

New noteworthy records of flowering plants in Cyprus (2019–2025)

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Abstract. – This paper deals with specimen-based records of 25 taxa, of which *Lemna minuta* and *Spirodela polyrhiza* are new to Cyprus (both casual neophytes). The establishment of the neophytes *Cyperus alternifolius* subsp. *flabelliformis* and *Lantana camara* is progressing. Other cases concern rare and endangered taxa. There are also brief taxonomic notes on *Blackstonia acuminata* subsp. *aestiva* and *Malva oxyloba*.

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Introduction

This paper is another continuation of a series started eight years ago (Hand 2017), in which the intention and criteria for the selection of taxa and data were outlined. The new instalment, again compiled by several authors, 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 and taxonomic issues are discussed briefly.

This series of noteworthy records is to be continued in loose succession. Authors who do not wish to write separate contributions for Cypricola, please contact the corresponding author.

Material and Methods

Taxonomy and nomenclature follow Hand & al. (2011–) and herbarium abbreviations Thiers (2022); the private herbarium of G. Hadjikyriakou is indicated as "Herb. GH". 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 threat category, which is explained in full detail by Tsintides & al. (2007). Known data concerning the 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

Spermatophyta

Amaryllidaceae

***Narcissus obsoletus* (Haw.) Steud.** [Syn.: *N. serotinus* auct. cypr.]

+ Division 4: Xylofagou, at Cape Pyla shooting range, openings at maquis matorral with *Juniperus phoenicea*, alt. 60 m, 20.12.2023, A. Papatheodoulou (CYP 6691).

Araceae

***Lemna minuta* Kunth**

+ Division 2: Pyrgos Tillyrias, Kato Pyrgos river estuary, alt. 0 m, 5.9.2022, A. Papatheodoulou, det. D. Spitale (CYP 6686).

First record for Cyprus. It is also the first evidence of a species of the former family *Lemnaceae*, which has been sought after in Cyprus for some time. The species was identified both macroscopically and microscopically. The identification as *L. minuta* (rather than *L. minor*) was based on its relatively transparent thalli, measuring 1–2 mm in length.

The first record of the species was on the 5th of September 2022, following that, subsequent visits at the location occurred annually, to confirm its presence. The species was observed, with relatively stable river corridor cover (Fig. 1). In 2025, the site was visited in April, yet the river was dry with no occurrence of the species. The species was found at the estuary of the intermittently flowing river Pyrgos, covering approximately 20 m² of the river corridor and forming locally dense islets. At the time of observation, the river had an active but very slow flow over a stretch of about 80 m, while upstream sections were completely dry.

L. minuta is considered invasive in Europe and in the Mediterranean, and originates from N and S America (see, e. g., Paolacci & al. 2018, POWO 2025). Examples of records in Mediterranean countries are described by, e. g., Ceschin & al. (2016) for Italy and Mifsud (2010) for Malta.

Although the species persisted at the site mentioned above for a few years, it will be assigned the status category 'Casual' until further notice. It remains to be seen whether it will reappear after the current drought in Cyprus.

***Spirodela polyrhiza* (L.) Schleid.**

+ Division 1: Agia Varvara, Pafos, Ezousa recharge ponds, N of village and just W of Ezousa river, alt. 78 m, 28.5.2024, A. Papatheodoulou, det. D. Spitale (CYP 6685).

First record for Cyprus. The species was identified both macroscopically and microscopically. The genus *Spirodela* can be distinguished from *Lemna* by the large number of roots growing from the underside of each frond. The identification to species was based on the diagnostic characters including a single root perforating each frond, along with the presence of at least seven veins and the comparatively large frond size.



Fig. 1: *Lemna minuta*, Pyrgos Tillyrias, 4.1.2024. – Athina Papatheodoulou.



Fig. 2: *Spirodela polyrhiza*, Agia Varvara, Pafos, 28.5.2024. – Athina Papatheodoulou.

The first record of the species was on the 28th of May 2024. On a follow up visit in May 2025 the species was no longer present. The ponds are fed with tertiary treated water for artificially recharging aquifers, primarily during the winter when irrigation demand is low. Although these ponds are expected to retain water year-round, the severe drought conditions of the past three consecutive years may have caused them to dry out for a period after May 2024. The species was observed floating in two of the four constructed aquifer recharge ponds along the Ezousa river bed. It formed dense clumped patches at the shallower pond margins and the inlet conveyor (Fig. 2).

S. polyrhiza is known to overcome unfavourable conditions, by producing a starch-rich tissue that sinks to the bottom of the water body until conditions become favourable again (Cobos & Peterson 2023). Under suitable conditions, *S. polyrhiza* grows at high rates, and covers large portions of the water surface (Lemon & al. 2001). It has a broad near cosmopolitan distribution (Cobos & Peterson 2023, POWO 2025).

Members of the former family *Lemnaceae* and other aquatic plants are known to disperse via external biotic vectors (zoochory), particularly through adhesion to aquatic birds (Coughlan & al. 2015). Both taxa discussed here may have reached Cyprus through such pathway. Their occurrence in these water bodies might be opportunistic, reflecting transient establishment under favourable hydrological conditions. However, both species have physiological adaptations to establish and expand populations and in some cases exhibit invasive behaviour. The presence of both species should therefore be monitored to assess whether they can establish viable, self-sustaining populations despite the intermittency of freshwater habitats in Cyprus.

S. polyrhiza is to be classified as 'Casual'. As in the previous taxon it remains to be seen whether it will reappear after the current drought in Cyprus.

Asparagaceae

***Scilla autumnalis* L.** [Syn.: *Prospero autumnale* (L.) Speta]

+ Division 4: Frenaros, scattered individuals within phrygana openings, alt. 55 m, 23.10.2024, A. Papatheodoulou (CYP 6690).

Boraginaceae

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

Division 5: Kataliontas, at road to Mathiatis, 400 m W of Coptic church, field margin, alt. 385 m, 22.3.2025, R. Hand 9514 (CYP).

The distribution of the segregate taxa of *B. arvensis* s l., which have been defined differently for several years now than they were by Meikle (1985), is still not fully known. The record above is intended to serve as a supplement.

Brassicaceae

***Sisymbrium aegyptiacum* (L.) D. A. German & al.**

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

+ Division (2 &) 3: Vretsia, village center, a few m before mosque on both sides of former main street, ruderal site, scattered elsewhere in many parts of the village, alt. 575 m, 29.3.2025, *R. Hand* 9536 (CYP).

The species is only new to division 3, but is widespread on both sides of the division boundary in the village area. The occurrences are also significantly below the previously known altitudinal distribution.

Caryophyllaceae

***Silene oliveriana* Otth**

+ Division 5: Kataliontas, at road to Mathiatis, 400 m W of Coptic church, field margin, alt. 385 m, 22.3.2025, *R. Hand* 9504 (CYP).

***Silene conoidea* L.**

Division 5: Kataliontas, at road to Mathiatis, 400 m W of Coptic church, field margin, alt. 385 m, 22.3.2025, *R. Hand* 9503 (CYP).

This *Silene* species is now one of the relatively rare taxa in Cyprus, which used to be much more common in cereal fields and is suffering from the industrialisation of agriculture with heavy use of herbicides and fertilisers. It is a possible candidate for future inclusion in the Red Data Book.

Cyperaceae

***Cyperus alternifolius* subsp. *flabelliformis* Kük.** [Syn.: *C. involucratus* Rottb.]

+ Division 2: Tsakistra, Tsakistra reservoir, a clump of approximately 100 individuals along the soil banks of the dam, alt. 540 m, 21.12.2023, *A. Papatheodoulou* (CYP 6692).

The finding indicates that the species is beginning to establish itself. Its status should therefore be upgraded from 'Casual' to 'Naturalized non-invasive'.

Euphorbiaceae

***Euphorbia graminea* Jacq.**

+ Division 3: Germasogeia, N part of old village center, near to parking area, crevice in wall, alt. 52 m, 23.3.2025, *R. Hand* 9516 (CYP).

The neophytic species must continue to be classified as 'Casual', as its occurrences in Cyprus are very scattered and few in number.

***Euphorbia hypericifolia* L.**

+ Division 4: Larnaka, Finikoudes beach, in a planter, 3.6.2025, *G. Pellegrino* (BI 59777).

The species is now widespread in lowland areas, but is not very popular with collectors, so there are relatively few records of it.

***Euphorbia valerianifolia* Lam.**

+ Division 3: Mamonia, at road to Archimandrita, lower third at conspicuous bend, field margin, alt. 224 m, 26.3.2025, *R. Hand* 9526 (CYP). – Pano Archimandrita, at agricultural road turning off left from road to Kato Archimandrita at upper forest margin, close to turn-off, marly field margin, alt. 344 m, 31.3.2025, *R. Hand* 9548 (CYP).

The species is relatively strictly confined to cereal fields, rarely found on adjacent paths, but usually only in small populations. It appears to be a good indicator species for agricultural land that is still used in a traditional manner without herbicides and is almost always associated with other rare species of segetal flora.

Gentianaceae

***Blackstonia acuminata* subsp. *aestiva* (K. Malý) Zeltner**

+ Division 3: Along the stream which starts east of the road Paramytha–Gerasa going to Apsiou, alt. 300 m, 24.5.2025, *G. Hadjikyriakou* 7797 (Herb. GH).

+ Division 7: In a small opening with herbaceous vegetation, west of Chartzeia, alt. 250 m, 25.5.2019, *G. Hadjikyriakou* 7736 (Herb. GH).

The issue of the two subspecies of *B. acuminata* (subsp. *aestiva* diploid, subsp. *acuminata* tetraploid) was already discussed by Meikle (1985). He considers the minor morphological differences to be insufficient and the taxa difficult to determine without cytological testing. Shortly afterwards, Zeltner (1991) published the first counts from Cyprus, but only for the tetraploid taxon, which may have been due to the small sample size. We consider the taxa to be distinguishable on the basis of the characteristics mentioned in these sources and provide initial data from the southern foothills of the central Troodos mountain range and from the northern foothills of the central Pentadactylos mountain range. This should encourage further, primarily cytological, research.

Malvaceae

***Malva oxyloba* Boiss.** [Syn.: *M. parviflora* var. *oxyloba* (Boiss.) Kristofferson]

+ Division 3: Mazotos, house yard, alt. 39 m, 9.3.2025, *A. Economou* in *G. Hadjikyriakou* 7795 (B, CYP, Herb. GH).

The taxon has been known in Cyprus for some time, apparently only through the collection by Sintenis and Rigo in 1880 from Kythrea (see Meikle 1977). The fact that it did not receive any particular attention may be due to the fact that Meikle (1977) only accepted it as a variety – i. e. as in many other cases, he followed a rather broad species concept. *M. oxyloba* is currently regarded by most authorities as a morphologically distinct species with a distribution centred in the Levant and isolated occurrences further west in the Mediterranean region (see, e. g., Danin & Fragman-Sapir 2016–,

POWO 2025). In the future, the taxon will be considered in the determination key and the photo documentation via the portal on the Cypriot flora (Hand & al. 2011–) to encourage greater attention.

Poaceae

Piptatherum miliaceum* (L.) Coss. subsp. *miliaceum

+ Division 4: Larnaka, Afroditis, on rubble, 6.6.2025, G. Pellegrino (BI 59785).

Although the species is already known from this division, the subspecific clarification is new.

***Polypogon viridis* (Gouan) Breistr.**

+ Division 4: Larnaka, Finikoudes beach, in a planter, 3.6.2025, G. Pellegrino (BI 59786).

***Sclerochloa dura* (L.) P. Beauv. – RDB: VU**

+ Division 3: Fasouri, N of road N of E part of Akrotiri marsh, on agricultural road in orange grove, also scattered at road along marsh, alt. 2 m, 31.3.2025, R. Hand 9540 (CYP).

***Setaria pumila* (Poir.) Roem. & Schult.**

+ Division 4: Larnaka, Finikoudes beach, in a planter, 3.6.2025, G. Pellegrino (BI 59787).

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

+ Division 1: Akamas Peninsula, Tzioni locality, scattered individuals along coastal dunes, alt. 6 m, 10.5.2024, A. Papatheodoulou (CYP 6688). – Agia Marina Chrysochous, Apotoi locality, scattered individuals along coastal dunes, alt. 9 m, 11.5.2024, A. Papatheodoulou (CYP 6689).

Potamogetonaceae

***Potamogeton pectinatus* L. [Syn.: *Stuckenia pectinata* (L.) Börner]**

+ Division 2: Arminou, Arminou reservoir, in shallow water, alt. 435 m, 27.5.2024, A. Papatheodoulou (CYP 6695).

The species has also been observed in Agridia reservoir in the same division (25.4.2025, alt. 1150 m, obs. A. Papatheodoulou). These findings in the Troodos range represent a significant shift in the altitude limit for this species.

***Potamogeton perfoliatus* L. – RDB: EN**

+ Division 2: Arminou, Arminou reservoir, in shallow water, alt. 435 m, 27.5.2024, A. Papatheodoulou (CYP 6696).

Zannichellia palustris* L. subsp. *palustris

+ Division 4: Liopetri, Potamos Liopetriou, Liopetri National Forest Park, in a large temporary pond, alt. 3 m, 2.3.2024, A. Papatheodoulou (CYP 6694).

Although the species is already known from this division, the subspecific clarification is new.

Ranunculaceae

***Ranunculus cadmicus* subsp. *cyprius* (Boiss.) Vierh.**

Division 2: Machaeras Forest, beginning of Pavlias – Dyo Mouttes Nature Trail (below the trail), rocky mountainside, alt. 1240 m, 23.3.2025, C. S. Christodoulou (CYP 6684, Herb. GH 7802).

Also, on the same date it was observed on the east site of the nearby Kionia peak. With this record the range of the taxon is considerably expanding to the east part of the Troodos range, where it was known so far from the Troodos National Forest Park, the peak Madari and the Cedar Valley.

***Ranunculus saniculifolius* Viv.**

+ Division 3: Episkopi Lemesou, along hiking trail near the gymnasium, in several temporary ponds, alt. 102 m, 1.3.2024, A. Papatheodoulou (CYP 6693).

Verbenaceae

***Lantana camara* L.**

Division 1: Chalavro near Latsi, in coastal maquis with *Pistacia lentiscus*, *Olea europaea* and *Juniperus phoenicea* (about 50 individuals), alt. 10 m, 18.1.2025, C. S. Christodoulou (CYP 6683, Herb. GH 7801); Fig. 3.

+ Division 7: In a stream with tall shrubs found in the neighbourhood of the residential area of Agia Marina west of Akanthou, alt. 30 m, 10.5.2025, G. Hadjikyriakou 7794 (Herb. GH).

The neophytic species initially grew sporadically as a casual in and near settlements, where it is one of the most commonly planted ornamental plants. The first documented evidence of such casual occurrences dates back to Georgiadis (1994), which is summarised here (division, site, collection date, collection number of the specimens kept in ATHU): (a) division 3, Lemesos, 16.5.1991, no. 1335; (b) division 4, Agia Napa, 8.2.1992, no. 356; (c) division 6, Lefkosia, in the moat of the medieval walls, 11.3.1992, no. 1361; (d) division 5 or 6, Lakatameia, 11.3.1993, no. 388). It is now increasingly being found in locations far from settlements. The species is able to penetrate even dense maquis. Like many neophytes, it is underrepresented in collections, but there are a number of other comparable observations. Its status for Cyprus is currently to be upgraded to 'Naturalised non-invasive'. Further developments should be carefully monitored.



Fig. 3: *Lantana camara*, Latsi, 18.1.2025. – Charalambos S. Christodoulou.

Acknowledgements

Daniel Spitale (Trento/Italy) is thanked for the determination of the two duckweed species. Antonis Economou (Mazotos) kindly pointed out the presence of *Malva oxyloba*. A. Papatheodoulou collected her specimens in the framework of the following projects: (a) LIFE project IP Physis (Pandoteira) – LIFE18 IPE/CY/000006. Department of Forests, Ministry of Agriculture, Rural Development and Environment, and (b) Provision of services for recording and collecting data on habitat types and species of Directive 92/43/EEC and preparation of the six-yearly report for the period 2019–2024 of Article 17 of Directive 92/43/EEC. Department of Environment, Ministry of Agriculture, Rural Development and Environment, Cyprus.

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