikle 1985).

## ***Boraginaceae***

Taxonomy and nomenclature of ***Buglossoides arvensis*** sensu latissimo went through deep changes since Meikle's (1985) treatment. He accepted one species with three subspecies. Currently, many authors advocate two species with two subspecies each. However, the situation is far from being settled and discussions continue (see, e. g., Cecchi & al. 2014). In Cyprus, especially *B. arvensis* subsp. *arvensis* and *B. incrassata* subsp. *splitgerberi*, both adapted to man-made habitats, have been confused in the past. The following data refer to a first set of specimens that have been revised according to the new criteria. A preliminary determination key to the taxa and synonymies including the names used by Meikle (1985) can be found in the online checklist (Hand & al. 2011–).

***Buglossoides arvensis* (L.) I. M. Johnst. subsp. *arvensis***

Division 2: Pano Panagia, c. 100 m NNW Agia Moni, W of the road, vineyards, alt. c. 980 m, 10.3.2005, *R. Hand* 4260 & *G. Hadjikyriakou*, det. E. Zippel (B).

Division 5: Agia Varvara, c. 1 km SW of the village, N of the road to Mathiatis, marl slope, grassy phrygana and fields, alt. c. 320 m, 11.3.2005, *R. Hand* 4266, det. E. Zippel (B).

***Buglossoides incrassata* (Guss.) I. M. Johnst. subsp. *incrassata***

Division 2: Fterikoudi, at the road NNE Moni summit, rocks and screes at the road, alt. c. 1120 m, 7.5.2005, *R. Hand* 4855, det. E. Zippel (B). – Sykopetra, NE Profitis Ilias, along first 500 m of the track towards Farmakas, screes and road banks, alt. c. 1040 m, 23.5.2005, *R. Hand* 5073, *P. Christodoulou* & *T. Kyriakou*, det. E. Zippel (B). – Tripylos area, c. 200 m SE of fire lookout on Tripylos summit, screes in open *Quercus alnifolia* stands, alt. c. 1350 m, 14.5.2009, *R. Hand* 5508 & *C. S. Christodoulou*, det. E. Zippel (B). – Troodos, on Chionistra summit, at both sides of the road near end of public access, open rocky ground, alt. c. 1920 m, 17.5.2005, *R. Hand* 5010, det. E. Zippel (B). – Chandria, at the road SE Adelfoi, rocky ground, alt. c. 1440 m, 20.3.2005, *R. Hand* 4363 & *G. Hadjikyriakou*, det. E. Zippel (B). – Kapedes, track that starts at the road near picnic site Mandras tou Kambiou towards SSW in Gialia valley, lower half, rocky banks of the track in open *Pinus brutia* forest, alt. c. 600 m, 21.3.2005, *R. Hand* 4382, det. E. Zippel (B). – Odou, NNE, W of Moutti tou Charaka, N and NW of summit

1228, banks of roads and tracks, alt. c. 1180 m, 9.4.2005, *R. Hand 4555*, det. E. Zippel (B). – *ibid.*, NNE, summit 1228, rocky screes and open *Quercus alnifolia* shrub, alt. 1200–1228 m, 9.4.2005, *R. Hand 4560*, det. E. Zippel (B). – Pera Pedi, half-way to Mandria, open ground along road and tracks, alt. c. 880 m, 11.4.2005, *R. Hand 4597*, det. E. Zippel (B).

+ Division 3: Lageia, along track on shoulder c. 1 km WNW, open ground at track and in olive groves, alt. c. 410 m, 6.3.2005, *R. Hand 4231*, det. E. Zippel (B).

***Buglossoides incrassata* subsp. *splitgerberi* (Guss.) E. Zippel & Selvi**

+ Division 1: Lysos, by road to Pelathousa, near road, field margin, alt. 354 m, 25.5.2013, *R. Hand 6119*, det. E. Zippel (B). – *ibid.*, above village, Agios Mavros hill, by road, alt. 597 m, 4.4.2016, *R. Hand 7291* & *C. S. Christodoulou*, conf. E. Zippel (B).

+ Division 2: Odou, c. 2 km below village, at the road, above brook crossing, debris on road bank, alt. c. 600 m, 26.4.2007, *R. Hand 5233*, det. E. Zippel (B).

+ Division 6: Agia Marina, c. 1 km NW, N of road to Vyzakia, below the last houses of the village, fallow field, alt. c. 450 m, 27.4.2007, *R. Hand 5272*, det. E. Zippel (B).

First records for Cyprus.

***Brassicaceae***

***Draba boerhaavii* (H. C. Hall) Raus** (Syn.: *D. spathulata* Láng)

Division 2: Prodromos, by the track WNW of Cyprus Forestry College, WNW of last house, near first bifurcation, openings in phrygana and on banks, alt. 1321 m, 24.4.2017, *R. Hand 8193* & *C. S. Christodoulou*, det. R. Hand (B).

***Lepidium didymum* L.**

Division 1: Chlorakas, St. George Hotel, near tennis court, irrigated lawn, alt. 24 m, 29.12.2016, *R. Hand 8106* (B).

The species proved to be relatively common in the regularly cut and irrigated lawns of the hotel complex, a type of habitat obviously not known so far in and outside Cyprus (see, e. g., Stace 2019, Jäger 2011, Kleinsteuber & al. 2016, Verloove 2018). It should be looked for in similar sites.

***Lunaria annua* L.**

Division 2: Prodromos, slope below back of Cyprus Forestry College, shady mixed forest, alt. 1378 m, 28.4.2017, *R. Hand 8211* (B).

At the site to be found in a rich population, certainly more than casual and for Cyprus to be classified as non-invasive alien.

***Ochthodium aegyptiacum* (L.) DC.** – RDB: VU

Division 2: Statos-Agios Fotios, slope above road leading down from Agia Moni to old Statos village, grassy slope and road banks, alt. 835 m, 4.5.2017, *R. Hand 8255* & *C. Makris* (B).

The species was found at this place by C. Makris.

## **Caryophyllaceae**

### ***Minuartia intermedia* (Boiss.) Hand.-Mazz.**

Division 2: Lagoudera, 1 km SSE village, screes on rocky slope, alt. c. 1200 m, 26.4.2007, *R. Hand* 5244 (B). – *ibid.*, Madari, by road to summit, a bit below antenna station, among diabase rocks, alt. 1454 m, 22.5.2013, *R. Hand* 6100 & *C. S. Christodoulou* (B). – Kato Pyrgos, between Akro Kokkina and village, open coastal slope, alt. 19 m, 1.4.2015, *R. Hand* 7102 (B). – Kionia area, hill c. 400 m ENE picnic area, at base of summit rocks, slope, alt. c. 1250 m, 19.5.2009, *R. Hand* 5529 (B). – Limnitis, 1st limestone top between village and Petra tou Limniti, phrygana, alt. 136 m, 1.4.2015, *R. Hand* 7095, *K. Kefalas*, *C. Makris* & *A. Paradisis* (B). – *ibid.*, slopes E of conspicuous bend towards Loutros, igneous debris and rocks, alt. 125 m, 2.4.2012, *R. Hand* 5977 (B).

Division 3: Louvaras, Lemesos forest, Kakomalis area, Moutti tis Portas peak, rocky, igneous slopes, alt. 920 m, 12.5.2011, *C. S. Christodoulou*, det. *R. Hand* (B).

+ Division 5: Kataliontas, c. 1 km SSE turn-off to Margi, c. 50 m E of road to Mathiatis, rocky banks, alt. c. 350 m, 12.5.2009, *R. Hand* 5490 (B).

## **Chenopodiaceae**

### ***Chenopodium rubrum* L.** (Syn.: *Oxybasis rubra* (L.) S. Fuentes & al.)

+ Division 2: Agridia reservoir, 7.10.2016, *Y. Christofides*, conf. *R. Hand* (B).

+ Division 3: Akrounta, W margin of Germasogeia reservoir, level of conspicuous road bend, dry bottom of reservoir, a few m above water level, alt. 67 m, 20.6.2018, *R. Hand* 9036 (B); *ibid.*, 24.12.2018, *R. Hand* 9207 (B).

First records for Cyprus. *C. rubrum* belongs to a group of hygrophilous taxa and water plants that have colonised the reservoirs of Cyprus in recent decades. It appears rather probable that it was introduced by migrating or wintering waterbirds. The species is known to occur in most parts of Europe and from SW Asia to Siberia as well as in parts of N America; it is rather rare in the Mediterranean region (Uotila 2001). Currently, to be classified as non-invasive alien.



Fig. 1: *Chenopodium rubrum*,  
Germasogeia reservoir,  
24.12.2018. – Ralf Hand.

## **Convolvulaceae**

### ***Convolvulus dorycnium* L.**

Division 3: Kelokedara, Paoura, on summit, c. 300 m W of antenna, open slope with scattered *Crataegus*, alt. 769 m, 5.5.2017, *R. Hand* 8261 (B).

The site is much above the currently known altitudinal maximum limit in Cyprus (about 250 m according to Meikle 1985).

## **Cyperaceae**

So far, two of the segregate taxa of ***Bolboschoenus maritimus* s. l.** as defined by Hroudová & al. (2007) are known to occur in Cyprus. Further recording is needed to confirm that *B. maritimus* s. str. is confined in coastal regions, whereas inland it is replaced by *B. glaucus*.

### ***Bolboschoenus glaucus* (Lam.) S. G. Sm.**

+ Division 8: Galateia, SE part of dried up lake SE of village, dry bottom of shallow lake, alt. 94 m, 11.5.2009, *R. Hand* 5482, *C. S. Christodoulou* & *G. Hadjikyriakou*, det. *R. Hand* (B).

### ***Bolboschoenus maritimus* (L.) Palla s. str.**

Division 3: Asomatos, SE of village, main track between eucalypt forest and reeds on N side of salt lake, muddy ground by track, alt. 1 m, 9.6.2011, *R. Hand* 5804 & *G. Hadjikyriakou*, det. *R. Hand* (B).

### ***Isolepis cernua* (Vahl) Roem. & Schult. – RDB: EN**

Division 1: Kathikas, at the start of Agiasma trail SW of village, below restaurant, humid ground on trail, alt. 598 m, 6.5.2017, *R. Hand* 8267 (B).

## **Euphorbiaceae**

### ***Euphorbia chamaepeplus* Boiss. & Gaill. – RDB: DD**

Division 6: Kokkinotrimithia, area N of the stadium, phrygana with kafkalla, alt. 226 m, 2.4.2015, *R. Hand* 7104 & *G. Hadjikyriakou* (B).

Originally found by *G. Hadjikyriakou* in this area earlier in 2015. In Cyprus, this species of the Near East was discovered by Meikle in 1962 (Meikle 1985). No other data for this species have ever been published (see also Papachristoforou in Tsintides & al. 2007). It should be looked for in phrygana of the Mesaoria plain.

### ***Euphorbia hypericifolia* L.**

Division 1: Agios Georgios Pegeias, not far from Oniro café by coast S of sea caves area, near to ship wreck, edge of banana plantation, alt. 12 m, 28.12.2016, *R. Hand* 8103 (B). – Chlorakas, by coastal path at St. George Hotel, in flowerbed, alt. 1 m, 27.12.2016, *R. Hand* 8102 & *C. Niederbichler* (B).

This xenophyte has become an invasive within a short period of time. Since its first record (Frajman in Hand 2011) it spread rapidly over much of the lowlands of Cyprus and can be found in many gardens, parks and plantations.

## ***Fabaceae***

### ***Alhagi maurorum* subsp. *graecorum* (Boiss.) Awmack & Lock**

+ Division 1: Chlorakas, at coastal path c. 300 m from Agios Georgios museum, ruderal site, alt. 12 m, 19.12.2016, *R. Hand 8088* (B).

A quite rare taxon in the W part of Cyprus.

### ***Cercis siliquastrum* L.**

+ Division 3: Arsos, NW edge of village, both sides of road to Agios Nikolaos, at start of trail, riverine forest and shaded banks, alt. 768 m, 18.6.2018, *R. Hand 9026* (B).

The species, not indigenous to Cyprus, is quite often planted on the island as an ornamental tree but tends to naturalise only locally. At Arsos many seedlings could be observed as well as trees of various ages that could be traced back to individuals planted by the roadside.

### ***Lens ervoides* (Brign.) Grande**

+ Division 3: Kelokedara, N slopes of Paoura, lower part of dirt road that starts at W part of rockslide, limestone debris, alt. 640 m, 5.5.2017, *R. Hand 8259* (B)

### ***Spartium junceum* L.**

+ Division 2: Pedoulas, below village by road to Moutoullas, road bank, alt. 952 m, 11.6.2018, *R. Hand 8978* (B).

In the Troodos range, *S. junceum* is commonly planted for road bank stabilisation and sometimes as an ornamental. The cited specimen is representative of many naturalising populations that have, however, escaped documentation. Near Pedoulas variously aged individuals could be observed colonising a steep rocky bank, where they have certainly not been planted other than the oldest shrubs by the immediate roadside. Currently, to be classified as non-invasive but the species may become an invasive in the years to come. It is strongly recommended to avoid using this species in plantations, especially near ecologically important areas such as the Troodos National Forest Park.

### ***Trifolium physodes* M. Bieb.**

Division 2: Pano Panagia, Vouni Panagias, S part above Agia Moni monastery, at serpentine bends to upper plateau, on a bank, alt. 1097 m, 4.5.2017, *R. Hand 8252* & *C. Makris* (B).

In Cyprus, this species prefers igneous bedrock above 1000 m, but collections from limestone areas such as Vouni Panagias are rare.



***Vicia peregrina* L.**

Division 2: Koilani, Afamis area, E slopes between road and chapel, vineyard margin, alt. 975 m, 22.6.2018, *R. Hand* 9043 (B).

New altitudinal maximum for Cyprus.

**Gentianaceae**

***Centaurium tenuiflorum* (Hoffmanns. & Link) Fritsch**

+ Division 8: Agios Symeon, W of Kastros, by road, open marl slope, alt. 87 m, 28.5.2013, *R. Hand* 6131 (B). – Rizokarpaso, Ronnas valley, S of river, upstream from road bridge, shaded ground in dense macchia, along track, alt. 40 m, 28.5.2013, *R. Hand* 6139 (B).

**Lamiaceae**

***Ajuga chamaepitys* subsp. *palaestina* (Boiss.) Bornm.**

Division 2: Pano Panagia, Vouni Panagias, S part above Agia Moni monastery, grassy place with open limestone patches, alt. 1035 m, 4.5.2017, *R. Hand* 8248 & *C. Makris* (B).

New altitudinal maximum for Cyprus.

***Mentha aquatica* L. – RDB: CR**

+ Division 2: Pera Vasa, picnic area, below remains of giant pine tree, in a pool, large population spreading vegetatively, alt. 556 m, 5.5.2017, *R. Hand* 8263 (B). – *ibid.*, 21.6.2018, *R. Hand* 9039 (B).

Plants of the population belong to a morphotype with glabrescent leaves, stems and calyces. Such plants have also been mentioned to occur in Lemesos forest (Christodoulou in Tsintides & al. 2007). They differ from the lowland population in the Akrotiri peninsula morphologically but fall within the variability of the widespread *M. aquatica*. Characters proved to be constant in cultivation and the plants are highly fertile. Hence, hybridisational influence by other taxa seems rather improbable.

***Moluccella laevis* L.**

Division 6: Orounta, E side of main road between southernmost houses of village, near to a bus stop, field margin, alt. 326 m, 15.6.2018, *R. Hand* 9003 (B).

The collection was based on information by C. S. Christodoulou. It is mentioned here because Meikle (1985) did not record this rather rare species above 175 m altitude.

**Liliaceae**

***Gagea fibrosa* (Desf.) Schult. & Schult. f.**

Division 2: Pano Panagia, Moni Chrysorrogiatissas, slope above monastery, grassy place at pine forest margin, alt. 831 m, 3.4.2016, *R. Hand* 7288 (B).

## ***Molluginaceae***

### ***Glinus lotoides* L. – RDB: NT**

+ Division 1: Evretou, bottom of Evretou reservoir, opposite abandoned village, dry mud, alt. 149 m, 26.12.2018, *R. Hand 9214* (B).

The formerly rather rare species has successfully colonised many reservoirs in Cyprus (already mentioned for Evretou by Tsintides & al. 2007). The drought over the last few years resulted in enormous population growth at various sites. At Evretou, many thousands of plants could be observed in late 2018.

## ***Nyctaginaceae***

### ***Mirabilis jalapa* L.**

+ Division 3: Kolossi, SW side of castle, escape from nearby garden, base of a wall, alt. 41 m, 20.12.2018, *R. Hand 9200* (B).

No specimen-based data for Cyprus have ever been published. Its status can be best described as a very popular ornamental species that escapes in many, if not most villages and towns. Even as a weed with self-sustaining populations it is tolerated because of its attractiveness. However, it seems not to be able to colonise habitats outside settlements. To be classified as non-invasive xenophyte.

## ***Poaceae***

### ***Aristida adscensionis* L. s. l.**

Opinion on the taxonomy of this taxon is much divided. *A. adscensionis* s. str., an often more delicate annual with relatively short awns, and *A. coerulescens* Desf., a perennial that tends to have longer awns, are treated quite differently by various authors. Bor (in Meikle 1985) and Strid (2016), to name but two sources, question their distinctiveness. Other authors, e. g. Danin & Fragman-Sapir (2016–), treat them as separate species. Many other authors such as Ghasemkhani & al. (2008) prefer a subspecific classification. In the absence of a modern, area-wide treatment of this widespread subtropical-tropical grass taxon, all classifications remain unsatisfactory. In Cyprus, only the perennial taxon has been found so far. The following specimen was collected in a population of tiny, annual plants that fit the concept outlined by Ghasemkhani & al. (2008). The site is dominated by serpentinic rocks with a very scarce vegetation. It constitutes the first record for Cyprus.

### ***Aristida adscensionis* subsp. *adscensionis***

+ Division 1: Pegeia, by road to Mavrokolympos dam, halfway between dam and uppermost houses, in debris, alt. 132 m, 25.3.2015, *R. Hand 7055* (B)

### ***Aristida adscensionis* subsp. *coerulescens* (Desf.) Auquier & J. Duvign.**

+ Division 1: Neo Chorio, at track below Koutsaggas view point, debris, serpentine, alt. 321 m, 3.4.2015, *R. Hand 7125* (B).

***Cenchrus setaceus* (Forssk.) Morrone s. l.** (Syn.: *Pennisetum setaceum* (Forssk.) Chiov.)

+ Division 1: Kato Pafos, Capital Coast Hotel on W coast, N side, cracks in pavement, scattered plants, alt. 5 m, 26.12.2018, *R. Hand* 9212, conf. U. Amarell (B, herb. Amarell).

First record for Cyprus. *C. setaceus*, as defined by, e. g., Tison & de Foucault 2014, is an indigenous species to many parts of the Near East and N Africa. However, cultivated and escaping plants often show a combination of characters that are typical for *C. setaceus* s. str. and *C. orientalis* (Pers.) Morrone respectively. This also applies to the Cypriot specimen showing involute, less than 2 mm wide blades, various involucre bristles longer than 20 mm and lower glumes rather variable as regards structure and length. Both species are accepted by Veldkamp (2014) but Tison & de Foucault (2014) still see a need for clarification of cultivars. Apart from the collection site above it was also seen in Geroskipou (Kinira street between village centre and motorway, Dec. 2018) in an identical habitat. The conspicuous grass may be a rather recent escape from cultivation as an ornamental. It is known to occur as an alien in many parts of the world including various Mediterranean countries (see sources above). It is also listed as invasive species by the European Union. Currently, to be classified as "Casual" for Cyprus but it may soon become established.

***Crypsis schoenoides* (L.) Lam.**

+ Division 3: Akrounta, W margin of Germasogeia reservoir, level of conspicuous road bend, dry bottom of reservoir, a few m above water level, alt. 67 m, 20.6.2018, *R. Hand* 9035 (B)

The species has been known to occur in the reservoir area for a couple of years, see, e. g., photo documentation in Hand & al. (2011–).

***Cutandia maritima* (L.) Richt.**

Erratum: The specimen *Hand* 5972 listed under *C. dichotoma* (Forssk.) Trab. in Hand (2015) refers to the above-mentioned species.

***Dactyloctenium aegyptium* (L.) P. Beauv.**

+ Division 1: Chlorakas, St. George Hotel, near tennis court, lawn, alt. 19 m, 26.12.2016, *R. Hand* 8097 & C. Niederbichler (B).

***Phleum subulatum* (Savi) Asch. & Graebn.** – RDB: VU

Division 1: Pano Akourdaleia, on road to Kathikas, near viewpoint, c. 150 m N of it, field margins and phrygana, also in field at viewpoint, alt. 511 m, 6.5.2017, *R. Hand* 8271 (B).

***Poa pratensis* L. s. str.** – RDB: VU

Division 2: Troodos, Armyrolivado wetland, W of bridge, humid grassland, alt. 1583 m, 12.6.2018, *R. Hand* 8981 & C. S. Christodoulou (B).

Currently known to occur only in the Troodos National Forest Park, formerly also from the nearby Amiantos area (Bor in Meikle 1985, Hadjikyriakou in Tsintides & al. 2007). For the above-mentioned site specimen data have never been published.

***Rostraria amblyantha* (Boiss.) Holub**

+ Division 2: Gialia, by road above start of Gialia nature trail, in Gialia valley above village, disturbed ground, alt. 155 m, 30.4.2017, *R. Hand 8224* (B)

***Setaria viridis* (L.) P. Beauv.**

+ Division 1: Chlorakas, St. George Hotel, near tennis court, lawn, alt. 5 m, 26.12.2016, *R. Hand 8100* & *C. Niederbichler* (B).

***Triplachne nitens* (Guss.) Link – RDB: VU**

Division 3: Timi, Pafos airport, at the coast S of new terminal, stabilised sands in sand dunes, alt. 2 m, 7.5.2017, *R. Hand 8272* (B).

***Vulpia muralis* (Kunth) Nees – RDB: VU**

Division 2: Stavros tis Psokas, road to Pachyammos, Finoukli area, roadside, alt. 983 m, 2.5.2017, *R. Hand 8240* (B).

***Vulpia myuros* (L.) C. C. Gmel.**

Division 3: Avdimou, Avdimou Bay, SW of Melanda restaurant, coastal phrygana, alt. 22 m, 23.4.2017, *R. Hand 8182* (B).

Not known to occur in the coastal areas of Cyprus (see Meikle 1985).

***Polygonaceae***

***Polygonum patulum* M. Bieb.**

+ Division 3: Fassouri, Akrotiri marshes, between road and observation tower, halophytic vegetation, alt. 4 m, 20.6.2018, *R. Hand 9033* (B).

So far, known to occur only above 1000 m in the Troodos range (Meikle 1985), but there is another unpublished record from the lowlands of Cyprus (K. Kefalas, pers. comm.).

***Rosaceae***

***Malus domestica* Borkh.**

+ Division 2: Omodos, by road E 601 NNE of village, where stream crosses, stream bed with dense shrubs, alt. 792 m, 20.4.2017, *R. Hand 8153* (B).

Apples are widely grown in the mountainous areas of Cyprus. Therefore, as elsewhere in Europe and the Mediterranean, at least incipient naturalisation is to be expected, but has not been documented so far. In the above-mentioned site, quite a few bush-shaped individuals could be observed. To be classified as “Casual” for Cyprus.

***Mespilus germanica* L.**

+ Division 2: Pano Panagia, Vouni Panagias, S part above Agia Moni monastery, at serpentine bends to upper plateau, on a bank, alt. 1079 m, 4.5.2017, *R. Hand 8253* & *C. Makris* (B). – Agia Anastasia Kampos, apple grove, diabase, alt. 700 m, 31.10.1998, *G. Hadjikyriakou 3830* (herb. Hadjikyriakou).

Surprisingly, Meikle (1977) did not even mention this conspicuous fruit tree but at least in the past it has been grown here and there in Cyprus. In the place described above from Vouni area, one rather old shrub was found, most probably a relic of former cultivation. As in other parts of Europe, it is difficult to differentiate between such long-lasting relics (some may be grafted on *Crataegus* as well) and true naturalisation. G. Hadjikyriakou (pers. comm.) repeatedly searched for naturally grown plants. Apart from many grafted shrubs he found only one c. 15 years old plant near Kampos. The status of this species needs further clarification in Cyprus. Currently, it should be classified as "Casual".

***Potentilla recta* L.** – RDB: EN

Division 2: Lemithou, by the road to Kykkos, a few m N of district border, 1 plant by roadside, alt. 1135 m, 17.6.2018, *R. Hand 9017* (B).

***Potentilla reptans* L.**

Division 2: Kalopanagiotis, by sulphur springs a few m from Venetian bridge, humid, shaded ground, alt. 656 m, 13.6.2018, *R. Hand 8990* (B).

Data on the altitudinal range of the species are missing in Meikle (1977). This record may contribute to a completion of such data for Cyprus.

***Prunus domestica* L.**

+ Division 1: Stroumpi, S of village, at road turn-off to W, at Mavrokolympos, on bank, alt. 408 m, 29.3.2015, *R. Hand 7079* (B).

Up to 2 m high shrubs, locally established in this area.

***Pyrus communis* L. s. l.**

+ Division 2: Kalopanagiotis, near cemetery at the monastery, on steep, rocky road-bank, alt. 690 m, 10.6.2018, *R. Hand 8975* (B).

First documented record of naturalisation in Cyprus. The species is grown in many parts of Troodos, e. g. in the Marathasa area, but seems to escape only rarely from cultivation. There was only one spiny shrub min. 20 years old, pruned, without any fruits and obviously not planted or grafted at this site. Leaves were nearly orbicular and glabrescent below. In habit, it was reminiscent of the wild pear (*P. pyraster* (L.) Burgsd.) whose occurrence in Cyprus is rather improbable. It may be a primitive cultivar of pear.

## **Rubiaceae**

### ***Crucianella aegyptiaca* L.**

+ Division 2: Argaka, by coastal road to Gialia, long stretch of dune area without any settlements, low coastal sand dunes, alt. 2 m, 30.4.2017, *R. Hand 8227* (B).

### ***Crucianella macrostachya* Boiss.**

Division 2: Arsos, NNW of village, by small earth road in stream valley N of road to Agios Nikolaos, rocky bank, alt. 804 m, 18.6.2018, *R. Hand 9020* (B).

+ Division 8: Agios Theodoros, Akrotirio Elaia, near lighthouse, rock pools, alt. 24 m, 13.4.2014, *R. Hand 6430*, *K. Kefalas & C. Makris* (B).

The former record constitutes a new altitudinal maximum for Cyprus.

### ***Galium divaricatum* Lam. – RDB: VU**

Division 1: Skoulli, bend below chapel Agia Aikaterini, open bank, alt. 209 m, 1.5.2017, *R. Hand 8233* (B).

## **Salicaceae**

### ***Populus alba* L.**

+ Division 1: Miliou, by bridge at stream near Agioi Anargyroi Hotel, on steep bank in stream bed, alt. 175 m, 1.5.2017, *R. Hand 8234* (B).

The record refers to a single tree about 20 m high having a crooked trunk. Most likely not planted there but grown spontaneously.

## **Saxifragaceae**

### ***Saxifraga hederacea* L.**

+ Division 1: Kritou Tera, base of big Kremiotis waterfall, shaded bank of trail, a few m before waterfall, alt. 261 m, 29.4.2017, *R. Hand 8218* (B).

This is another example of species that in the past were thought to be restricted in Cyprus to the Pentadaktylos range but have recently been found in the limestone areas of the Akamas peninsula (as, e. g., *Micromeria microphylla* (d'Urv.) Benth.; Christodoulou in Hand 2011).

## **Scrophulariaceae**

### ***Scrophularia peregrina* L.**

Division 2: Kalopanagiotis, c. 50 m SSW bridge, on road to upper part of village, ruderal site on bank, alt. c. 670 m, 11.6.2018, *R. Hand 8980* (B).

## ***Solanaceae***

### ***Datura innoxia* Mill.**

+ Division 1: Polis, SE of Moustakallis tavern, street W of Agios Nikolaos church, ruderal site, alt. 27 m, 26.12.2017, *R. Hand* 8929 (B).

### ***Physalis angulata* L.**

Division 3: Akrounta, W margin of Germasogeia reservoir, level of conspicuous road bend, dry bottom of reservoir, a few m above water level, alt. 71 m, 24.12.2018, *R. Hand* 9206 (B).

The only published specimen data for Cyprus were the records by Della & Iatrou (1995). Since then the species was classified as casual alien. At the Germasogeia reservoir it has been known to occur for a couple of years (see, e. g., photo documentation in Hand & al. 2011–). Rich, self-sustaining populations have been found since 1995, so it should be classified as a naturalised non-invasive taxon.

## ***Ulmaceae***

### ***Celtis tournefortii* Lam. – RDB: EN**

Division 2: Arsos, c. 1.4 km N of village, vineyard area E/above stream, on a bank, alt. 925 m, 18.6.2018, *R. Hand* 9023 (B).

## ***Urticaceae***

### ***Urtica cypria* (H. Lindb.) Hand, comb. & stat. nov.**

≡ *Urtica dioica* subsp. *cypria* H. Lindb., Iter Cypr.: 12. 1946.

+ Division 3: Arsos, on trail in stream valley at NW edge of village, section below spring, riverine forest, thicket, alt. 751 m, 18.6.2018, *R. Hand* 9025 (B).

Taxonomy of the Cypriot endemic has been dealt with in detail recently by Weigend (2006). He concluded that it shows “a clear delimitation ... from all continental forms of subsp. *dioica*”. It was recommended to treat the taxon as a subspecies of the polymorphic *U. dioica* assemblage. This study was based on morphological comparisons. Not much can be added apart from the personal observation that the stinging hairs of the Cypriot taxon produce a much more intensive and unpleasant soreness than *U. dioica* proper does. A recent phylogenetic study (Grosse-Veldmann & al. 2016) revealed surprising results as regards the Cypriot endemic taxon: It belongs to a distinct lineage. There is no close relationship to *U. dioica* but to the W Mediterranean island endemics *U. bianorii* (Knoche) Paiva and *U. atrovirens* Loisel. Treating *cypria* as a subspecies of *U. dioica* would result in a paraphyletic species comprising only remotely related entities. Elevating the Cypriot taxon to species rank seems to be the best solution for this problem.

## **Valerianaceae**

### ***Valerianella carinata* Loisel.**

Division 2: Madari, circular trail Teisia tis Madaris, E/below fire lookout, on debris, alt. 1484 m, 22.4.2017, *R. Hand* 8169 (B).

### ***Valerianella echinata* (L.) DC.**

Division 3: Pera Pedi, near Kryos Potamos bridge halfway to Agia Mavri, E side of road, shaded limestone debris, border of a vineyard, alt. 742 m, 20.4.2017, *R. Hand* 8161 (B).

## **Acknowledgements**

Yiannis Christofides (Pano Platres) and Georgios Hadjikyriakou (Trachoni Lemesou) allowed me to publish first records of *Chenopodium rubrum* and *Mespilus germanica* respectively. I am grateful to them and also to several other botanists for company in the field, for giving useful information or for revision of specimens: Uwe Amarell (Offenburg/Germany), Charalambos Christodoulou (Lefkosia), Kyriakos Kefalas (Frenaros), Thomas Kyriakou (Lefkosia), Christodoulos Makris (Lemesos), Christian Niederbichler (Schondorf/Germany), Andreas Paradisis (Lemesos) and Elke Zippel (Berlin/Germany). Nick Turland (Berlin/Germany) kindly improved an earlier version of the text.

## **References**

- Cecchi L., Coppi A., Hilger H. H. & Selvi F. 2014: Non-monophyly of *Buglossoides* (*Boraginaceae: Lithospermeae*): Phylogenetic and morphological evidence for the expansion of *Glandora* and reappraisal of *Aegonychon*. – *Taxon* 63: 1065–1078.
- Danin A. & Fragman-Sapir O. 2016– Flora of Israel Online. <http://flora.org.il/en/plants/>; accessed 25.1.2019.
- Della A. & Iatrou G. 1995: New plant records from Cyprus. – *Kew Bull.* 50: 387–396.
- Ghasemkhani M., Akhiani A., Sahebi J. & Scholz H. 2008: The genera *Aristida* and *Stipagrostis* (*Poaceae*) in Iran. – *Willdenowia* 38: 135–148.
- Della A. & Iatrou G. 1995: New plant records from Cyprus. – *Kew Bull.* 50: 387–396.
- Grosse-Veldmann B., Nürk M. N., Smissen R., Breitwieser I., Quandt D. & Weigend M. 2016: Pulling the sting out of nettle systematics – A comprehensive phylogeny of the genus *Urtica* L. (*Urticaceae*). – *Molec. Phylogen. Evol.* 102: 9–19.
- Hadjikyriakou G., Makris C., Christofides Y. & Alziar G. 2004: Additions to the flora of Cyprus. – *J. Bot. Soc. Bot. France* 27: 31–46.
- Hand R. (ed.) 2003: Supplementary notes to the flora of Cyprus III. – *Willdenowia* 33: 305–325.
- Hand R. (ed.) 2011: Supplementary notes to the flora of Cyprus VII. – *Willdenowia* 41: 341–355.



- Hand R. 2017: Some noteworthy records of flowering plants in Cyprus (1997–2016). – *Cypricola* 1: 1–8.
- Hand R., Hadjikyriakou G. N. & Christodoulou C. S. (ed.) 2011– (continuously updated): Flora of Cyprus – a dynamic checklist. Published at <http://www.flora-of-cyprus.eu/>; accessed 25.1.2019.
- Howis S., Barker N. P. & Mucina L. 2009: Globally grown, but poorly known: species limits and biogeography of *Gazania* Gaertn. (*Asteraceae*) inferred from chloroplast and nuclear DNA sequence data. – *Taxon* 58: 871–882.
- Hroudová Z., Zákavský P., Ducháček M. & Marhold K. 2007: Taxonomy, distribution and ecology of *Bolboschoenus* in Europe. – *Ann. Bot. Fennici* 44: 81–102.
- Jäger E. J. 2011: Rothmaler. Exkursionsflora von Deutschland. Gefäßpflanzen: Grundband, ed. 20. – Heidelberg.
- Kleinsteuber A., Ristow M. & Hassler M. 2016: Flora von Rhodos und Chalki 1. – Karlsruhe.
- Laguna Lumbreras E. & Ferrer Gallego P. P. 2013: *Gazania* Gaertn. (*Asteraceae*): Táxonones escapados de cultivo en la Comunidad Valenciana (España). – *Bouteloua* 13: 3–10.
- Meikle R. D. 1977: Flora of Cyprus 1. – Kew.
- Meikle R. D. 1985: Flora of Cyprus 2. – Kew.
- Stace C. 2019: New flora of the British Isles, ed. 4. – Middlewood Green.
- Strid A. 2016: Atlas of the Aegean flora. – *Englera* 33.
- Talavera S. & Talavera M. 2017: 71. *Gazania* Gaert. [sic]. Pp. 1342–1346. – In: Talavera S., Buirra A., Quintanar A., García M. Á., Talavera M., Fernández Piedra P. & Aedo C. (ed.), *Flora iberica* 16(2). – Madrid.
- Thiers B. 2019 (continuously updated): Index Herbariorum: A global directory of public herbaria and associated staff. New York Botanical Garden's Virtual Herbarium. Published at <http://sweetgum.nybg.org/science/ih/>; accessed 21.1.2019.
- Tison J.-M. & de Foucault B. 2014: Flora Gallica. Flore de France. – Mèze.
- Tsintides T., Christodoulou C. S., Delipetrou P. & Georghiou K. (ed.) 2007: The Red Data Book of the flora of Cyprus. – Lefkosia.
- Uotila P. 2001: 3. *Chenopodium* L. – Pp. 4–31. – In: Jonsell B. (ed.), *Flora Nordica* 2. – Stockholm.
- Veldkamp J. F. 2014: A revision of *Cenchrus* incl. *Pennisetum* (*Gramineae*) in Malesia with some general nomenclatural notes. – *Blumea* 59: 59–75.
- Verloove F. 2018: Manual of the alien plants of Belgium. – <http://alienplantsbelgium.be/>; accessed 25.1.2019.
- Weigend M. 2006: *Urtica dioica* subsp. *cyprica*, with a re-evaluation of the *U. dioica* group (*Urticaceae*) in western Asia. – *Willdenowia* 36: 811–822.