

Additions to the flora of Kithira (Greece) I.

Author: Yannitsaros, Artemios

Source: Willdenowia, 28(1/2) : 77-94

Published By: Botanic Garden and Botanical Museum Berlin (BGBM)

URL: <https://doi.org/10.3372/wi.28.2808>

BioOne Complete (complete.BioOne.org) is a full-text database of 200 subscribed and open-access titles in the biological, ecological, and environmental sciences published by nonprofit societies, associations, museums, institutions, and presses.

Your use of this PDF, the BioOne Complete website, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at www.bioone.org/terms-of-use.

Usage of BioOne Complete content is strictly limited to personal, educational, and non - commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

BioOne sees sustainable scholarly publishing as an inherently collaborative enterprise connecting authors, nonprofit publishers, academic institutions, research libraries, and research funders in the common goal of maximizing access to critical research.

ARTEMIOS YANNITSAROS

Additions to the flora of Kithira (Greece) I.

Abstract

Yannitsaros, A.: Additions to the flora of Kithira (Greece) I. – Willdenowia 28: 77-94. 1998. – ISSN 0511-9618.

79 records of native, adventive and cultivated taxa new to the SW Aegean island of Kithira and new localities for 51 other, little known taxa are presented. The families *Isoetaceae* and *Ruppia*, and the native genera *Aethionema*, *Arabidopsis*, *Crataegus*, *Crypsis*, *Echinochloa*, *Echinops*, *Isoetes*, *Lunaria*, *Moenchia* and *Ruppia* are reported from the island for the first time. The family *Amaranthaceae* and the genera *Aeonium*, *Amaranthus*, *Aster*, *Ipomoea*, *Mirabilis*, *Paspalum* and *Zantedeschia*, which are represented by naturalized taxa, are also reported as new to the island. Morphological, chorological and other data are included for the majority of the taxa.

Introduction

The island of Kithira, lying between Peloponnisos and Kriti in the SW corner of the Aegean Sea, has a very interesting flora. A large number of its plant taxa has been reported by Greuter & Rechinger (1967), who also refer to older literature records, and by Yannitsaros (1969). Additional records have been published in some recent monographs and papers (Snogerup 1967, 1989, Strid 1970, Stork 1972, Bothmer 1974, Kamari 1976, Persson 1981, Phitos 1981, Mathew 1982, 1983, Krendl 1987, Georgiou-Karavata 1990, Tzanoudakis & al. 1991, Zimmer 1991, Routsis 1993, Routsis & Georgiadis 1994 and others). Altogether, over 730 spontaneous tracheophytic taxa are known from Kithira so far.

Some areas of the island were not yet, however, explored at all, and other areas not equally well known in all seasons of the year. During three trips to Kithira between 1993 and 1995 I searched several of the unexplored areas and discovered some novelties for the island, which are the subject of this paper.

Still there remain some areas such as the western, somehow hardly accessible coasts of the island, the mountains of Koutsokefalo and Digenis on the east side, the mountain of Mirmigaris on the west side to be searched. Moreover, the flora of the off-shore islands has remained largely unknown yet.

Although most of the material collected at my last trips to Kithira is presented in this paper, further material has not been studied in detail yet. More research on the flora of Kithira is currently being done by our team in the areas mentioned above, and this will be the subject of one or two other publications. A final paper will contain a full checklist as well as an analysis of the flora and phytogeography of Kithira.

Material and methods

The data presented in this paper are based on specimens of my own collections and observations during the periods April 1965 to May 1967, August 1993, July 1994 and April 1995. I have also included some specimens collected by the biologist Dr Antonios Bartsiokas in August 1978, August 1982 and August 1983, by Theodoros Kominos, amateur ornithologist and inhabitant of Kithira, in February 1987 and August 1995, and by Makis & Myrto Apergis in April 1996. A few specimens collected by my students M. Siatras and E. Kaliyeris are also included. All specimens are in my personal herbarium, which is kept in ATHU.

The additions include both indigenous and adventive taxa, as well as some cultivated taxa of special interest. Additional localities of taxa that are hitherto little known from Kithira are also recorded and discussed. In the following list the adventive and cultivated taxa are set in square brackets. Taxa that are new to Kithira are marked with an asterisk preceding the name.

The nomenclature for *Pteridophyta* and *Spermatophyta*, with a few exceptions, follows Greuter & al. (1984a, 1986, 1989) and Tutin & al. (1968-80, 1993). The families, genera and species are listed within the major taxonomic groups in alphabetical order.

List of taxa

Bryophyta

Amblystegiaceae

**Leptodictyum riparium* (Hedw.) Warnst. – Milopotamos, 5.-10.3.1979, *Siatras s.n.*

Pteridophyta

Equisetaceae

Equisetum ramosissimum Desf. – Agia Pelagia, margins of abandoned fields and roadsides, 13.-16.7.1994, *Yannitsaros obs.*; Kastro near Paleopolis, humid places, roadsides, 15.7.1994 & 19.4.1995, *Yannitsaros obs.*; Karavas, in the place called Amirali, 18.4.1995, *Yannitsaros obs.* – Previously recorded from Kithira (Greuter & Rechinger 1967, *Yannitsaros* 1969) but the above localities are new.

**Isoetaceae*

**Isoetes histrix* Bory – Between Potamos and Karavas, near the crossing of the road to Yerakari around a dried small seasonal pool between tall bushes, humus soil, 18.4.1995, *Yannitsaros* 8956. – *Isoetes* is rare and perhaps undercollected in Greece. The plants from Kithira belong to var. *histrix*. Only 14 individuals were counted.

Spermatophyta

Gymnospermae

Cupressaceae

**Cupressus sempervirens* var. *horizontalis* (Mill.) Aiton] – Near Skoulantrianika, 30.10.1966, *Yannitsaros obs.* (cultivated and subsponaneous); between Kapsali and Kithira (Chora), 27.10.1966 & 27.-30.8.1993, *Yannitsaros obs.* (cultivated). – Two big mature individuals have been observed near Skoulantrianika. Many small subsponaneous individuals were found around them in the phrygana with *Sarcopoterium spinosum* (L.) Spach.

[*C. sempervirens* L. var. *sempervirens*] – Milopotamos, cultivated besides the road, 1.11.1966, *Yannitsaros obs.*; near Kalamos, 31.10.1966, *Yannitsaros obs.* (cultivated); in the monastery of Mirtidia (Moni Mirtidion), 29.8.1993, *Yannitsaros obs.* (cultivated). – The taxon has been recorded previously by Greuter & Rechinger (1967).

**Juniperus oxycedrus* subsp. *macrocarpa* (Sm.) Ball] – Agia Pelagia, 28.8.1993 & 13.-16.7.1994, *Yannitsaros obs. & photo.* (cultivated). – Greuter (in Greuter & Rechinger 1967) listed this

taxon as spontaneous and indigenous on Kithira but Yannitsaros (1969) pointed out that this is an error for *J. phoenicea* L. Unfortunately, this error also appears in the distribution map of the taxon recently published in 'Flora hellenica' (Strid & Tan 1997). *J. oxycedrus* subsp. *macrocarpa* grows on Kithira only as a cultivated plant in Agia Pelagia. In this village I observed two individuals, 5-6 m high, in the front of a house. The owner of the house informed me that they were planted about 25-30 years ago, originating from the neighbouring island of Elafonisos, where the taxon grows abundantly (Yannitsaros 1971).

Pinaceae

- [*Pinus brutia* Ten.] – Karvounades, 28.8.1993, roadsides, *Yannitsaros obs.* (cultivated); Moni Mirtidion, 29.8.1993, *Yannitsaros obs.* (cultivated). – This cultivated forest species was already recorded from Kithira by Mavrommatis (1975) as 'tracheia peuci', but without exact localities.
- [*P. halepensis* Mill.] – Near the monastery of Agia Elessa, 28.10.1966, *Yannitsaros obs.* (cultivated); near Moni Mirtidion, 31.10.1966 & 29.8.1993, *Yannitsaros obs.* (cultivated); near Milopotamos, in a hill NW of the village, 1.11.1966, *Yannitsaros obs.* (cultivated and spontaneous); Kithira (Chora), in the castle (Kastro), 20.4.1995, *Yannitsaros obs.* (cultivated); Potamos, 27.8.1993 & 21.4.1995, *Yannitsaros obs.* (cultivated); Kapsali, 27.10.1966 & 27.-30.8.1993, *Yannitsaros obs.* (cultivated). – Already recorded from Kithira as a cultivated forest species (Greuter & Rechinger 1967, Mavrommatis 1975 as 'halepios peuci'). According to the inhabitants' information the stand near Milopotamos originated spontaneously from three big cultivated individuals.
- [*P. pinea* L.] – Potamos, 14.7.1994 & 21.4.1995, *Yannitsaros obs.* (cultivated); between Agia Pelagia and Karavas, 14.7.1994, *Yannitsaros obs.* (cultivated). – There is only one previous record of this cultivated species from Kithira (Greuter & Rechinger 1967).

Angiospermae

Dicotyledones

Aizoaceae

- *[*Aptenia cordifolia* (L.f.) Schwantes] – Kithira (Chora), below the N side of Kastro, in rubbish, 26.10.1966, *Yannitsaros 846a*; Agia Pelagia, in the ruins of an old house, 14.7.1994, *Yannitsaros obs.*; Potamos, margin of a street, 14.7.1994, *Yannitsaros obs.* – A South African species cultivated for ornament and known as naturalized in the S Aegean area (Greuter 1974, Greuter & al. 1984a, Jahn & Schönfelder 1995, Raus 1996).
- *[*Carpobrotus edulis* (L.) N.E. Br. var. *edulis*] – Agia Pelagia, in the ruins of an old house and around them, 14.7.1994, *Yannitsaros obs.* (cultivated). – To my knowledge there are no previous records of any *Carpobrotus* species from Kithira.

***Amaranthaceae**

- *[*Amaranthus albus* L.] – Kapsali, weed in flower beds, 29.8.1993, *Yannitsaros obs.*; Katouni, roadsides and in other manmade habitats, 29.8.1993, *Yannitsaros obs.*; Livadi, roadsides and in waste land, 29.8.1993, *Yannitsaros obs.* – A naturalized xenophyte of American origin known from many territories of Greece already since the 19th century (Boissier 1879, Halácsy 1904) but only recently recorded from the S Aegean area (Greuter 1973). In Kithira it seems to be well established and rather common in the above localities.
- *[*A. cruentus* L.] – Paleopolis, weed of irrigated orchards, 28.8.1993, *Yannitsaros 8532*. – Not recorded from the mainland of Greece and the E Aegean by Greuter & al. (1984a) but known from the island of Kriti. Recently reported as new for the E Aegean islands (Yannitsaros 1992) and mapped for many parts of Greece (Strid & Tan 1997).
- * [A. *deflexus* L.] – Potamos, margins of streets (rare), 14.7.1994, *Yannitsaros 8845*. – An adventive of South American origin only recently reported as naturalized from Kriti (Yannit-

saros & Protopapadakis 1989, Yannitsaros 1991) but known from other parts of Greece since the 19th century (Boissier 1879, Halácsy 1904).

*[*A. retroflexus* L.] – Agia Pelagia, in waste moist places, 14.7.1994, *Yannitsaros* 8835. – A naturalized species of North American origin, recorded from Greece since the 19th century (Boissier 1879, Halácsy 1904).

*[*A. viridis* L.] – Paleopolis, weed of irrigated orchards, 28.8.1993, *Yannitsaros* 8533; Karavas, roadsides, 14.7.1994, *Yannitsaros obs.*; Potamos, roadsides, 15.7.1994, *Yannitsaros obs.*; Agia Pelagia, in waste places, 15.7.1994, *Yannitsaros obs.* – A naturalized species recently reported also from Kriti (Greuter 1974, Jalas & Suominen 1980, Yannitsaros 1991, Jahn & Schönfelder 1995). Well established and rather common on Kithira.

Anacardiaceae

*[*Pistacia vera* L.] – SSE of the village Milopotamos and NE of Mt Mirmigaris, 1.11.1966, *Yannitsaros obs.* (cultivated).

Apocynaceae

[*Vinca major* L. subsp. *major*] – Karavas, in the place called Amirali, moist shady places, 28.8.1993, *Yannitsaros obs.*; *ibid.*, 18.4.1995, *Yannitsaros* 8926. – This is the second known locality of *V. major* on Kithira, another is SW of Potamos (Yannitsaros 1969, as *V. major*). The taxon is not native to Kithira but appears to be completely naturalized as has also been reported from Kriti (Greuter & al. 1984a, Yannitsaros 1991, Turland & al. 1993, Jahn & Schönfelder 1995).

***Asclepiadaceae**

*[*Asclepias fruticosa* L.] – Near Aroniadika, roadside, 27.8.1993, *Yannitsaros obs.* – A S African species, escaped from cultivation and naturalized in many parts of Greece. In Kithira the species seems to be not yet naturalized because the spontaneously growing plants at the above locality are situated rather close to cultivated ones in Aroniadika, from where they had obviously escaped.

Boraginaceae

Neotostema apulum (L.) I. M. Johnston – Near the monastery of Panagia Orfani, 29.8.1993, *Yannitsaros obs.*; between Stathianika and Dokana, pebbly paths, 20.4.1995, *Yannitsaros* 9025. – There is only one previous record of this species from Kithira (Greuter & Rechinger 1967). The above localities are new.

Cactaceae

[*Opuntia ficus-barbarica* A. Berger] – SW of Potamos, in hedges, 1.12.1966, *Yannitsaros obs.*; below the castle (Kastro) of Kithira (Chora), naturalized in stony and rocky places, 27.8.1993, *Yannitsaros obs.* – Only once reported from Kithira (Leonhard 1899) but without locality (see Greuter & Rechinger 1967).

Cannabaceae

[*Cannabis sativa* L.] – Kapsali, in rubbish near the coast, 12.4.1967, *Yannitsaros obs.* – A casual adventive species, which has been reported from Kithira only as a cultivated plant (Leonhard 1899).

Caryophyllaceae

Dianthus fruticosus subsp. *occidentalis* Runemark (*D. creticus* sensu Greuter & Rechinger 1967, *D. arboreus* sensu Yannitsaros 1969). – Near the monastery of Panagia Orfani, vertical calcareous rocks, 1.11.1966, *Yannitsaros* 1087; ravine near the bay of Mudari, in cracks of vertical calcareous rocks, 3.12.1966, *Yannitsaros* 1209; Kaki Langada, in a locality called Limni, vertical calcareous rocks, 15.-30.8.1978, *Bartsiokas s.n.* – Runemark (1980) reports

this taxon from three localities on Kithira. Our specimens agree with Runemark's description and the material is quite homogenous. One of the above mentioned localities (Limni) is new.

**Moenchia* cf. *mantica* (L.) Bartl. subsp. *mantica* – Between Potamos and Karavas near the crossing of the road to Yerakari, open grassy places, 18.4.1995, *Yannitsaros* 8941. – The plants are erect, 10-15 cm high, without ramifications, and have 1-5 flowers, apparently because they were growing between dense herbaceous vegetation. The flowers are 5-merous with the petals clearly exceeding the sepals, the stamens are 10, the styles 5. The capsule is broadly ovoid, opening by 10 or sometimes by 7 or 8 teeth. Apparently more material is needed for a thorough study but it seems that our specimens belong to *M. mantica* subsp. *mantica*. The genus is new to Kithira.

Chenopodiaceae

*[*Atriplex hortensis* L.] – Agia Pelagia, in waste places near the sea, 13.7.1994, *Yannitsaros* 8827; *ibid.*, 17.-22.4.1995, *Yannitsaros obs.*; islet of Makrikithira opposite Diakofti, in maritime sands, 15.7.1994, *Yannitsaros* 8861. – The species seems to be naturalized in the above two localities. It is, in spite of previous records (see Greuter & al. 1984a), not reported for Greece by Heywood & Zohary (1995).

A. portulacoides L. – Between Paleopolis and Avlemon, torrent Skafidi, temporarily flooded halobiotope in the lower part of the dry bed, abundant, 28.8.1993 & 15.7.1994, *Yannitsaros obs.* – Reported from a few localities on Kithira by Greuter & Rechinger (1967) and Yannitsaros (1969). The above mentioned locality is new.

*[*Bassia scoparia* (L.) A.J. Scott] – Avlemon, in waste places near houses, 28.8.1993, *Yannitsaros* 8553. – An escape from ornamental cultivation. Recently reported also from Kriti (Turland 1992, Turland & al. 1993, Jahn & Schönfelder 1995).

Chenopodium album L. – Paleopolis, weed of irrigated orchards, 28.8.1993, *Yannitsaros* 8534; Fatsadika, roadsides, 28.8.1993, *Yannitsaros obs.*; Karavas, roadsides, 14.7.1994, *Yannitsaros obs.*; Potamos, roadsides, 14.7.1994, *Yannitsaros obs.*; Agia Pelagia, waste places, 14.7.1994, *Yannitsaros obs.* – Until now known only from one locality on Kithira (Yannitsaros 1969). All the above localities are new.

*[*Ch. giganteum* D. Don] – Kapsali, margins of streets and flower beds, 27.8.1993, *Yannitsaros obs.*; Kithira (Chora), margins of streets and flower beds, 29.8.1993, *Yannitsaros obs.*; Agia Pelagia, roadsides, 30.8.1993, 13.7.1994 & 17.4.1995, *Yannitsaros obs.*; *ibid.*, in waste moist places, 14.7.1994, *Yannitsaros* 8831; Platia Ammos, waste moist places, 14.7.1994, *Yannitsaros obs.*; Karavas, roadsides, 14.7.1994, *Yannitsaros obs.*; Potamos, in a flower bed, many big individuals, 14.7.1994, *Yannitsaros obs.* – A naturalized adventive species recently reported from some parts of Greece (Jalas & Suominen 1980). Perhaps a recent introduction to Kithira, where it has rapidly spread. In the S Aegean area already known from Kriti (Jalas & Suominen 1980, Greuter & al. 1984a, Greuter & al. 1984b, Yannitsaros 1991, Turland & al. 1993, Jahn & Schönfelder 1995), where it is also cultivated as a vegetable, and from Karpathos (Greuter & al. 1983). Because of the fact that *Ch. giganteum* is a late flowering and fruiting species, all the observed or collected plants lack flowers.

Ch. murale L. – Paleopolis, weed in irrigated orchards, 28.8.1993, *Yannitsaros* 8531. – Known from several localities on Kithira (Greuter & Rechinger 1967, Yannitsaros 1969). The above locality is new.

**Ch. vulvaria* L. – Paleopolis, weed of irrigated orchards, 28.8.1993, *Yannitsaros* 8536. – Only few plants have been observed and the species seems to be very rare on the island.

Compositae

*[*Aster squamatus* (Spreng.) Hieron.] – Livadi, roadside, a small population, 28.8.1993, *Yannitsaros* 8519 (non-flowering); Karavas, roadside, small population, 14.7.1994, *Yannitsaros obs.* (non-flowering); Agia Pelagia, street margins, 17.4.1995, *Yannitsaros obs.* (non-flower-

- ing); Potamos, street margins, 21.4.1995, *Yannitsaros obs.* (non-flowering). – A native of Central and South America recently reported from Greece (Greuter 1973, Zahariadi 1973, Yannitsaros & Economidou 1974) and rapidly spreading all over the country. Obviously a very recent introduction to Kithira, as only one very small population was observed in 1993. The species is already known from Kriti (Greuter 1973, Yannitsaros 1991, Turland & al. 1993, Jahn & Schönfelder 1995), where it is very common all over the island today.
- **Atractylis gummifera* L. – Eastern foots of Mt Mirmigaris, stony places, 30.10.1966, *Yannitsaros s.n.* (dry plant in fruit); hill near Viaradika, stony places, 2.12.1966, *Yannitsaros s.n.* (dry plant in fruit); about 1 km E of Fratsia, stony ground, 28.8.1993, *Yannitsaros obs.*; about 5 km SE of Milopotamos, 29.8.1993, *Yannitsaros obs.*; Stathianika, 30.8.1993, *Yannitsaros photo.* (abundant).
- *[*Conyza albida* Willd. ex Spreng.] – Karavas, in the place called Amiralali, moist shady banks of a stream, 28.8.1993, *Yannitsaros 8567*; Karavas, roadsides, 14.7.1994, *Yannitsaros obs.*; Agia Pelagia, street margins, 17.4.1995, *Yannitsaros obs.* (non-flowering); Potamos, street margins, 21.4.1995, *Yannitsaros obs.* (non-flowering). – A South American species recently naturalized in Greece and rapidly spreading to almost all over the country. Obviously a very recent introduction to Kithira as the few populations observed were small and only one population was found in 1993. Already reported from the S Aegean area from the island of Kriti (Danin 1983, Yannitsaros 1991, Turland & al. 1993, Jahn & Schönfelder 1995), where it is a very common weed and ruderal plant with large populations today.
- [*C. bonariensis* (L.) Cronq.] – Avlemon, in streets and waste places, 28.8.1993, *Yannitsaros 8552*; Karavas, roadsides, 14.7.1994, *Yannitsaros obs.* – There is only one previous record of this naturalized South American species from Kithira (village Potamos) under the synonym *Erigeron crispus* Pourr. (Yannitsaros 1969).
- **Echinops spinosissimus* Turra s.l. – N side of Kithira (Chora), waste place near the main road, small population (about 10 individuals), 29.8.1993, *Yannitsaros 8572*; in the castle (Kastro) of Kithira (Chora), 15.7.1994, very small population (three individuals), *Yannitsaros obs.* – Very rare and the only *Echinops* species known from the island.
- Inula crithmoides* L. – Kapsali, rocks near the harbour, 27.8.1993, *Yannitsaros 8518*. – This is the second locality known on Kithira; the other is at Pisso Gialos east of the village Kapsali (Yannitsaros 1969). Both populations were very small. The species seems to be rare on the island.
- Lactuca saligna* L. – Fatsadika, margins of the main road, 29.8.1993, *Yannitsaros obs.* – There is only one previous record of this species (Kastro of Kithira, Yannitsaros 1969).
- *[*Lactuca sativa* L.] – Potamos, street margin, 14.7.1994, *Yannitsaros 8842*. – The few plants found were fruiting and obviously the species is a, perhaps casual, escape from cultivation. Recorded also as an escape in Kriti (Rechinger 1943).
- **L. serriola* L. – Fratsia, roadsides, 28.8.1993, *Yannitsaros obs.*; Karvounades, roadsides, 28.8.1993, *Yannitsaros obs.*; Potamos, roadsides, 13.7.1994, *Yannitsaros obs.*; Karavas, roadsides, 14.7.1994, *Yannitsaros obs.*; Agia Pelagia, roadsides and in waste places, 14.7.1994, *Yannitsaros obs.*
- Scorzonera cana* (C.A. Mey.) O. Hoffm. – Between Potamos and Agia Pelagia, in pebbly places and on pebbly paths, 20.4.1995, *Yannitsaros 9007*; about 0.5 km NEE of Karvounades, roadsides, 20.4.1995, *Yannitsaros 9013*. – Very recently collected in one further locality on Kithira (Strid & Tan 1996). A polymorphic species with some taxonomic problems. The specimen 9013 consists of handsome, rather typical individuals but the specimen 9007 includes rather small individuals resembling the closely related *S. laciniata* L.

Convolvulaceae

- *[*Ipomoea indica* (Burm.) Merr.] – Karavas, in the locality called Amiralali, in humid shady places, 28.8.1993, *Yannitsaros 8557*. – Cultivated for ornament and naturalized in hedges and shady habitats. Naturalized on Kriti (Yannitsaros 1991, Jahn & Schönfelder 1995, Chilton & Turland 1997).

Crassulaceae

*[*Aeonium arboreum* (L.) Webb & Berth.] – Karavas, naturalized on and near walls, 18.4.1995, *Yannitsaros 8935* (non-flowering). – Reported by Webb (1993) as naturalized in Greece, but doubtfully recorded by Greuter & al. (1986) for the mainland of Greece and Kriti.

Cruciferae

**Aethionema saxatile* subsp. *creticum* (Boiss. & Heldr.) I. A. Andersson & al. – Between Aroniadika and Dokana, W of the village Drimonari, by the road, on stony ground with phrygana vegetation, 1.4.1996, *M. & M. Apergis s.n.* – This is the first record of *Aethionema* from Kithira. The specimen consists of two small individuals of 4 and 8 cm with white and pink flowers respectively. The leaves are alternate, broadly elliptical to suborbicular, obtuse to rounded and fleshy. The stem base in fact seems to be strongly woody, as is diagnostically required for the taxon. The presence of *A. saxatile* subsp. *creticum* on Kithira fills the gap between its known populations in Kriti and those in SE Peloponnisos (see distribution map by Andersson & al. 1983) and Elafonisos (Jagel 1992).

**Arabidopsis thaliana* (L.) Heynh. – Between Potamos and Karavas, near the crossing of the road to Yerakari, open places of burned sclerophyllous vegetation, 18.4.1995, *Yannitsaros 8948*. – The first record of *Arabidopsis* from the island.

Bunias erucago L. – Agia Pelagia, open grassy places, 22.4.1995, *Yannitsaros 9052*. – There is only one previous record of this species from Kithira (Yannitsaros 1969).

Cardamine hirsuta L. – Between Potamos and Karavas, near the crossing of the road to Yerakari, in a dried small seasonal pool between tall bushes, humus soil, 18.4.1995, *Yannitsaros 8955*. – There is only one other known locality of this species on Kithira (Greuter & Rechinger 1967).

Cardaria draba (L.) Desv. – Agia Pelagia, waste places, roadsides, 17.4.1995, *Yannitsaros obs.* – There is only one previous record of this species from Kithira (Yannitsaros 1969).

*[*Coronopus didymus* (L.) Smith] – Agia Pelagia, disturbed habitat near ornamental plants, 21.4.1995, *Yannitsaros 9028*; Potamos, street margin, 21.4.1995, *Yannitsaros 9032*. – *C. didymus* is an adventive species naturalized in some scattered localities of Greece (see Yannitsaros 1974, 1986). In the S Aegean area it has been reported from Rhodos and recently from Kriti, where it is in the process of naturalization (Yannitsaros 1991). It seems to be a very recent introduction to Kithira as the observed populations were very small. Possibly it was introduced from the neighbouring port of Neapolis (Lakonia, Peloponnisos), where it was collected in 1973 (Yannitsaros 1974).

*[*Lobularia maritima* (L.) Desv.] – Karavas, street margins, 18.4.1995, *Yannitsaros 8928*. – A garden escape in the streets of Karavas, where it is cultivated for ornament. The specimen and the observed plants had white and mainly purplish petals, a characteristic of cultivated forms (Ball 1993).

**Lunaria* cf. *annua* L. – Kaki Langada, between the place called Limni and Paliochora, *Bartsiokas (pers. comm.)*. – According to information given by the Kitherian biologist Dr Bartsiokas a species of *Lunaria* is growing in the gorge of Kaki Langada between Limni and Paliochora. Dr Bartsiokas brought me a dry specimen of *Lunaria* with some septa of the siliculas, coming from the above cited locality. This plant, which in all probability belongs to *L. annua*, is named by the Kitherians ‘chrysophyllo’, which means ‘golden leaf’. Dr Bartsiokas found the specimen in the house of a Kitherian, now inhabitant of Athens, where it was used for decoration. During the period 1965-67 when I repeatedly visited the island, I heard many times the name ‘chrysophyllo’ by the Kitherians and also heard that it is a very rare plant in Kithira, but I have no more information.

[*Matthiola incana* (L.) R. Br. subsp. *incana*] – Avlemon, margins of streets and rocks near the sea, 28.8.1993, *Yannitsaros obs.*; Platia Ammos, in waste places, 14.7.1993, *Yannitsaros obs.* – The species is already known from a few localities on Kithira (Greuter & Rechinger 1967, Yannitsaros 1969) but the above cited localities are new.

*[*Raphanus sativus* L.] – Near Potamos (SW of the village), subsontaneous, in the bank of a rivulet near a vegetable garden, 11.5.1967, *Yannitsaros 2015*. – Perhaps only a casual garden escape.

*[*Sisymbrium irio* L.] – Agia Pelagia, in a flower pot near the harbour, 18.4.1995, *Yannitsaros 8959*. – Only two individuals were growing in a flower pot of ornamentals. Not found elsewhere in the island and apparently a very recent introduction.

Cucurbitaceae

*[*Citrullus lanatus* (Thunb.) Matsumara & Nakai] – Kapsali, flower beds and street margins, 29.8.1993, *Yannitsaros obs.* – A casual adventive species.

[*Cucumis melo* L.] – Avlemon, in streets, 13.7.1994, *Yannitsaros 8826*. – Hitherto known from Kithira only as a cultivated plant (Leonhard 1899). A new casual adventive on the island.

Euphorbiaceae

Chrozophora tinctoria (L.) A. Juss. – Paleopolis, weed of irrigated orchards, 28.8.1993, *Yannitsaros 8535*. – This finding confirms the single report of the species for Kithira from the previous century (see Greuter & Rechinger 1967).

**Euphorbia chamaesyce* L. – Avlemon, in waste places, 28.8.1993, *Yannitsaros 8554*; Agia Pelagia, in moist waste ground, 14.7.1994, *Yannitsaros 8832*.

E. peplis L. – Islet of Makrikithira opposite Diakofti, sandy beach, rare, 15.7.1994, *Yannitsaros obs.*; Avlemon, sandy beach, rare, 20.8.1982, *Bartsiokas s.n.* – Until now, this species was known only from the sandy beach of Pisso Gialos, E of Kapsali (*Yannitsaros 1969*).

*[*Ricinus communis* L.] – Agia Pelagia, cultivated in the yard of a house, 17.4.1995, *Yannitsaros obs.* – This is the first record of this ornamental species from Kithira.

Fagaceae

Quercus ilex L. – Between Potamos and Logothetianika, near the road to Agios Eleftherios, in a ravine with rich vegetation, three thick clumps, 3.8.1995, *Kominos s.n.* – Very recently observed in one other locality of Kithira (Strid & Tan 1996). The vernacular name of this plant in Kithira is ‘aeros’ or ‘areos’ instead of ‘aria’, which is its common name in Greece. Possibly, the name of the Kitherian village ‘Areoi’ comes from this name.

Gentianaceae

**Centaurium spicatum* (L.) Fritsch – Between Paleopolis and Avlemon, lower part of the torrent Skafidi, banks of a temporarily flooded halobiotope, 13.5.1967, *Yannitsaros 2311a* (without flowers and fruits); *ibid.*, 28.8.1993, *Yannitsaros 8549*; *ibid.*, 15.7.1994, *Yannitsaros obs.*

Labiatae

**Lamium bifidum* Cyr. subsp. *bifidum* – Near the village Potamos, 2.1987, *Kominos s.n.* – According to the literature, this taxon was considered doubtfully present in Kriti (Greuter 1974, Barclay 1986, Greuter & al. 1986, Turland & al. 1993, Jahn & Schönfelder 1995), but its presence there was recently confirmed (Chilton & Turland 1997). Also recently found in the island of Elafonisos, N of Kithira (Jagel 1992).

Leguminosae

*[*Acacia saligna* (Labill.) Wendl. f.] – Agia Pelagia, 17.-22.4.1995, *Yannitsaros obs.* (cultivated); between Kalamos and Livadi, 20.4.1995, *Yannitsaros obs.* (cultivated).

*[*Albizia julibrissin* Durazz. – Karavas, in the place called Amirali, 28.8.1993, *Yannitsaros obs.* (one young individual); *ibid.*, 18.4.1995, *Yannitsaros 8920* (specimen in fruit). – An escape from cultivation.

**Lotus conimbricensis* Brot. – Between Potamos and Karavas, near the crossing of the road to Yerakari, open grassy places, 18.4.1995, *Yannitsaros 8942*; Yerakari, open places in burned macchia, 21.4.1995, *Yannitsaros 9042*; near Yerakari, pebbly paths and dirt roads,

- 21.4.1995, *Yannitsaros* 9034. – The specimens are pilose, not pubescent or glabrous as described by Ball (1968). The fruits are curved to various degrees; in the specimen 9034 they are strongly curved.
- **Medicago arabica* (L.) Huds. – W of Potamos, humid shady places along a footpath, 320 m, 11.5.1967, *Yannitsaros* 1961; NE of Potamos, in the sides of the road to Agia Pelagia, 20.4.1995, *Yannitsaros* 9008. – This species has inadvertently been omitted by Yannitsaros (1969). The specimen *Yannitsaros* 1961 was erroneously referred to *M. truncatula* Gaertn., which also occurs on Kithira and is more common than *M. arabica*.
- **Ornithopus pinnatus* (Mill.) Druce – Between Potamos and Karavas, near the crossing of the road to Yerakari, open places in burned macchia, 18.4.1995, *Yannitsaros* 8944; near Yerakari, on pebbly paths and dirt roads, 21.4.1995, *Yannitsaros* 9037. – The specimens are sparsely pubescent with stipules small, free, ovate to suborbicular, with calyx teeth small, about $\frac{1}{4}$ as long as the tube and legumes strongly curved.
- **Robinia pseudacacia* L.] – Potamos, roadsides, 13.7.1994, *Yannitsaros obs.* (cultivated and subsponaneous). – Reported as naturalized in the mainland of Greece (Greuter & al. 1989).
- Trigonella monspeliaca* L. – Avlemon, compact pebbly ground in streets and on paths, 19.4.1995, *Yannitsaros* 8986. – Only known from one other locality on Kithira (Greuter & Rechinger 1967).
- **Vicia sativa* L. subsp. *incisa* (M. Bieb.) Arcang. – Karavas, in the place called Amirali, humid places by a stream, 18.4.1995, *Yannitsaros* 8912. – This seems to be the first record of *V. sativa* subsp. *incisa* for the S Aegean or probably the whole Aegean area. The taxon seems to be rare in Greece and restricted, according to Ball (1968), to the SE parts of the country. There is also an old unconfirmed report under the synonym *V. pimpinelloides* Mauri from Messinia of Peloponnisos (Chaubard & Bory 1838). The locality Amirali, near the village Karavas, is man-influenced and it is not clear if the taxon is native here or introduced. The observed population was rather small but the individuals were well developed, growing in a dense cluster. They had a height of about 60-70 cm with large leaflets almost all deeply incised.

Malvaceae

- **Abutilon theophrasti* Medic.] – Agia Pelagia, in moist waste places, rare, 14.7.1994, *Yannitsaros* 8829. – A rare species in the S Aegean area with small populations. Greuter (1974), Barclay (1986) and Greuter & al. (1989) give it as doubtfully present in Kriti. Its occurrence there (as a casual adventive) was recently confirmed by Yannitsaros (1991), while Turland (1992) considers it as doubtfully native. Turland & al. (1993) give a flowering time from August to October, but our specimen from Kithira, collected in mid July, has already well developed fruits.
- **Alcea rosea* L.] – Agia Pelagia, in waste places and roadsides near habitation, 30.8.1993 & 13.7.1994, *Yannitsaros obs.* – An escape from cultivation, occurring with a few individuals near houses. Recently reported also from the island of Kerkira (Hansen 1982).

Meliaceae

- [*Melia azedarach* L.] – Agia Pelagia, cultivated as a street plant, 13.-16.7.1994, *Yannitsaros obs.*; Kapsali, 27.10.1966, *Yannitsaros obs.* (cultivated); *ibid.*, 29.8.1993, *Yannitsaros obs.* (cultivated and subsponaneous). – It is reported by Greuter & Rechinger (1967) from Kapsali but only as a cultivated plant. In 1966 I also observed this species cultivated in the same locality, but during my visit to Kithira in August 1993, I found apart from the cultivated mature individuals, a considerable number of young plants growing spontaneously at street margins and other places. Thus the species seems to be in the process of naturalization, as was recently reported also from Kriti (Yannitsaros 1991).

Moraceae

- [*Ficus carica* L.] – Between Kithira (Chora) and Kapsali, 27.10.1966 & 27.8.1993, *Yannitsaros obs.* (cultivated and subsponaneous); W of Potamos, 1.12.1966, *Yannitsaros obs.* (subspon-

taneous); Stathianika, 30.8.1993, *Yannitsaros obs.* (subspontaneous); Karavas, in the locality called Amirali, in fissures of rocks in a ravine and in moist shady places, 28.8.1993, *Yannitsaros obs.* (subspontaneous); Agia Pelagia, 14.7.1994, *Yannitsaros obs.* (cultivated and subspontaneous). – The species was reported from Kithira previously (Leonhard 1899, Greuter & Rechinger 1967) but all the above localities are new.

*[*Morus alba* L.] – Between Kithira (Chora) and Kapsali, 27.8.1993, *Yannitsaros obs.* (cultivated).

Myrtaceae

[*Eucalyptus camaldulensis* Dehnh.] – Moni Mirtidion, in the yard of the monastery, 28.8.1993, *Yannitsaros 8571* (cultivated); Karvounades, roadsides, 28.8.1993, *Yannitsaros 8521* (cultivated); Karavas, roadsides, 14.7.1994, *Yannitsaros 8836* (cultivated). – Reported from Kithira by Mavrommatis (1975), but without exact localities. Greuter & Rechinger (1967) list *Eucalyptus* sp. (probably *E. globulus* Labill.) as cultivated on Kithira.

*Nyctaginaceae

*[*Mirabilis jalapa* L.] – Potamos, margins of streets, 28.8.1993 & 13.7.1994, *Yannitsaros obs.*; Frilingianika, roadsides and near houses, 29.8.1993, *Yannitsaros obs.*; Kithira (Chora), margins of streets and near houses, 29.8.1993, *Yannitsaros obs.* – Cultivated for ornament and naturalized in and around villages, along streets and roads as well as near houses. *M. jalapa*, first reported from Greece by Economidou & Yannitsaros (1975b), is an extensively naturalized species there. Recently it was also reported from Kriti (Yannitsaros & Protopapadakis 1989, Yannitsaros 1991).

Oleaceae

Phillyrea latifolia L. – Near the monastery of Panagia Orfani, 200 m, 27.4.1965, *Yannitsaros 110*; between Trifillianika and Paliochora, stony places, 14.5.1967, *Yannitsaros obs.*; between the monastery of Agios Kosmas and the monastery of Mirtidia (Moni Mirtidion), in stony places, 31.10.1966, *Yannitsaros obs.* – The specimen *Yannitsaros 110* was reported by Yannitsaros (1969) as *Ph. media* L., a name today considered a synonym of *Ph. latifolia* L. (see Greuter & al. 1989). The other two localities are new for this species.

Onagraceae

Epilobium hirsutum L. – Between Potamos and Logothetianika, near the road to Agios Eleftherios, in humid places of a ravine with rich vegetation, 3.8.1995, *Kominos s.n.* – There is only one other known locality of this species from Kithira (Yannitsaros 1969).

E. obscurum Schreb. – Karavas, in the place called Amirali, in moist places near water, 28.8.1993, *Yannitsaros 8566*. – Already reported from Kithira by Yannitsaros (1969) but the above locality is new. Some of the observed individuals have a height of about 2 m.

Papaveraceae

**Glaucium corniculatum* (L.) J.H. Rudolph subsp. *corniculatum* – Agia Pelagia, open grassy places near a path, 22.4.1995, *Yannitsaros 9051*. – Apparently very rare as only two individuals were observed. The plants were well developed and had flowers with reddish petals dark spotted at the base. The indumentum is hispid, and not pubescent as described by Mowat & Akeroyd (1993).

G. flavum Crantz – Platia Ammos, 14.7.1994, *Yannitsaros obs.* – Known from Kithira (Greuter & Rechinger 1967, Yannitsaros 1969) but the above locality is new.

Pittosporaceae

*[*Pittosporum tobira* (Murray) Aiton f.] – Kithira (Chora), 20.4.1995, *Yannitsaros obs.* (cultivated); Avlemon, 19.4.1995, *Yannitsaros obs.* (cultivated); Agia Pelagia, 17.-22.4.1995, *Yannitsaros obs.* (cultivated).

Plantaginaceae

Plantago albicans L. – Between Frilingianika and the airport near the crossing of the road to Paleopolis, in sandy soils, 14.7.1994, *Yannitsaros 8850*. – Known from Kithira (Greuter & Rechinger 1967, Yannitsaros 1969) but the above locality is new.

Portulacaceae

Portulaca oleracea L. subsp. *oleracea* – Paleopolis, weed of irrigated orchards, 28.8.1993, *Yannitsaros 8528*; Agia Pelagia, in waste moist places, 14.7.1994, *Yannitsaros obs.* – Until now only one other locality of this weed was known from Kithira (Yannitsaros 1969, as *P. oleracea*).

Ranunculaceae

**Clematis* sp. – Near the monastery of Panagia Orfani, in the forest of *Juniperus phoenicea* L., 200 m, 15.5.1967, *Yannitsaros 2509a* (without flowers and fruits). – The only *Clematis* species known from Kithira is *C. cirrhosa* L. (Greuter & Rechinger 1967, Yannitsaros 1969), but the sterile specimen has leaves that are rather similar to those of *C. flammula* L. and quite different from the first species.

**Ranunculus ficaria* L. s.l. – Near the village Potamos, 2.1987, *Kominos s.n.* – Unfortunately the specimen has been damaged by insects so that the identification of the subspecies is impossible.

Rosaceae

**Crataegus* sp. – Manitochori, in bushy stony places, 180 m, 15.4.1967, *Yannitsaros 1651* (young shoots, non-flowering). – The identification of the species is impossible but it is quite certain that the plant belongs to *Crataegus*, a genus that is new to Kithira.

*[*Cydonia oblonga* Mill.] – Karavas, in the place called Amirali, 18.4.1995, *Yannitsaros obs.* (cultivated).

[*Eriobotrya japonica* (Thunb.) Lindley] – Karavas, in the place called Amirali, moist and shady places, 28.8.1993, *Yannitsaros 8563a* (non-flowering young plant, subsontaneous). – An escape from cultivation. As a cultivated plant previously recorded by Greuter & Rechinger (1967).

*[*Prunus domestica* L. subsp. *domestica*] – Between Agia Pelagia and Karavas, 28.8.1993, field margin, *Yannitsaros 8556* (non-flowering). – I observed a cluster of many individuals growing side by side and seem to be subsontaneous.

[*P. dulcis* (Mill.) D.A.Webb] – Between Kithira (Chora) and Kapsali, 27.10.1966, *Yannitsaros obs.* (cultivated); Paleopolis, 28.8.1993, *Yannitsaros obs.* (cultivated). – Recorded from Kithira as a cultivated plant (see Greuter & Rechinger 1967), but the localities cited here are new.

Scrophulariaceae

*[*Antirrhinum majus* L.] – Karavas, in the place called Amirali, 28.8.1993, *Yannitsaros obs.*; Katouni, roadside, 29.8.1993, *Yannitsaros obs.*; Milopotamos, street margins, 29.8.1993, *Yannitsaros obs.*; Kalokerines, street margins, walls, 29.8.1993, *Yannitsaros obs.*; Karavas, walls and street margins, 14.7.1994, *Yannitsaros obs.*; Potamos, walls and street margins, 14.7.1994, *Yannitsaros 8846*; Agia Pelagia, walls and street margins, 13.-16.7.1994, *Yannitsaros obs.*; Frilingianika, street margins, 14.7.1994, *Yannitsaros obs.*; Avlemon, street margins, 19.4.1995, *Yannitsaros 8994*; Kithira (Chora), street margins and walls, 20.4.1995, *Yannitsaros obs.*; between Potamos and Aroniadika, roadside, 20.4.1995, *Yannitsaros obs.* – A garden escape frequently naturalized on walls, at street margins and other places near houses. The species is also naturalized in Kriti (Yannitsaros 1991), Karpathos (Turland & al. 1993) and Rhodos (Carlström 1987).

[*Cymbalaria muralis* P. Gaertn., B. Mey. & Schreb. subsp. *muralis*] – Kapsali, near the base of a wall, 27.8.1993, *Yannitsaros 8516* (rare). – Very recently the species was reported from

one other locality on Kithira (Strid & Tan 1996). It is a native of the S Alps naturalized in many parts of Greece (for Kriti see Webb 1972, Yannitsaros 1991, Turland & al. 1993, Jahn & Schönfelder 1995) mainly in towns and villages. It seems to be a recent introduction to Kithira.

- **Parentucellia latifolia* (L.) Caruel subsp. *latifolia* – Between Frilingianika and the airport near the crossing of the road to Paleopolis, in sandy places, 14.7.1994, *Yannitsaros 8851a*; near the airport, in sandy places, footpaths, 19.4.1995, *Yannitsaros 8972*; between Potamos and Karavas, near the crossing of the road to Yerakari, open places in burned sclerophyllous vegetation, 18.4.1995, *Yannitsaros obs.*

Solanaceae

- *[*Datura innoxia* Mill.] – Kapsali, in rubbish, 27.10.1966, *Yannitsaros 911*; *ibid.*, in flower beds, 28.8.1993, *Yannitsaros 8569*; Fatsadika, roadside, 28.8.1993, *Yannitsaros 8520*; *ibid.*, 15.7.1994, *Yannitsaros obs.* – This is an adventive species of Central American origin found in some districts of Greece. In Kithira it seems to be well established and naturalized. The specimen *Yannitsaros 911* has been referred to '*D. metel* L.' (Yannitsaros 1969), a species easily confused with *D. innoxia* but not present in Kithira. *D. innoxia* is also recorded from the island of Kriti (Greuter 1974, Yannitsaros 1991, Jahn & Schönfelder 1995).

- *[*D. stramonium* L.] – Fratsia, humid place by the roadside, 28.8.1993, *Yannitsaros 8523* (rare). – A xenophyte of American origin naturalized in many parts of Greece, in irrigated and waste land. In the S Aegean area it is known from Kriti as a well established and naturalized weed of irrigated fields and other humid habitats (Yannitsaros 1991 and unpublished data), although Turland & al. (1993) list it only as a casual. Chilton & Turland (1997) report it as naturalized from Kriti. Recently recorded also from the Kiklades (Koumpli-Sovantzi & Yannitsaros 1993).

- *[*Lycopersicon esculentum* Mill.] – Agia Pelagia, in a moist waste place, 14.7.1994, *Yannitsaros obs.* – A casual escape from cultivation, recently recorded also from the island of Kriti (Yannitsaros 1991).

Solanum nigrum L. s.l. – Paleopolis, weed of irrigated orchards, 28.8.1993, *Yannitsaros obs.*; Agia Pelagia, in moist waste places, 14.7.1994 & 22.4.1995, *Yannitsaros obs.*; Karavas, 18.4.1995, *Yannitsaros obs.* – Already recorded from Kithira (Yannitsaros 1969) but the above localities are new.

**Tropaeolaceae*

- * [*Tropaeolum majus* L.] – W of Potamos, bank of a streamlet, 11.5.1967, *Yannitsaros 2015a*. – Cultivated as an ornamental and apparently a garden escape. Recently also recorded as an adventive from Kriti (Sfikas 1986, Yannitsaros 1991).

Umbelliferae

- *[*Apium graveolens* L.] – Agia Pelagia, in a moist place near a water tube, 21.4.1995, *Yannitsaros 9031* (non-flowering). – Probably only a casual escape from cultivation.

- **Ferula communis* subsp. *glauca* (L.) Rouy & Camus – Kithira (Chora), at the base of a wall beside the central square of the village, 15.7.1994, *Yannitsaros s.n.* (one dry individual); *ibid.*, in a field near and in the park of the central square, 20.4.1995, *Yannitsaros 9020*. – The occurrence of this taxon in the above man-influenced locality was a surprise to me. It seems that the only individual I observed in 1994, was quite recently established here. Next year I observed a cluster of about ten plants growing in a field below the central square of Chora and two individuals growing in the park of the square. I do not know whether there are indigenous populations of this taxon in other unexplored localities of the island. If not, the above subspecies should be considered as doubtfully native on the island of Kithira.

- *[*Petroselinum crispum* (Mill.) A.W. Hill] – Potamos, street margin, 14.7.1994, *Yannitsaros 8841* (subspontaneous). – Apparently an escape from cultivation, but perhaps only a casual.

Valerianaceae

[*Centranthus macrosiphon* Boiss.] – Karavas, walls and margins of streets, 18.4.1995, *Yannitsaros 8934* (spontaneous); Frilingianika, 19.4.1995, *Yannitsaros 8968* (cultivated); Kithira (Chora), margins of streets, 20.4.1995, *Yannitsaros photo.* (spontaneous). – Recorded from two localities (Chora and Mirtolangadi) on Kithira (Greuter & Rechinger 1967) as a cultivated and spontaneous plant. The new findings prove the naturalization of this W Mediterranean species on the island. My specimens have glabrous fruits and can therefore be identified as var. *macrosiphon* (see Fanlo 1986). For the naturalization of *C. macrosiphon* in Greece see also Constantinidis & Yannitsaros (1993).

Verbenaceae

*[*Lantana camara* L.] – Potamos, street margin, 14.7.1994, *Yannitsaros 8840* (spontaneous). – The species is cultivated as an ornamental and the plants found growing in the streets of Potamos were obviously escapes from cultivation. Quite recently the species has been recorded as an adventive from Kriti (Yannitsaros & Protopapadakis 1989, Yannitsaros 1991). This is, as far as I know, the first record of *L. camara* as an adventive species in Greece.

Vitaceae

[*Vitis vinifera* L. subsp. *vinifera*] – Karavas, in the place called Amirali, in humid and shady places, 28.8.1993, *Yannitsaros 8563* (spontaneous). – Recorded from Kithira as a cultivated and spontaneous plant (Greuter & Rechinger 1967) from a few localities. The above locality is new.

Zygophyllaceae

Tribulus terrestris L. – Avlemon, 20.8.1982, *Bartsiokas s.n.* – This is the second record and locality for *T. terrestris* in Kithira. There is only one other, old record from a locality between Avlemon and Katochori (see Greuter & Rechinger 1967).

Monocotyledones**Agavaceae**

[*Agave americana* L.] – Between Kithira (Chora) and Kapsali, roadsides, 27.10.1966, *Yannitsaros obs.*; Livadi, roadsides, 31.10.1966 & 29.8.1993, *Yannitsaros obs.*; SW of Potamos, in hedges, 1.12.1966, *Yannitsaros obs.* (cultivated and naturalized). – Only one previous record is known from Kithira (Greuter & Rechinger 1967). All the localities cited here are new.

Amaryllidaceae

Pancratium maritimum L. – Paleopolis, in maritime sands, 29.8.1993 & 15.7.1994, *Yannitsaros obs.*; near the torrent Skafidi, in maritime sands, 29.8.1993, *Yannitsaros obs.* (rare); Agia Pelagia, 14.7.1994 & 17.4.1995, *Yannitsaros obs.* (rare); Platia Ammos, in maritime sands, 14.7.1994, *Yannitsaros obs.* (rare). – Already recorded from three localities on Kithira (Greuter & Rechinger 1967, Yannitsaros 1969). The localities cited here are new except that of Paleopolis. Although *P. maritimum* is a widely distributed species, and in some cases with large populations, it is threatened in the Aegean area because of the disturbance and destruction of its habitats by human activities (Diapoulis 1979, Yannitsaros & Economidou 1979). In Kithira only the population of Paleopolis is in good condition, while the others are very small and in danger of extinction.

Araceae

* [*Zantedeschia aethiopica* (L.) Spreng.] – Potamos, in a seasonal stream near the village, 11.5.1967, *Yannitsaros obs.*; Karavas, in a stream in the place called Amirali, 28.8.1993 & 18.4.1995, *Yannitsaros photo.* – Obviously an escape from cultivation and completely natu-

ralized in moist shady places near water. There are recent records of this species from Kriti (Sfikas 1986, Yannitsaros 1991, Yannitsaros & Koumpli-Sovantzi 1991, Jahn & Schönfelder 1995) and Kerkyra (Hansen 1982, Borkowsky 1994). Also recorded from Greece by Yannitsaros (1982), but without exact localities. This last record was based on observations from the island of Kriti as early as the decade of 1970.

Gramineae

[*Arundo donax* L.] – Agia Pelagia, in hedges, waste places, 14.7.1994, *Yannitsaros obs.* – The species is recorded from Kithira by Yannitsaros (1969) but the locality cited here is new.

**Crypsis aculeata* (L.) Aiton – Between Paleopolis and Avlemon, torrent Skafidi, banks of a temporarily flooded halobiotope in the lower part of the bed, 8.1978, *Bartsiokas s.n.*; *ibid.*, 28.8.1993, *Yannitsaros 8543*; *ibid.*, 15.7.1994, *Yannitsaros obs.* (abundant in the wet sites of the halobiotope). – This is the first record of the genus *Crypsis* from Kithira.

Digitaria sanguinalis (L.) Scop. – Paleopolis, weed in irrigated orchards, 28.8.1993, *Yannitsaros 8538*; Agia Pelagia, in wet waste places, 14.7.1994, *Yannitsaros 8830*. – The species was recorded from one other locality on Kithira by Yannitsaros (1969).

Echinaria capitata (L.) Desf. – NNE of Potamos, near the road to Agia Pelagia, open stony places in degraded macchia, 19.4.1995, *Yannitsaros 9004*; between Stathianika and Dokana, stony places and pebbly paths, 20.4.1995, *Yannitsaros 9027*. – Known from only one other locality on Kithira (Greuter & Rechinger 1967).

**Echinochloa crus-galli* (L.) Beauv. – Fratsia, wet place near a house, 28.8.1993, *Yannitsaros 8522*. – A hygrophilous weed, common elsewhere in Greece but very rare on Kithira. This is the first record of the genus *Echinochloa* from Kithira.

*[*Paspalum dilatatum* L.] – Karavas, in the place called Amirali, moist places, near running water of a fountain, 28.8.1993, *Yannitsaros 8560*; Karavas, along the main road, 14.7.1994, *Yannitsaros obs.* – A xenophyte originating from E South America and naturalized in Greece (Yannitsaros & Economidou 1974, Economidou & Yannitsaros 1975a, Yannitsaros 1977, Hansen 1982, Phitos & Damboldt 1985). In the S Aegean area, it was first collected on Kriti (Yannitsaros 1977), occurring there now in a small number of localities (Yannitsaros, unpublished data). In Kithira it appears to be well established and naturalized in the above two localities.

*[*P. distichum* L.] – Potamos, wet street margins, 14.7.1994, *Yannitsaros 8847*. – A tropical taxon naturalized in many European and Mediterranean countries. In Greece it is known to be naturalized in many parts of the country since the 1940s (Oberdorfer 1954). In the S Aegean area it was first observed on Kriti in 1975 (Yannitsaros 1977). In the following years then it rapidly spread almost all over the island (Yannitsaros, unpublished data). In Kithira it seems to be a very recent introduction as only one small population was found.

**Polypogon maritimus* Willd. subsp. *maritimus* – Near the torrent Skafidi between Paleopolis and Avlemon, in saline soils near the sea, 13.5.1967, *Yannitsaros 2309*. – The specimen *Yannitsaros 2309* has been recorded by Yannitsaros (1969) due to a misidentification as '*P. monspeliensis* (L.) Desf.'. This last species is also reported by Greuter & Rechinger (1967) as observed in Paleopolis, very close to our locality. I think that also this record is doubtful and needs confirmation.

*[*Setaria adhaerens* (Forssk.) Chiov.] – Karvounades, roadsides and waste places, 28.8.1993, *Yannitsaros obs.*; Paleopolis, weed in irrigated orchards, 28.8.1993, *Yannitsaros 8529*; Karavas, in the place called Amirali, in wet places, 28.8.1993, *Yannitsaros obs.*; Platia Ammos, roadsides, 14.7.1994, *Yannitsaros 8839*; Potamos, weed in flower beds, 14.7.1994, *Yannitsaros obs.*; Agia Pelagia, street margins and waste places, 14.7.1994, *Yannitsaros obs.* – An 'aggressive' tropical weed occurring in many parts of Greece mainly in irrigated land.

[*S. pumila* (Poir.) Roem. & Schult.] – Karavas, in the place called Amirali, in moist places, 28.8.1993, *Yannitsaros obs.* – Only one other locality of this weed is known from Kithira (Yannitsaros 1969).

**S. verticillata* (L.) P. Beauv. – Karavas, in the place called Amirali, humid places, 28.8.1993, *Yannitsaros* 8559. The specimen belongs to var. *verticillata*.

Iridaceae

*[*Freesia refracta* (Jacq.) Ecklon ex Klatt] – Karavas, in the fissures of a wall, 18.4.1995, *Yannitsaros* 8927 (specimen in fruit). – An escape from cultivation new to the S Aegean area. Recently recorded from Kerkyra (Borkowsky 1994). It is also found as an escape on Kriti and the island of Andros (*Yannitsaros*, unpublished data).

Romulea bulbocodium (L.) Seb. & Mauri – Near Potamos 2.1987, *Kominos s.n.* – Already recorded from Agia Pelagia (Greuter & Rechinger 1967). The species may be undercollected due to its early flowering.

Liliaceae

**Asparagus acutifolius* L. – Near the monastery of Mirtidia (Moni Mirtidion), in stony places in a *Pinus* wood, 29.8.1993, *Yannitsaros* 8570 (non-flowering); Karavas, place called Amirali, humid places, 18.4.1995, *Yannitsaros* 8918 (non-flowering).

**Gagea fibrosa* (Desf.) Schult. & Schult. f. s.l. – In the place called Ammutses, near the airport on footpaths and in phrygana vegetation, dry sandy soil, 19.4.1995, *Yannitsaros* 8980. – An interesting taxon with few records from the S Aegean area (Egli 1993, Turland & al. 1993, Jahn & Schönfelder 1995); more material is required for a thorough study.

[*Lilium candidum* L.] – Near and S of Trifillianika, margins of an abandoned field, 14.5.1967, *Yannitsaros s.n.* – Probably a remnant of cultivation. The species is recorded from Kithira as a cultivated plant (Greuter & Rechinger 1967).

Tulipa goulimy Sealy & Turrill – Foothills of Mt Agia Eleusa SE of the village Yerakianika, in abandoned fields, among *Sarcopoterium spinosum* (L.) Spach, abundant, 15.4.1972, *Kaliyeros s.n.*; NNE of Potamos, near the road to Agia Pelagia, degraded macchia, 19.4.1995, *Yannitsaros obs.*; between Potamos and Karavas, near the crossing of the road to Yerakari, degraded macchia, 18.4.1995, *Yannitsaros* 8957; between Stathianika and Dokana, stony places with phrygana, 20.4.1995, *Yannitsaros obs.*; road of Chora (Kithira) to Kalamos near the crossing to Spilies, 2.4.1996, *M. & M. Apergis obs.* – *T. goulimy* has been studied by several botanists (Turrill 1955, *Yannitsaros* 1978, Iatrou 1986, Athanasiou 1988, Briggs 1990, Tzanoudakis & al. 1991) and is known from a considerable number of localities on Kithira. Nevertheless the above localities have not been published until now.

Palmae

*[*Phoenix canariensis* Chabaud] – Kithira (Chora), some cultivated mature individuals in the central square of the village with many spontaneous seedlings around them, 29.8.1993, 15.7.1994 & 20.4.1995, *Yannitsaros obs. & photo*.

***Ruppiaceae**

**Ruppia maritima* L. – Between Avlemon and Paleopolis, torrent Skafidi, temporarily flooded halobiootope in the lower part of the dry bed, 28.8.1993, *Yannitsaros* 8540; *ibid.*, 19.4.1995, *Yannitsaros* 8997.

Acknowledgements

I wish to express my thanks to Dr A. Bartsiokas, M. & M. Apergis, E. Kaliyeros, M. Siatras and Th. Kominos for collecting specimens and communicating information. Special thanks are due to Th. Kominos also for accompanying and helping me during some of my excursions. I would also like to thank my wife A. Apostolaki-Yannitsarou who accompanied and helped me during my three recent trips to Kithira.

References

- Andersson, I. A., Carlström, A., Franzén, R., Karlén, Th. & Nybom, H. 1983: A revision of the *Aethionema saxatile* complex (*Brassicaceae*). – *Willdenowia* **13**: 3-42.
- Athanasios, K. 1988: Some cytogeographical notes on the genus *Tulipa* L. (*Liliaceae*) in Greece. – *Bot. Hron.* **8**: 51-59.
- Ball, P. W. 1968: *Lotus* L. – Pp. 173-176 in: Tutin, T. G., Burges, N. A., Chater, A. O., Edmondson, J. R., Heywood, V. H., Moore, D. M., Valentine, D. H., Walters, S. M., Webb, D. A. (ed.), *Flora europaea* **2**. – Cambridge, etc.
- 1993: *Lobularia* Desv. – P. 371 in: Tutin, T. G., Heywood, V. H., Burges, N. A., Moore, D. M., Valentine, D. H., Walters, S. M., Webb, D. A. (ed.), *Flora europaea*, ed. 2, **1**. – Cambridge, etc.
- Barclay, C. 1986: Crete. Checklist of the vascular plants. – *Englera* **6**.
- Boissier, E. 1879: *Flora orientalis* **4**. – Genevae & Basileae.
- Borkowsky, O. 1994: Übersicht der Flora von Korfu. – *Braunschweiger Geobot. Arbeiten* **3**.
- Bothmer, R. von 1974: Studies in the Aegean flora XXI. Biosystematic studies in the *Allium ampeloprasum* complex. – *Opera Bot.* **34**.
- Briggs, M. 1990: First record of *Tulipa goulimy* (*Liliaceae*) on Crete. – *Ann. Mus. Goulandris* **8**: 41-44.
- Carlström, A. 1987: A survey of the flora and phytogeography of Rodhos, Simi, Tilos and the Marmaris peninsula (SE Greece, SW Turkey). – Lund.
- Chaubard, M. & Bory de Saint-Vincent, M. 1838: *Nouvelle flore du Péloponnèse et des Cyclades*. – Paris & Strasbourg.
- Chilton, L. & Turland, N. J. 1997: *Flora of Crete. A supplement*. – Retford.
- Constantinidis, T. A. & Yannitsaros, A. 1993: *Centranthus macrosiphon* (*Valerianaceae*) naturalized in Greece. – *Fl. Medit.* **3**: 279-282.
- Danin, A. 1983: *Conyza albida* Sprengel. – [In: Greuter, W. & Raus, Th. (ed.), *Med-Checklist Notulae*, 8.] – *Willdenowia* **13**: 283.
- Diapoulis, H. 1979: Proistorika fyta tou Aegaiou ta opoia prepei na prostateuthoun. – Pp. 98-100 in: *Praktika Synedriou Prostatias Panidas – Chloridas – Viotopon, Athinai* 1979. – Athinai.
- Economidou, E. & Yannitsaros, A. 1975a: Recherches sur la flore adventice de Grèce IV. Distribution et écologie de deux espèces de *Paspalum* L. en Grèce. – Pp. 18-23 in: *Proceedings symposium 'Status, biology and control of grassweeds in Europe'* **1**. – Paris.
- & — 1975b: Recherches sur la flore adventice de Grèce. V. Distribution et écologie de *Solanum elaeagnifolium* Cav. – *Revue Biol. Écol. Médit.* **2(4)**: 29-44.
- Egli, B. R. 1993: Ökologie der Dolinen im Gebirge Kretas (Griechenland). – Schaffhausen.
- Fanlo, R. 1986: El genero *Centranthus* DC. en España. I. Seccion *Calcitrapa* Lange. *Lagascalia* **14**: 3-8.
- Georgiou-Karavata, O. 1990: Viosistimatiki meleti tis omadas *Anthemis tomentosa* (*Asteraceae*) stin Ellada. – *Doct. Thesis, University of Patras, Patra*.
- Greuter, W. 1973: Additions to the flora of Crete, 1938-1972. – *Ann. Mus. Goulandris* **1**: 15-83.
- 1974: Floristic report on the Cretan area. – *Mem. Soc. Brot.* **24**: 131-171.
- , Burdet, H. M. & Long, G. 1984a, 1986, 1989: *Med-Checklist* **1**, **3**, **4**. – Genève & Berlin.
- , Matthäs, U. & Risse, H. 1984b: Additions to the flora of Crete 1973-1983, I. – *Willdenowia* **14**: 27-36.
- , Pleger, R. & Raus, Th. 1983: The vascular flora of the Karpathos island group (Dodecanesos, Greece). A preliminary checklist. – *Willdenowia* **13**: 43-78.
- & Rechinger K. H. 1967: Flora der Insel Kythera, gleichzeitig Beginn einer nomenklatorischen Überprüfung der griechischen Gefäßpflanzenarten. – *Boissiera* **13**.
- Halácsy, E. de 1904: *Conspectus florae Graecae* **3**. – Lipsiae.
- Hansen, A. 1982: Additions to and notes on the flora of Corfu and Vidos (Ionian Islands, Greece). – *Bot. Hron.* **2**: 18-49.

- Heywood, V. H. & Zohary, D. 1995: A catalogue of the wild relatives of cultivated plants native to Europe. – *Fl. Medit.* **5**: 375-415.
- Iatrou, G. A. 1986: Simvoli sti meleti tou endimismou tis chloridas tis Peloponnisou. – *Doct. Thesis*, University of Patras, Patra.
- Jagel, A. 1992: Zur Flora und Vegetation der Insel Elafonisos (Lakonien, Griechenland). – *Diplomarbeit Ruhr-Universität Bochum*.
- Jahn, R. & Schönfelder, P. 1995: *Exkursionsflora für Kreta*. – Stuttgart.
- Jalas, J. & Suominen, J. 1980: Atlas florae europaeae. Distribution of vascular plants in Europe 5. *Chenopodiaceae* to *Basellaceae*. – Helsinki.
- Kamari, G. A. 1976: Kittarotaxinomiki meleti tis omados *Crepis neglecta* L. en Elladi. – *Doct. Thesis*, University of Patras, Patrai.
- Koumpli-Sovantzi, L. & Yannitsaros, A. 1993: A contribution to the coastal flora of the Kikladhes (Greece). – *Willdenowia* **23**: 121-135.
- Krendl, F. 1987: Die Arten der *Galium mollugo*-Gruppe in Griechenland. – *Bot. Hron.* **6-7**: 5-168.
- Leonhard, R. 1899: Die Insel Kythera. Eine geographische Monographie. – *Petermanns Mitteilungen, Ergänzungsheft* **128**.
- Mathew, B. F. 1982: The *Crocus*. A revision of the genus *Crocus* (*Iridaceae*). – London.
- 1983: The Greek species of *Crocus* (*Iridaceae*), a taxonomic survey. – *Ann. Mus. Goulandris* **6**: 63-86.
- Mavrommatis, G. 1975: Paratiriseis epi ton oikologicon sinthikon tis dasikis vlastiseos tis nisou ton Kithiron. – *Anakoinoseis Institutoutou Dasikon Ereunon* **3(2)**: 5-14.
- Mowat, A. B. & Akeroyd, J. R. 1993: *Glaucium* Miller – P. 301 in: Tutin, T. G., Heywood, V. H., Burges, N. A., Moore, D. M., Valentine, D. H., Walters, S. M., Webb, D. A. (ed.), *Flora europaea*, ed. 2, **1**. – Cambridge, etc.
- Oberdorfer, E. 1954: Über Unkrautgesellschaften der Balkanhalbinsel. – *Vegetatio* **4**: 379-411.
- Persson, D. 1981: Biosystematics of *Stachys swainsonii* Benth. (*Lamiaceae*) and its relations to some other chasmophytic *Stachys* species. – *Doct. Thesis*, University of Lund, Lund.
- Phitos, D. 1981: To genos *Bolanthus* (*Caryophyllaceae*) stin Ellada. – *Bot. Hron.* **1**: 35-45.
- & Damboldt, J. 1985: Die Flora der Insel Kefallinia (Griechenland). – *Bot. Hron.* **5**.
- Raus, Th. 1996: Additions and amendments to the flora of the Karpathos island group (Dodekanesos, Greece). – *Bot. Hron.* **12**: 21-53.
- Rechinger, K. H. 1943: Neue Beiträge zur Flora von Kreta. – *Denkschr. Akad. Wiss. Wien* **105(2,1)**.
- Routsis, E. 1993: Viosistimatiki meleti tis sectio *Acrocentron* (Cass.) DC. tou genous *Centaurea* L. stin Ellada. – *Doct. Thesis*, University of Patras.
- & Georgiadis, Th. 1994: Contribution to the systematics of the genus *Centaurea* section *Acrocentron* (*Asteraceae*) in Greece. – *Nordic J. Bot.* **14**: 369-378.
- Runemark, H. 1980: Studies in the Aegean flora XXIII. The *Dianthus fruticosus* complex (*Caryophyllaceae*). – *Bot. Not.* **133**: 475-490.
- Sfikas, G. 1986: Nees prosthikes sti chlorida tis Kritis. – *Fysis* **33**: 20-21.
- Snogerup, S. 1967: Studies in the Aegean flora VIII. *Erysimum* sect. *Cheiranthus* A. Taxonomy. – *Opera Bot.* **13**.
- 1989: A new annual *Bupleurum* from Southern Peloponnisos. – Pp. 23-26 in: Tan, K. (ed.), *The Davis and Hedge Festschrift*. – Edinburgh.
- Strid, A. 1970: Studies in the Aegean flora XVI. Biosystematics of the *Nigella arvensis* complex. With special reference to the problem of non-adaptive radiation. – *Opera Bot.* **28**.
- & Tan, K. 1996: Flora and vegetation of the Peloponnese and Kithira. Report of a student excursion from the University of Copenhagen, May 14-28, 1995. – Copenhagen.
- & — (ed.) 1997: *Flora hellenica* **1**. – Königstein.
- Stork, A. L. 1972: Studies in the Aegean flora XX. Biosystematics of the *Malcolmia maritima* complex. – *Opera Bot.* **33**.
- Turland, N. J. 1992: Studies on the Cretan flora 1. Floristic notes. – *Bull. Brit. Mus. (Nat. Hist.)*, *Bot.* **22**: 159-164.

- , Chilton, L. & Press, J. R. 1993: Flora of the Cretan area. Annotated checklist and atlas. – London.
- Turrill, W. B. 1955: Two new species of *Monocotyledones* from Greece. – Kew Bull. **1955**: 59-61.
- Tutin, T. G., Burges, N. A., Chater, A. O., Edmondson, J. R., Heywood, V. H., Moore, D. M., Valentine, D. H., Walters, S. M., Webb, D. A. (ed.) 1968-80: Flora europaea **2-5**. – Cambridge, etc.
- , Heywood, V. H., Burges, N. A., Moore, D. M., Valentine, D. H., Walters, S. M., Webb, D. A. (ed.) 1993: Flora europaea, ed. 2, **1**. – Cambridge, etc.
- Tzanoudakis, D., Iatrou, G., Kypriotakis, Z. & Christodoulakis, D. 1991: Cytogeographical studies in some Aegean *Liliaceae*. – Bot. Hron. **10**: 761-775.
- Webb, D. A. 1972: *Cymbalaria* Hill. – Pp. 236-238 in: Tutin, T. G., Burges, N. A., Chater, A. O., Edmondson, J. R., Heywood, V. H., Moore, D. M., Valentine, D. H., Walters, S. M., Webb, D. A. (ed.), Flora europaea **3**. – Cambridge, etc.
- 1993: *Aeonium* Webb & Berth. – P. 429 in: Tutin, T. G., Heywood, V. H., Burges, N. A., Moore, D. M., Valentine, D. H., Walters, S. M., Webb, D. A. (ed.), Flora europaea ed. 2, **1**. – Cambridge, etc.
- Yannitsaros, A. G. 1969: Simvoli eis tin gnosis tis chloridos kai vlastiseos tis nisou ton Kithiron – Doct. Thesis, University of Athens, Athinai.
- 1971: Notes on the flora of Elaphonesos island (Laconia, Greece). – Biol. Gallo-Hellen. **3(2)**: 149-162.
- 1974: Ereunai epi tis epigenous chloridos tis Ellados. II. *Coronopus didymus* (L.) Smith (*Cruciferae*). – Biol. Gallo-Hellen. **5(2)**: 285-308.
- 1977: The genus *Paspalum* L. in Kriti. – Biol. Gallo-Hellen. **7(1-2)**: 87-92.
- 1978: *Tulipa goulimy* Sealy & Turrill and the dangers which threaten it. – Fysis **14**: 5-9, 36-37.
- 1982: I epigenis chlorida tis Elladas. Geniki theorisi. – Bot. Hron. **2**: 159-166.
- 1986: New data on the naturalization and distribution of *Coronopus didymus* (*Cruciferae*) in Greece. – Willdenowia **16**: 61-64.
- 1991: Adventive flora of Crete: history, phytogeography, ecology and agricultural aspects. – Bot. Hron. **10**: 299-307.
- 1992: A contribution to the adventive flora of Lesbos (E Aegean, Greece). – Pp. 157-159 in: Proceedings 14th Panhellenic Biological Conference 1992. – Nicosia.
- & Economidou, E. 1974: Studies on the adventive flora of Greece. I. General remarks on some recently introduced taxa. – Candollea **29**: 111-119.
- & — 1979: I elliniki chlorida pou apeileitai kai i anangi dimiourgias enos 'vivliou erithron dedomenon' gia tin Ellada. – Pp. 121-125 in: Praktika Synedriou Prostasias Panidas – Chloridas – Viotopon, Athinai 1979. – Athinai.
- & Koumpli-Sovantzi L. 1991: A contribution to the hydrophilous flora of Crete. – Bot. Hron. **10**: 579-586.
- & Protopapadakis, E. 1989: I therini zizaniochlorida ton oporonon esperidoeidon tis Dytikis Kritis. – Bios (Thessaloniki) **1**, Suppl.: 273-283 (in Greek).
- Zahariadi, C. 1973: Quelques taxons rares ou nouvellement découverts de la flore de la Grèce. – Ann. Mus. Goulandris **1**: 165-183.
- Zimmer, B. 1991: Remarks on the Greek cheilanthoid ferns. – Bot. Hron. **10**: 221-237.

Address of the author:

Assoc. Prof. Artemios Yannitsaros, Institute of Systematic Botany, Department of Biology, University of Athens, Panepistimiopolis, 15784 Athens, Greece; fax +30 1 7243325.