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Noteworthy new floristic records from Greece

Panayiotis TRIGAS^{1*}, Eleftherios KALPOUTZAKIS², Epaminondas KALOGIANNIS¹,
Anna-Thalassini VALLI¹, Konstantinos KOUGIOUMOUTZIS³, Konstantinos KATOPODIS⁴ and
Theophanis CONSTANTINIDIS³

1 Laboratory of Systematic Botany, Department of Crop Science, Agricultural University of Athens, Iera Odos 75, 118 55, Athens, Greece

2 Division of Pharmacognosy and Chemistry of Natural Products, School of Pharmacy, National and Kapodistrian University of Athens, 157 71 Athens, Greece

3 Department of Ecology and Systematics, School of Biology, National and Kapodistrian University of Athens, 157 71 Athens, Greece

4 Episkopos, 311 00 Lefkada, Greece

* Correspondence: trigas@aua.gr

ABSTRACT:

This contribution to the Greek flora includes distribution extensions and taxonomic notes for some noteworthy plant taxa. New records for certain phytogeographical regions of Greece are presented for: *Arum cylindraceum*, *Convolvulus pentapetaloides*, *Cruciata taurica*, *Galanthus reginae-olgae* subsp. *vernalis*, *Ilex aquifolium*, *Linum decumbens*, *Lythrum thymifolia*, *Sedum praesidis*, *Silene congesta* and *Trifolium diffusum*. *Allium karistanum*, *Helichrysum amorginum*, *Limonium antipaxorum* and *L. cephalonicum* have been recorded for the first time on some islands. New populations of *Allium maniaticum* and *A. ritsii*, previously known only from their *loci classici*, were discovered in the Peloponnese. *Valeriana alliarifolia*, *Silene auriculata* subsp. *auriculata* and *Symphytum creticum* were rediscovered in central Evvia, confirming long-lost historical records from previous centuries. The presence of *V. alliarifolia* in Greece and Europe is confirmed for the first time since the 19th century.

Keywords:

floristics, Greek flora, phytogeography, rediscovery

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INTRODUCTION

According to recently summarized data, Greece is characterized by high floristic richness encompassing 6620 vascular plant taxa (species and subspecies) with an endemism rate of ca. 22% (DIMOPOULOS *et al.* 2013, 2016). The good floristic knowledge of Greece which has only recently been achieved, together with post 2016 plant records (e.g. TSAKIRI *et al.* 2016; CATTANEO & GRANO 2017) or still unpublished data, have boosted considerable interest in understanding the patterns of phytogeographical relationships among the Greek regions, both on the mainland and the numerous islands (VALLI *et al.* 2019; MATTHEWS *et al.* 2020; KOUGIOUMOUTZIS *et al.* 2021). To facilitate the study of phytogeography, extensive pres-

ence-absence matrices have been constructed that take into consideration both literature records, recent descriptions of new taxa (e.g. BRULLO & ERBEN 2016; TRIGAS *et al.* 2017, 2018; KYPRIOTAKIS *et al.* 2018; TRIGAS 2018; GOULA & CONSTANTINIDIS 2021), specimen data and also photographic material which unequivocally provide evidence for specific taxa. Furthermore, the distribution range for many endemic and range-restricted species has been calculated to serve as a tool for identifying conservation priorities (e.g. KOUGIOUMOUTZIS *et al.* 2020; STATHI *et al.* 2020). During the course of the construction of these matrixes, it was realized that several records applying to members of the Greek flora, including rare, local, endemic and threatened plant taxa, were previously ignored or never published. Nineteen new plant records are therefore

presented in this report including full documentation of the novelties for specific phytogeographical regions or islands, taxonomic comments, population size when known and brief notes on ecology or overall distribution. Two of our records are particularly noteworthy: *Valeriana alliariifolia* is a confirmed member of the European flora, and *Silene auriculata* subsp. *auriculata* was rediscovered on the island of Evvia after the original collection made by John Sibthorp in 1787.

MATERIALS AND METHODS

The results of the present paper are mainly based on herbarium specimens collected since 2013 or on the evaluation of older plant vouchers kept in large Greek herbaria. In some cases, the photographic material has been assessed; it is presented here only if a voucher is absent or lost but the plant identification is unequivocal. Herbarium abbreviations follow THIERS (2021). The majority of new records come from south and central Greece, covering the island as well as continental regions. The Greek phytogeographical regions, plant names and the transliteration of toponyms are in accordance with DIMOPOULOS *et al.* (2013). Specimen details and specific annotations are provided for each taxon.

RESULTS AND DISCUSSION

a) New records for specific phytogeographical regions

Arum cylindraceum Gasp., fam. Araceae

Specimen data: Ionian Islands, Nomos Zakynthou, Eparchia Zakynthou, Zakynthos Island, ca. 1.6 km S-SW of Agalas village on the SW part of the island, on the edges of cultivated fields with *Vitis vinifera* L., 209 m a.s.l., N 38°41.800', E 20°46.603'; 14 May 2016; leg./det. Valli AT.; Valli 3012 (ACA); *ibid.* 18 May 2016, Valli 3013 (ACA).

Distribution data: New for the Ionian Islands. This widespread European species was previously known from mainland Greece, Evvia and Crete (BEDALOV & FISCHER 1995).

Habitat/population data: During field research on Zakynthos in 2015, a small *Arum* population superficially resembling *A. italicum* Mill. was detected. The species was collected in 2016 and it matches *A. cylindraceum* in all diagnostic characters, according to the most recent bibliography (BOYCE 1989, 1993). About 15 individuals were observed in the only known locality on Zakynthos Island.

Convolvulus pentapetaloides L., fam. Convolvulaceae

Specimen data: East Central, Nomos Magnisias, Eparchia Almirou, c. 4.8 km SW of Efxinoupolis, a small town on the way to the Zerelia lakes and Agios Nikolaos, on gentle hill-slopes cultivated with cereals, 170–180 m a.s.l., N 39°09.463', E 22°42.308'; 29 April 2017; leg. Constantinidis Th. & Papadrosou G.; det. Constantinidis

Th.; Constantinidis & Papadrosou 14016 (ATHU).

Distribution data: New for the East Central phytogeographical region. A Mediterranean-SW Asiatic species scattered in Greece and mostly confined to the Aegean Islands. Following KALPOUTZAKIS *et al.* (2019) we consider this species more widespread in Greece than our current records indicate. Cultivated and fallow fields are suitable habitats to search for new populations.

Cruciata taurica (Pall. ex Willd.) Ehrend. s.l., fam. Rubiaceae

Specimen data: Sterea Ellas, Nomos Fthiotidos, Eparchia Fthiotidos, Mt. Iti, Profitis Ilias peak south of the Gorgopotamos Gorge, sparse *Abies cephalonica* Loudon woodland and road embankments on limestone, 1300 m a.s.l., N 38°48.003', E 22°21.462'; 25 May 2016; leg. Trigas P. & Kougioumoutzis K.; det. Trigas P.; Trigas & Kougioumoutzis 6231 (ACA).

Distribution data: New for Sterea Ellas. *Cruciata taurica* s.l. is a SW Asian polyploid complex, extending westwards to Greece (SCHÖNBECK-TEMESY & EHRENDORFER 1991). Seven subspecies are currently recognized within this polymorphic complex; two of them are endemic to Greece, i.e. *C. taurica* subsp. *euboea* (Ehrend.) Ehrend. on the island of Evvia (Mt. Dirfis) and *C. taurica* subsp. *occidentalis* (Ehrend.) Ehrend. & Schönb.-Tem. on the island of Samos (SCHÖNBECK-TEMESY & EHRENDORFER 1991).

The species was considered absent from the Greek mainland until recently (SCHÖNBECK-TEMESY & EHRENDORFER 1991). An overlooked specimen of *C. taurica* collected on Mt. Menalon in the Peloponnese (Burri et Krendl 26140, 20 May 1986, UPA!), however, exhibits some morphological differences from the plants from Mt. Dirfis, the *locus classicus* of *C. taurica* subsp. *euboea*. It has short stems (up to 16 cm long), oblong to elliptic leaves on vegetative shoots 4.5–9.0 × 2.2–3.5 mm, elliptic to obovate or suborbicular bracts subtending the cymes 6.5–10 × 2.8–6.2 mm and elliptic bracteoles 2.7–3.4 × 1.2–1.8 mm (TRIGAS 2003). Similar plants were subsequently recorded from Mts Chelmos (SHAW & TAN 2015) and Oligirtos (TAN & RAABE 2008) in the N Peloponnese, and they were attributed to *C. taurica* subsp. *euboea*. The plants from Mt. Dirfis, however, are morphologically distinct from all known populations from the Peloponnese, and the inclusion of the latter within *C. taurica* subsp. *euboea* seems to be dubious.

The population in Mt. Iti consists of a few hundred individuals. The plants are robust with flowering stems up to 55 cm long and form large cushions, often wider than 1 m in diameter (Fig. 1A). Their vegetative shoots are shorter than the flowering stems, with oblong to narrowly elliptic leaves, 10–25 × 4–8 mm. The bracts subtending the cymes are obovate to suborbicular, 14–20 × 10–15 mm. They resemble plants from the Peloponnese and they are also distinct from *C. taurica* subsp. *euboea*, which should still be considered as a local endemic of Mt. Dirfis.



Fig. 1. (A) *Crucjata taurica* s.l. on Mt. Iti (photo by P. Trigas), (B) *Galanthus reginae-olgae* subsp. *vernalis* from the island of Lefkada (photo by K. Katopodis), (C) *Symphytum creticum* growing in a rock crevice on the island of Evvia (photo by E. Kalogiannis), (D) *Silene auriculata* subsp. *auriculata* in its natural habitat on Mt. Ortari, Evvia (photo by E. Kalogiannis), and (E) *Valeriana alliarifolia* on Mt. Xirovouni, Evvia (photo by E. Kalpoutzakis).

According to the above cited evidence, the distribution range of *C. taurica* s.l. in Greece is wider than previously thought and its populations show remarkable variation in several morphological characters, worthy of further investigation. Yet, the absence of caryological data, especially regarding the ploidy level of the Greek populations, and the incomplete knowledge of morphological variation found in all Greek localities do not allow a revision of this critical species at present. Thus, we preliminary include plants from Mt. Iti in *Crucjata taurica* s.l., and further research is scheduled in the future.

***Galanthus reginae-olgae* Orph. subsp. *vernalis* Kamari, fam. Amaryllidaceae**

Specimen data: Ionian Islands, Nomos Lefkados, Eparchia

Lefkados, the island of Lefkada, Livadi Karias, remnants of natural vegetation with *Cercis siliquastrum* L., *Crataegus monogyna* Jacq., *Hedera helix* L., *Quercus coccifera* L., *Rubus sanctus* Schreb., etc. along a small stream surrounded by cultivated fields, 330 m a.s.l., N 38°45.738', E 20°40.271'; 11 Dec 2020; leg. Katopodis K.; det. Trigas P.; *Katopodis s.n.* (ACA).

Distribution data: New for the Ionian Islands. *Galanthus reginae-olgae* is distributed in the western part of the Balkan Peninsula (W Greece, Albania, S Croatia), S Italy and Sicily (KAMARI 1982; CONTI *et al.* 2005; SHUKA *et al.* 2011). Two subspecies are currently recognized mainly based on the flowering time and leaf development at flowering time (KAMARI 1982): the typical subspecies is distributed in the Peloponnese and probably on the island

of Corfu (Kerkira) and flowers in autumn, while subsp. *vernalis* is distributed throughout the range of the species and flowers in winter/early spring.

Habitat/population data: The plants from Lefkada start flowering early in winter, with the leaves at the beginning of development (Fig. 1B). They form a vast population of several thousand individuals growing for about 700 m along a small stream on the Livadi plateau.

Taxonomic comments: As the flowering period (and consequently leaf development stage during flowering) widely fluctuates as a response to local environmental conditions, the infraspecific taxonomic subdivision of *G. reginae-olgae* should be carefully reconsidered.

Ilex aquifolium L., fam. Aquifoliaceae

Specimen data: Cyclades, Nomos Kikladon, Eparchia Androu, the island of Andros, the old bridge over the Vourkoti stream just below Vourkoti village, *Platanus orientalis* L. and *Alnus glutinosa* (L.) Gaertn. woodland, 600 m a.s.l., N 37°51.550', E 24°53.391'; 12 May 2019; leg. Trigas P, Polemis E.; det. Trigas P.; *Trigas 6474* (ACA).

Distribution data: New for the Cyclades islands. This is the southernmost record of the common holly in Greece. The species has a wide distribution in W and C Europe which becomes scattered towards the south (CAUDULLO *et al.* 2017). On the Greek mainland it is distributed southwards to Mt. Vardousia in Sterea Ellas (STRID 2016), but it is also known to occur on the southern parts of Evvia (summit area of Mt. Ochi, ca. 1350 m a.s.l.) (STRID 2016), about 45 km NW of the Andros locality.

Habitat/population data: A small population counting ca. 30 individuals, with all leaves entire without spiny-dentate margins, was recorded in the Vourkoti stream. The trees, up to 8 m tall, grow within natural streambed vegetation and their presence does not seem to be related to human activities. This part of the stream is largely inaccessible and additional individuals are likely to occur. The moist and shady habitat of the *I. aquifolium* population on Andros also hosts some other interesting mesophilous plant species, such as *Galanthus ikariae* Baker, *Scilla andria* Speta and *Asplenium scolopendrium* L. subsp. *scolopendrium*.

Linum decumbens Desf., fam. Linaceae

Specimen data: Peloponnese, Nomos Attikis, Eparchia Idras, the island of Hydra, the Theotokou Zourvas Monastery on the easternmost part of the island, along the path ca. 50 m E of the monastery, grassy places, 165 m a.s.l., N 37°21.621', E 23°32.600'; 19 March 2014; leg. Trigas P & Valli AT.; det. Trigas P.; *Trigas & Valli 5765* (ACA).

Distribution data: New for the island of Hydra and the phytogeographical region of the Peloponnese. *Linum decumbens* is a Mediterranean species, known in Greece only from the islands of Karpathos, Saria, Kasos, Halki, Astypalea, Kounoupia and Sirina in the SE Aegean area

(STRID 2016). This collection extends the known distribution of the species in the Aegean for about 260 km westwards.

Lythrum thymifolia L., fam. Lythraceae

Specimen data: East Central, Nomos Magnisias, Eparchia Almirou, the area around Mikrothives village, c. 4.2 km N of the village, cereal fields and *Brassica* plantations, also a small vernal pool by a field edge, igneous substrate (mostly lava), 210–225 m a.s.l., N 39°17.448', E 22°45.032'; 1 May 2017; leg. Constantinidis Th & Papadrosou G.; det. Constantinidis Th.; *Constantinidis & Papadrosou 14122* (ATHU).

Distribution data: New for the East Central phytogeographical region. A rare species in Greece, known up to now from the phytogeographical regions of the Ionian Islands, the Peloponnese, Sterea Ellas and the East Aegean Islands (DIMOPOULOS *et al.* 2013; FLORA OF GREECE WEB 2021).

Habitat/population data: Habitat-specific, local, and occasionally tiny, it was found growing together with *Myosurus minimus* L. on the seasonally wet edge of a cultivated field.

Silene congesta Sm., fam. Caryophyllaceae

Specimens data: 1) West Aegean Islands, Nomos Evvias, Eparchia Karistias, the island of Evvia, about 2.5 km W of Neochori, on the road to Manikia, SW-facing rocky slopes, on limestone, 270 m a.s.l., N 38°32.536', E 24°01.380'; 22 August 2017; leg. Kalogiannis E.; det. Kalogiannis E & Trigas P.; *Kalogiannis s.n.* (ACA); 2) West Aegean Islands, Nomos Evvias, Eparchia Karistias, the island of Evvia, about 2.5 km W of Neochori, on the road to Manikia, limestone rocky slopes by the stream, 250 m, N 38°32.755', E 24°00.327'; 22 August 2017; leg. Kalogiannis E.; det. Kalogiannis E & Trigas P.; *Kalogiannis s.n.* (ACA).

Distribution data: New for the Aegean Islands. *Silene congesta* is endemic to Greece and has a scattered distribution on the central and southern Greek mainland (GREUTER 1997). It has been described in *Flora Graeca* Prodromus 1(2) (SIBTHORP & SMITH 1809) from a mountainous area in Athens, but it was never recollected in Attica.

Habitat/population data: The plants growing in the two neighbouring localities of Evvia consist of a single population which includes about 120 individuals.

Taxonomic comments: *Silene congesta* is a member of *S.* sect. *Brachypodae* (Boiss.) Chowdhuri. The species is rather polymorphic within its restricted distribution range; the plants from the Peloponnese have been previously described as a distinct subspecies (*S. congesta* subsp. *moreana* Melzh.) by MELZHEIMER (1977), which, however, was considered as a synonym of the type species by GREUTER (1997). The plants from Evvia have short stems (10–25 cm long), flowers in dense, many-flowered glomer-

ules and short calyces (6–8 mm long) with a mixture of short and long glandular hairs. They resemble the plants from Mt. Parnassos in being relatively compact, with dense glomerules.

***Sedum praesidis* Runemark & Greuter, fam. Crassulaceae**

Specimen data: Cyclades, Nomos Kikladon, Eparchia Milou, the island of Milos, Ageria area on the NE part of the island, rocky places in *Juniperus phoenicea* L. woodland, 65 m a.s.l., N 36°45.003', E 24°31.419'; 17 April 2015; leg. Trigas, P. & Kougioumoutzis, K.; det. Trigas, P.; *Trigas & Kougioumoutzis 5844* (ACA).

Distribution data: *Sedum praesidis* was previously considered endemic to Crete (STRID 2016), but was recently also reported from the southern Peloponnese (see FLORA OF GREECE WEB 2021 for photos of the plant). This is the first record of the species from the Cyclades.

Taxonomic comments: In habit, *S. praesidis* resembles *S. litoreum* Guss. and has been regarded as a subspecies or variety of the latter (T HART 2002). The two species, however, differ in their morphology, ecology and breeding system, with *S. praesidis* exhibiting outbreeding. The two species often grow in close proximity or even intermingled on Crete (T HART 2002), apparently without intermediates. Similarly, the two species were found growing together in the clearings of a *Juniperus phoenicea* woodland on the island of Milos.

***Trifolium diffusum* Ehrh., fam. Fabaceae**

Specimen data: East Central, Nomos Magnisias, Eparchia Almiro, c. 4.8 km SW of the small town of Efxinoupolis, on the way to the Zerelia lakes and Agios Nikolaos, on gentle hill-slopes cultivated with cereals, 170–180 m a.s.l., N 39°09.463', E 22°42.308'; 29 April 2017; leg. Constantinidis Th & Papadrosou G.; det. Constantinidis Th.; *Constantinidis & Papadrosou 14022* (ATHU).

Distribution data: New for the East Central phytogeographical region. *Trifolium diffusum* is distributed mostly in the northern parts of the Greek mainland and the island of Thasos (DIMOPOULOS *et al.* 2013; STRID 2016).

Habitat/population data: Collected near its lowermost altitudinal range in Greece.

Taxonomic comments: As a member of *T.* sect. *Trifolium*, it is distinguished by its annual habit, opposite uppermost leaves, calyx teeth up to twice as long as tube and pink to purple corolla slightly exceeding the calyx.

b) New records for an island

***Allium cf. karistanum* Brullo, Pavone & Salmeri, fam. Amaryllidaceae**

Specimen data: West Aegean Islands, Nomos Evvias, Eparchia Karistias, the island of Skyros, Mt. Kochilas, rocky calcareous slopes south of the summit area, phryga-

na with *Sarcopoterium spinosum* (L.) Spach and *Thymbra capitata* (L.) Cav., 590 m a.s.l., N 38°49.183', E 24°36.547'; 10 July 2014 (flowering in cultivation, September 2014); leg./det. Trigas P.; *Trigas 5812* (ACA).

Distribution data: New for the island of Skyros. *Allium karistanum* was previously known only from the type collection, south of the town of Karistos in southern Evvia (BRULLO *et al.* 1997) (Fig. 2). The species has never been recollected since the type gathering in 1992.

Habitat/population data: The plants were found to grow within a small area on the SW slopes of Mt. Kochilas and they were rather scarce in this area. The size of the local population is estimated to include a few hundred individuals.

Taxonomic comments: *Allium karistanum* belongs to *A.* sect. *Cupanoscordum* Cheschm. and to the *A. cupani* Raf. complex (BRULLO *et al.* 2015). Species delimitation within the *A. cupani* group is particularly problematic; however, *A. karistanum* seems to be well differentiated by a unique combination of morphological characters. Notably, it is the only member of *A.* sect. *Cupanoscordum* in Greece with a bifid spathe valve, much shorter than the inflorescence. The plants collected on Skyros fit all the morphological characteristics provided for *A. karistanum* in its original description, showing, however, some morphological differentiations. The tepals of the Skyros plants were white with a green mid-vein in cultivation (versus whitish-pink with a purple mid-vein in *A. karistanum*), slightly unequal and smaller than that of the type population (the outer 5 × 1.3 mm and the inner 5.5–6 × 1.1 mm), while the filaments are widely triangular, not subulate (the outer), with a wider base (the inner) compared to the description of the type population. The plants from Skyros are preliminary included here within *A. karistanum*, but further research is needed to clarify their taxonomic status.

***Helichrysum amorginum* Boiss. & Orph., fam. Asteraceae**

Specimens data: 1) Cyclades, Nomos Kikladon, Eparchia Thiras, the island of Anafi, Kalamos peninsula, ca. 0.3 km NW of Moni Panagias Kalamiotissas, calcareous cliffs, 455 m a.s.l., N 36°20', E 25°50'; 26 March 2011; leg./det. Kougioumoutzis K.; *Kougioumoutzis 432* (ACA); 2) Nomos Kikladon, Eparchia Thiras, the island of Anafi, Kalamos peninsula, ca. 1.2 km SE of Moni Zoodochou Pigis, rocky openings in phrygana, 180 m a.s.l., N 36°21', E 25°50'; 26 April 2011; leg./det. Kougioumoutzis K.; *Kougioumoutzis 1350* (ACA); 3) Nomos Kikladon, Eparchia Thiras, the island of Anafi, ca. 2.4 km SE of Moni Zoodochou Pigis, rocky openings in phrygana, 275 m a.s.l., N 36°21', E 25°50'; 28 May 2011; leg./det. Kougioumoutzis K.; *Kougioumoutzis 1674* (ACA); 4) Nomos Kikladon, Eparchia Milou, the island of Folegandros, ca. 0.3 km NW of Chora, near Kanoules spring, on calcareous cliffs, 108 m a.s.l., N

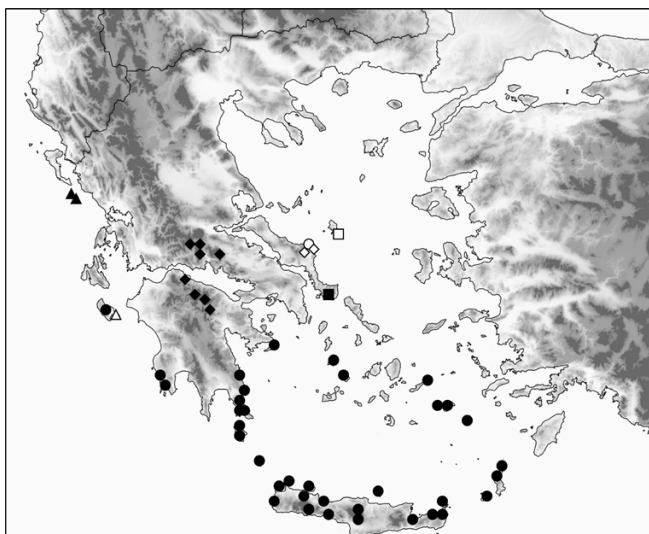


Fig. 2. Distribution of *Silene auriculata* (◆,◇), *Symphytum creticum* (●,○), *Allium karistanum* (■,□), and *Limonium antipaxorum* (▲,△) in Greece. Black refers to the known distribution of the taxa, while the new records are indicated in white.

36°37', E 24°54'; 24 March 2013; leg./det. Kougioumoutzis K.; *Kougioumoutzis* 3104 (ACA); 5) Nomos Kikladon, Eparchia Milou, the island of Folegandros, ca. 0.4 km NE of Chora, near Moni Panagias, on steep calcareous cliffs, 262 m a.s.l., N 36°37', E 24°55'; 18 May 2013; leg./det. Kougioumoutzis K.; *Kougioumoutzis* 3393 (ACA).

Distribution data: New for the southern Cyclades. This especially rare central Aegean endemic was previously known only from the islands of Amorgos, Keros and Anydros (STRID 2016).

Taxonomic comments: *Helichrysum amorginum* belongs to *H.* section *Virginea* (DC.) Fiori, along with other rare Aegean endemics, i.e. *H. doerfleri* Rech. f., *H. sibthorpii* Rouy and *H. taenari* Rothm. *Helichrysum* sect. *Virginea* differs from the other sections of the genus in having white, patent-radiating involucre bracts at the anthesis, with the middle ones longer than the inner and outer ones, as well as in the involucre structure being longer than the florets (GEORGIADOU TVRTKOVIC-SAHIN 1982). *Helichrysum amorginum* can easily be confused with *H. orientale* (L.) Vaill. in the field, when withered and/or not in bud, due to their similar general habit.

During field work on Anafi and Folegandros in 2011 and 2013, respectively, we came across several individuals which bore a superficial resemblance to *H. orientale*, but obviously differing in the colouration of the involucre bracts, a feature used for the sectional delimitation of *Helichrysum* by GEORGIADOU TVRTKOVIC-SAHIN (1982). On Anafi, the plants had maroon involucre bracts when in bud, gradually turning to apricot-orange during involucre maturation and finally, when in full anthesis, to pale whitish-yellowish. On Folegandros, the plants had snowy-white involucre bracts, turning to white-pale yellowish when withered, sim-

ilar therefore to the plants occurring on the vertical limestone cliffs around Moni Chozoviotissas on Amorgos, the *locus classicus* of *H. amorginum*. After careful examination all the specimens collected from Anafi and Folegandros were identified as *H. amorginum*. Nevertheless, the populations from both these islands seem to deviate slightly from typical *H. amorginum* specimens. The plants from Anafi have much narrower cauline leaves (0.8–7 mm wide), a larger innermost/middle involucre bracts ratio of 0.8, an eglandular stereome (the basal coriaceous part of the bract) in the middle involucre bracts, a sparsely glandular to glabrous stereome (extending up to the upper third) in the innermost involucre bracts, longer hermaphrodite florets (up to 5.6 mm long), and finally a shorter cypsela (0.6–0.9 mm long). The plants from Folegandros have a much shorter peduncle (3–6 mm long), narrower cauline leaves (2–6 mm wide), an eglandular stereome (extending up to 1/3 of the total length) in the middle involucre bracts, a sparsely glandular to subglabrous stereome in the innermost involucre bracts and a concave receptacle. Even though these morphological differences are consistent within the populations found on Anafi and Folegandros, they fall within the variation of *H. amorginum* and do not merit subspecific rank. The plants with few capitula from the islands of Amorgos (especially from Moni Chozoviotissas), Keros and Anidros have short peduncles and/or maroon involucre bracts in bud.

***Limonium antipaxorum* Artelari, fam. Plumbaginaceae**

Specimen data: Ionian Islands, Nomos Zakynthou, Eparchia Zakynthou, the island of Zakynthos, the SE part of the island, Vasilikos area, Agios Nikolaos beach, on calcareous maritime cliffs with *Limonium phitosianum* R. Artelari, *Limonium virgatum* (Willd.) Fourr., *Crithmum maritimum* L. and *Helichrysum stoechas* (L.) Moench subsp. *barrelieri* (Ten.) Nyman, 0–5 m a.s.l., N 37°43.717', E 20°59.551'; 13 September 2015; leg./det. Valli AT.; *Valli* 2500 (in flower) (UPA); ibid. 25 September 2015; leg./det. Valli AT.; *Valli* 2530 (in fruit) (UPA).

Distribution data: New for the island of Zakynthos. This rare local Ionian endemic was previously known only from the islands of Paxos and Antipaxos (type locality) (ARTELARI 1984; BRULLO & ERBEN 2016) (Fig. 2).

Habitat/population data: During a thorough botanical exploration of Zakynthos in 2015, a few individuals resembling *L. antipaxorum* were detected. The species forms a small population in the area of Agios Nikolaos beach (southeast Zakynthos) with 49 individuals (complete census), 39 of which were mature.

Taxonomic comments: The plants from Zakynthos presented no deviating morphological characters compared to those of the type locality on Antipaxos.

***Limonium cephalonicum* Artelari, fam. Plumbaginaceae**

Specimen data: Ionian Islands, Nomos Kefallinias, Eparchia Ithakis, the island of Ithaki, Kaminia of Agios

Ioannis, ca. 4.6 km S of Stavros, calcareous rocks, 5 m a.s.l., N 38°23', E 20°39'; 19 October 2014; leg./det. Kougioumoutzis K.; *Kougioumoutzis 3416* (UPA).

Distribution data: New for the island of Ithaki. This Ionian endemic was previously considered as a single island endemic of Cephalonia (BRULLO & ERBEN 2016).

Habitat/population data: During field work in Ithaki in 2014, we observed approximately 80 individuals of *L. cephalonicum* growing along the western coast of the island.

c) Taxa recorded for the first time beyond their *loci classici*

***Allium maniaticum* Brullo & Tzanoudakis, fam. Amaryllidaceae**

Specimen data: Peloponnese, Nomos Lakonias, Eparchia Epidavrou-Limiras, Maleas promontory, on the footpath to Agia Irini monastery, between the locality known as Varoulko and the monastery, on a stony slope facing south, screes in the openings of scrubs with low vegetation with *Pistacia lentiscus* L., *Phillyrea latifolia* L., *Euphorbia dendroides* L., *Calicotome villosa* (Poir.) Link, *Salvia pomifera* L., *Phlomis cretica* C. Presl, *Thymbra capitata* (L.) Cav., *Phagnalon rupestre* (L.) DC. subsp. *graeicum* (Boiss. & Heldr.) Batt., etc., limestone, c. 100–150 m a.s.l., N 36°26.226', E 23°11.276'; 20 April 2012; leg./det. Kalpoutzakis E.; *Kalpoutzakis 4151*, (ACA).

Distribution data: *Allium maniaticum* was considered up to now as a local endemic species, known only from its *locus classicus*, at the harbour of Gerolimenas, on the Mani peninsula (BRULLO & TZANOUDAKIS 1989; TAN & IATROU 2001). This is the first additional locality for this species beyond its *locus classicus*. Our collection extends the distribution range of the species c. 70 km to E-SE.

Habitat/population data: The presence of *A. maniaticum* in Maleas is important for the future survival of the species as its *locus classicus* has been severely impoverished by the extension of port facilities (TZANOUDAKIS, pers. comm.). About 150 individuals were counted in three screes at the Maleas locality.

***Allium ritsii* Iatrou & Tzanoudakis, fam. Amaryllidaceae**

Specimen data: Peloponnese, Nomos Lakonias, Eparchia Epidavrou-Limiras, W side of the Maleas peninsula, c. 4.3 km from Agios Georgios village towards Pandanasa, stony places, openings in low scrub with *Pistacia lentiscus*, *Phillyrea latifolia*, *Olea europaea* L. subsp. *europaea*, *Cistus parviflorus* Lam., *Thymbra capitata*, *Colchicum sfikasianum* Kit Tan & Iatrou, etc., on limestone, 156 m a.s.l., N 36°34.196', E 22°59.143'; 9 October 2011; leg./det. Kalpoutzakis E.; *Kalpoutzakis 4094*, (ACA).

Distribution data: *Allium ritsii* is a local endemic species, known only from its *locus classicus*, c. 1 km N of Monemvasia in the SE Peloponnese (IATROU & TZANOUDAKIS 1995; TAN & IATROU 2001). This is the first

additional locality for this species beyond its *locus classicus*. Our collection extends the distribution of the species c. 15 km SW.

Habitat/population data: About 100 plants were counted at this new locality.

d) Taxa confirmed/rediscovered in Greece and/or Europe

***Silene auriculata* Sm. subsp. *auriculata*, fam. Caryophyllaceae**

Specimen data: 1) West Aegean Islands, Nomos Evvias, Eparchia Karistias, the island of Evvia, Mt. Ortari, about 5.2 km NW of Kimi town, in crevices of N-facing limestone cliffs, 790 m a.s.l., N 38°40.169', E 24°03.706'; 29 May 2018; leg. Kalogiannis E.; det. Kalogiannis E. & Trigas P.; *Kalogiannis s.n.* (ACA); 2) West Aegean Islands, Nomos Evvias, Eparchia Chalkidos, the island of Evvia, Mt. Skotini, the north-western parts of the mountain, SSW of Metochi village, c. 0.5 km E of the westernmost part of a cliff system facing N, rock crevices, gravel, scree, at the bottom of the cliffs, limestone, 1190–1210 m a.s.l., N 38°35'42", E 23°57'00"; 25 July 2021; leg./det. Constantinidis Th. & Kalpoutzakis E.; *Constantinidis & Kalpoutzakis 15625* (ATHU).

Historical data: *Silene auriculata* subsp. *auriculata*, the only member of *S.* sect. *Odontopetalae* Schischkin ex Chowdhuri distributed in Greece (GREUTER 1997), was first collected by John Sibthorp on Mt. Dirfis (Delphi), probably during early August 1787. The species was described in *Florae Graecae Prodromus 1(2)* (SIBTHORP & SMITH 1809), and its lectotypification was designated by MELZHEIMER (1986) and GREUTER (1997): “in monte Delphi”, Sibthorp [OXF, IDC photo 46: B4, (illustration in Sibthorp, *Fl. Graec.*: tab. 435, 1825)]. The species was never recollected from Mt. Dirfis or any other locality on the island of Evvia. Since its occurrence has not been confirmed, MELZHEIMER (1986) stated that the type may have been collected elsewhere (e.g. on Parnassos). According to GREUTER (1997), the mention of Mt. Dirfis (Delphi) in the protologue is obviously an error for Mt. Parnassos above Delphi.

The discovery of *Silene auriculata* subsp. *auriculata* on Evvia confirms a long-lost historical record made by John Sibthorp. The species has probably been extinct from the main peak of Mt. Dirfis (Delphi), if indeed Sibthorp's original collection was made at that mountain. Although Delphi peak is botanically well-explored, *S. auriculata* has never been recollected.

Habitat/population data: The new locality on Mt. Ortari is located ca. 20 km eastwards of Mt. Dirfis and that on Mt. Skotini ca. 9 km to the east-southeast. The former is quite an unexpected locality for *S. auriculata*, regarding elevation, as well as proximity to the sea. The species usually grows on the crevices of limestone cliffs on the inland mountains of Sterea Ellas and the N Peloponnese (Fig. 2), usually between 1600 and 2400 m a.s.l. (GREUTER

1997). Both collections were made at a considerably lower altitude: on Mt. Ortari, *S. auriculata* grows at about 790 m a.s.l., on limestone cliffs facing the Aegean Sea (linear distance to the sea less than 1 km) (Fig. 1D) and on Mt. Skotini at around 1200 m. The Mt. Ortari population is estimated to include about 70 individuals, growing in a small accessible area. The cliff system of Mt. Ortari, however, is largely inaccessible and the presence of additional individuals is likely. The population on Mt. Skotini is larger and counts at least 400-500 plants. Similar to Ortari, the inaccessible cliff habitat on Skotini should almost definitely host a larger population.

***Symphytum creticum* (Willd.) Greuter & Rech. f., fam. Boraginaceae**

Specimen data: West Aegean Islands, Nomos Evvias, Eparchia Karistias, the island of Evvia, about 3.2 km N of Kimi town, in the crevices of NW-facing limestone cliffs N of Sotiros Monastery, 200 m a.s.l., N 38°39.881', E 24°06.538'; 2 June 2018; leg. Kalogiannis E.; det. Kalogiannis E & Trigas P.; *Kalogiannis s.n.* (ACA).

Historical data: *Symphytum* L. s.l., as currently treated (VALDÉS 2004; WEIGEND *et al.* 2016), includes *Symphytum* s.str. (with rather short and broad, suberect corolla lobes) and *Procopiana* Guşul. (with long, narrow, recurved corolla lobes). The discovery of *S. creticum* in central Evvia confirms a historical record of *Procopiana cretica* (Willd.) Guşul. by the French botanist Aucher-Éloy (Aucher 2344) cited by RECHINGER (1944). Aucher-Éloy collected this plant on the island of Evvia in 1836 and it is likely that his *P. cretica* specimen, like several other of his specimens from Evvia, were collected from Mt. Dirfis area in the central part of the island. The presence of *S. creticum* on Evvia has not been subsequently confirmed, and the West Aegean area is not included in its distribution range in all modern floristic literature of Greece (TAN & IATROU 2001; DIMOPOULOS *et al.* 2013, 2016; STRID 2016) (Fig. 2).

The presence of *Symphytum creticum* on Evvia was further questioned, since *S. euboicum* (Runemark) Runemark (as *P. euboica* Runem.) was subsequently described from the island of Evvia in RECHINGER (1961), and the Aucher 2344 specimen from Evvia was used as a type specimen. In addition, two more specimens (Rechinger 17216, 18920) from southern Evvia were also cited. In his revision of the Greek *Symphytum* species, STEARN (1986) reduced *P. euboica* to a synonym of *S. ottomanum* Friv. The latter is a Balkan member of the *Symphytum* s.str. clade, distributed southwards to the island of Evvia (STRID 2016), and is rather common, usually growing in the understorey of *Platanus orientalis* L. woodlands, in the central and southern parts of the island. Thus, it seems that specimens belonging to both *Symphytum (Procopiana) creticum* and *S. ottomanum* were included in the original description of *P. euboica*. Our report of *S. creticum* from central Evvia confirms the record of Aucher-Éloy after almost two centuries.

Habitat/population data: Only four individuals were observed, growing in small crevices of limestone cliffs (Fig. 1C). Although the presence of more individuals in the inaccessible surrounding areas is likely, the species should be considered as extremely rare on Evvia.

***Valeriana alliarifolia* Adams, fam. Valerianaceae**

Specimens data: 1) West Aegean Islands, Nomos Evvias, Eparchia Chalkidos, the island of Evvia, Mt. Xerovouni, the NW slope of the mountain, c. 17.4 km from Steni towards Metochi village, rocky outcrop in *Abies cephalonica* woodland with scattered young trees of *Platanus orientalis* together with *Genista januensis* Viv. subsp. *lydia* (Boiss.) Kit Tan & Ziel., *Tussilago farfara* L., *Hypericum delphicum* Boiss. & Heldr., *Origanum vulgare* L. subsp. *hirtum* (Link) Ietsw., *Achillea ligustica* All., *Blackstonia perfoliata* (L.) Huds., *Dittrichia viscosa* (L.) Greuter, etc., non-calcareous substrate, 840–850 m a.s.l., N 38°36.386', E 23°55.255'; 24 May 2015; leg./det. Kalpoutzakis E.; *Kalpoutzakis 4718* (ACA, ATHU); 2) West Aegean Islands, Nomos Evvias, Eparchia Chalkidos, the island of Evvia, Mt. Xerovouni, the upper parts of the NW side of the mountain, the bottom of large cliffs facing N and E, rocky places, rock fissures, scree, on limestone, 1340–1360 m, N 38°34'43", E 23° 53' 23"; 06 June 2021; leg/det. Constantinidis Th. & Kalpoutzakis E.; *Constantinidis & Kalpoutzakis 15599* (ATHU); 3) West Aegean Islands, Nomos Evvias, Eparchia Chalkidos, the island of Evvia, Mt. Xerovouni, the NW parts of the mountain, the bottom of a large cliff system facing N, along a linear distance of c. 500-600 m, rocky places, rock fissures, scree, a few dolines at the easternmost parts, on limestone, 1315–1350 m, N 38°34'44", E 23°53'34"; 06 June 2021; leg/det. Constantinidis Th. & Kalpoutzakis E.; *Constantinidis & Kalpoutzakis 15611* (ATHU); 4) West Aegean Islands, Nomos Evvias, Eparchia Chalkidos, the island of Evvia, Mt. Xerovouni, the north-eastern parts of the mountain, the bottom (eastern parts) of Portaris summit, somewhat shady cliffs facing north, rock fissures, stony places and scree, limestone, 1340-1370 m a.s.l., N 38°35'28", E 23°55'.03"; 25 July 2021; leg./det. Constantinidis Th. & Kalpoutzakis E.; *Constantinidis & Kalpoutzakis 15651* (ATHU); 5) West Aegean Islands, Nomos Evvias, Eparchia Chalkidos, the island of Evvia, Mt. Skotini, the north-western parts of the mountain, SSW of Metochi village, c. 0.5 km E of the westernmost part of a cliff system facing N, rock crevices, gravel, scree, at the bottom of the cliffs, limestone, 1190-1210 m a.s.l., N 38°35'42", E 23°57'.00"; 25 July 2021; leg./det. Constantinidis Th. & Kalpoutzakis E.; *Constantinidis & Kalpoutzakis 15631* (ATHU); 6) West Aegean Islands, Nomos Evvias, Eparchia Chalkidos, the island of Evvia, along the forest road from Metochi village to the western parts of Mt. Skotini, c. 6.5 km S-SE of the village, a dark, soggy part on the road with some water pumping, *Abies cephalonica* and *Platanus orientalis* forest, 750 m, N 38°36'05", E 23°56'59"; 25 July 2021; leg/det.

Constantinidis Th. & Kalpoutzakis E.; *Constantinidis & Kalpoutzakis 15632* (ATHU).

Distribution data: The presence of *V. alliarifolia* in Greece and Europe is confirmed. This is a predominantly Asiatic species distributed from Anatolia and the Caucasus area eastwards to N Iran (STRID 2016).

Historical data: Its presence in Greece was already indicated by HALÁCSY (1901) based on a specimen of Theodor von Heldreich (herb. norm. n. 798) collected on Mt. Xerovuni, Euboea (Mt. Xerovouni, Evvia), apparently in the second half of the 19th century. According to STRID (2016), Heldreich's specimen could not be located at WU or WU-Hal in March 2014. RECHINGER (1944) repeats the record without adding any further details. There is no other evidence on the species' presence in Greece during the 20th and the 21st centuries and consequently, *V. alliarifolia* was disregarded in the checklist of the Greek flora (DIMOPOULOS *et al.* 2013).

Taxonomic comments: Our collections confirm the presence of *V. alliarifolia* in Greece and Europe, on two neighbouring mountains, one of which is the same mountain where Th. von Heldreich collected his original specimen. Owing to its habit, the species is distinct and easy to recognize (Fig. 1E). Among the other *Valeriana* species growing in Greece it comes closer to *V. asarifolia* Dufr., an endemic of the Cretan area, Antikithira and Chalki (TZANOUDAKIS *et al.* 2006; CATTANEO & GRANO 2015; STRID 2016), from which it differs in its non-dilatated root (root stout and usually tuberous in *V. asarifolia*), undivided, ovate to lanceolate, crenate to shallowly dentate lamina of middle and upper leaves (vs. irregularly and deeply pinnatifid in *V. asarifolia*) and shorter corolla tube (3–4.5 mm vs. 5–6.5 mm).

Habitat/population data: The northern parts of Mt. Xerovouni and Mt. Skotini host the only native European populations of *V. alliarifolia* known to date. These are highly disjunct and trans-Aegean, extending the distribution of the species ca. 550 km to the west of the nearest populations in Turkey. On Evvia, the species grows predominately on limestone but seems to adapt equally well to schistose rocky slopes, preferring shady, sheltered habitats that retain some moisture. Unexpectedly, we collected the species on damp road embankments south-southwest of Metochi village, where it was growing gregariously in deep shade. We observed ca. 250–280 flowering plants in total, some of them on precipitous rock faces and ledges. The species reproduces both sexually and vegetatively, and estimation of the exact number of mature individuals is difficult. Although rare, *V. alliarifolia* currently seems safe in Evvia, due to the inaccessible character of most of its habitats.

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Interesantni novi floristički podaci iz Grčke

Panayiotis TRIGAS, Eleftherios KALPOUTZAKIS, Epaminondas KALOGIANNIS, Anna-Thalassini VALLI, Konstantinos KOUGIOUMOUTZIS, Konstantinos KATOPODIS i Theophanis CONSTANTINIDIS

Ovaj doprinos grčkoj flori uključuje dopunu podataka o distribuciji, kao i taksonomske beleške koje se odnose na neke interesantne biljne taksone. Novi podaci za određene fitogeografske regione Grčke su prikazani za: *Arum cylindraceum*, *Convolvulus pentapetaloides*, *Cruciata taurica*, *Galanthus reginae-olgae* subsp. *vernalis*, *Ilex aquifolium*, *Linum decumbens*, *Lythrum thymifolia*, *Sedum praesidis*, *Silene congesta* i *Trifolium diffusum*. *Allium karistanum*, *Helichrysum amorginum*, *Limonium antipaxorum* i *L. cephalonicum* su zabeleženi prvi put na nekim ostrvima. Nove populacije *Allium maniaticum* i *A. ritsii*, predhodno poznate samo sa svojih klasičnih nalazišta, otkrivene su na Peloponezu. *Valeriana alliariifolia*, *Silene auriculata* subsp. *auriculata* i *Symphytum creticum* su ponovno otkrivene u centralnim delovima Evrije, potvrđujući davno izgubljene istorijske zapise iz prethodnih vekova. Prisustvo *V. alliariifolia* u Grčkoj i Evropi je potvrđeno prvi put nakon 19. veka.

Ključne reči: floristika, grčka flora, fitogeografija, ponovno otkriće

