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Trees and shrubs of the Ionian Islands (Greece) A preliminary list¹

Abstract

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A list of wild woody species of the Ionian Islands was compiled on the basis of literature and herbaria, partly checked *in situ* by the authors, who have been conducting field botanical studies on the islands of Lefkas (1981), Zakynthos (1986), Ithaki (1992), Kefallinia (1992) and Korfu (1995). The full list of taxa contains more than 160 species and subspecies of trees and shrubs. Richest floras have the biggest islands - Korfu - 134 species and subspecies, and Kefallinia - 125 species and subspecies, while the floras of smaller islands are not so numerous, and the smallest number - only 3 species have been reported from Strophades.

Key words: woody flora, chorology, floristical biodiversity.

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Over the last 20-30 years the Ionian Islands are under intensive floristic investigation. Many botanical field investigations have been conducted during that time and monographic publications treating the flora of particular islands have been published at the Universities of Zürich, Copenhagen and Patras, and also at the Institute of Dendrology of the Polish Academy of Sciences in Kórnik. This allowed Dr. W. Gutermann from the Institute of Botany of the University of Vienna to prepare a Catalogue of Vascular Plants for all Ionian Islands (Gutermann 1990).

In the Institute of Dendrology we have organized a dozen or so botanical trips to Greece², starting from 1979. Each one of the expeditions was of about 3-5 weeks duration and in view of the profile of our Institute, we have been mostly interested

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in trees and shrubs of the investigated areas. We visited Ionian Islands for the first time in 1981 when we spent only two days on the island of Lefkas. Nevertheless in that short time we found two species – *Rosa sempervirens* L. and *Sambucus nigra* L. not reported earlier from the island (compare Hofmann 1968). The next island, Zakynthos, we have visited in the second part of May 1988 for ten days. Comparing with the publications of Bornmüller (1928) and Ronniger (1941) we have found there 15 species of trees and shrubs not reported previously (Boratyński et al. 1989, 1990).

In May 1992, we have spent eleven days on Ithaki and twelve days on Kefallinia. Because the flora of Ithaki has not been elaborated till now for comparison we could use only Gutermann's Catalogue (1990). We found on the island 30 species of trees and shrubs reported here for the first time (Boratyński and Browicz 1994). Flora of Kefallinia was lately elaborated by Phitos and Damboldt (1985) and is quite well known, but in spite of that we were able to find 5 new species for this island – *Aristoslochia sempervirens* L., *Celtis australis* L., *Nicotiana glauca* R. C. Graham (xenophyte), *Rosa canina* L. and *Salix alba* L. (Boratyński and Browicz 1993).

From April 25th up to the middle of May 1995 we have been continuing our search on Korfu. During this time, though the flora of the island was well studied (Hansen 1982, Georgiou 1988, Gutermann 1990) we found here some new woody taxa, as *Alnus glutinosa* (L.) Gaertn., *Crataegus heldreichi* Boiss., *Pyracantha coccinea* M. Roemer and *Rhamnus saxatilis* Jacq. subsp. *prunifolius* (Sm.) Aldén.

As a consequence of all this work it was possible to compose a full list of wild and subspontaneous woody species occurring on the Ionian Islands (Tab. 1). It has been prepared on the basis of recent publications for Othoni (Georgiadis 1983), Erioussa (Georgiadis 1983), Korfu (Hansen 1982 and Georgiou 1988), Paxi (Georgiadis et al. 1986), Lefkas (Hofmann 1968) and for Kefallinia (Phitos and Damboldt 1985), and the Catalogue of Gutermann (1990), and also on our herbarium collection and field observations.

It was confirmed, that on the Ionian Islands about 160 woody species and subspecies are represented. Status of some taxa is still unclear or even doubtful (natural or semi-wild). To such critical species belong for example *Daphne oleoides* Schreber, *Juniperus oxycedrus* L., *Cotoneaster integerrimus* Medicus or *Crataegus orientalis* Pallas ex Bieb.

Daphne oleoides, mentioned from Kefallinia by Gutermann (1990), has not been enumerated in the monographic floristical work by Phitos and Damboldt (1985). Also during our visit on this island and rather detailed penetration of Mount Aenos we did not find this shrub.

Juniperus oxycedrus has been mentioned by Georgiadis, Iatrou and Georgiou (1986) from Lakka – the northern tip of Paxi island, but probably this information refers to *Juniperus macrocarpa* Sibth. and Sm. [= *J. oxycedrus* L. subsp. *macrocarpa* (Sibth. and Sm.) Ball], because the typical subspecies *J. oxycedrus* subsp. *oxycedrus* usually grows in higher places.

Table 1.

Woody species of the Ionian Islands

No.	Species	Oth	Eri	Kor	Paxi	Lef	Ita	Kef	Zak	Str
1	2	3	4	5	6	7	8	9	10	11
1.	<i>Abies cephalonica</i> Loudon							*		
2.	<i>Acer campestre</i> L.			*						
3.	<i>Acer monspessulanum</i> L.			*	*					
4.	<i>Ailantus altissima</i> (Mill.) Swingle			*N			*	*		
5.	<i>Alnus glutinosa</i> (L.) Gaertn.			*						
6.	<i>Amelanchier ovalis</i> Medicus			*						
7.	<i>Amygdalus webbii</i> Spach			*		*		*		
8.	<i>Anagyris foetida</i> L.			*	*	*	*	*	*	
9.	<i>Anthyllis hermanniae</i> L.	*		*	*	*	*	*	*	
10.	<i>Arbutus andrachne</i> L.						*	*		
11.	<i>Arbutus unedo</i> L.			*	*	*	*	*	*	
12.	<i>Arbutus andrachne</i> L. × <i>A. unedo</i> L.							*		
13.	<i>Aristolochia sempervirens</i> L.						*?	*		
14.	<i>Artemisia arborescens</i> L.			*		*		*	*	
15.	<i>Arthrocnemum macrostachyum</i> (Moric.) Moris			*				*	*	
16.	<i>Asparagus acutifolius</i> L.			*	*		*			
17.	<i>Asparagus aphyllus</i> L.					*		*	*	
18.	<i>Astragalus angustifolius</i> Lam.							*		
19.	<i>Astragalus sempervirens</i> Lam.					*		*		
20.	<i>Atriplex portulacoides</i> L.			*	*	*		*	*	
21.	<i>Buplerum fruticosum</i> L.						*			
22.	<i>Buxus sempervirens</i> L.			*?						
23.	<i>Calicotome villosa</i> (Poiret) Link	*		*	*	*	*	*	*	
24.	<i>Capparis spinosa</i> L. subsp. <i>spinosa</i>	*	*	*	*	*	*	*	*	
25.	<i>Capparis spinosa</i> L. subsp. <i>orientalis</i> (Vaillard) Jafri			*			*	*		
26.	<i>Carpinus orientalis</i> Miller			*						
27.	<i>Castanea sativa</i> Miller			*						
28.	<i>Celtis australis</i> L.			*		*	*	*	*	
29.	<i>Cerasus avium</i> (L.) Moench			*						
30.	<i>Cerasus mahaleb</i> (L.) Miller			*						
31.	<i>Ceratonia siliqua</i> L.			*	*	*	*	*	*	
32.	<i>Cercis siliquastrum</i> L.			*	*	*	*	*	*	
33.	<i>Cionura erecta</i> (L.) Griseb.			*						
34.	<i>Cistus incanus</i> L.	*	*	*	*	*	*	*	*	
35.	<i>Cistus monspeliensis</i> L.			*		*	*			
36.	<i>Cistus parviflorus</i> Lam.								*	
37.	<i>Cistus salvifolius</i> L.	*	*	*	*	*	*	*	*	
38.	<i>Clematis flammula</i> L.	*		*	*	*	*	*	*	
39.	<i>Clematis vitalba</i> L.			*		*		*		
40.	<i>Clematis viticella</i> L.			*?				*?		
41.	<i>Colutea arborescens</i> L.			*		*				
42.	<i>Convolvulus oleifolius</i> Desr.								*	
43.	<i>Coridothymus capitatus</i> (L.) Reichb. f.	*		*	*	*	*	*	*	
44.	<i>Cornus sanguinea</i> L.			*						

Table 1 (contd.)

1	2	3	4	5	6	7	8	9	10	11
45.	<i>Coronilla valentina</i> L. subsp. <i>valentina</i>			*		*		*	*	
46.	<i>Coronilla valentina</i> L. subsp. <i>glauca</i> (L.) Batt.			*				*		
47.	<i>Cotinus coggygria</i> Scop.					*		*	*	
48.	<i>Cotoneaster integerrimus</i> Medicus			*						
49.	<i>Crataegus heldreichii</i> Boiss.			*						
50.	<i>Crataegus monogyna</i> Jacq.			*?	*	*	*	*	*	
51.	<i>Crataegus orientalis</i> Pallas ex Bieb.			*?						
52.	<i>Cupressus sempervirens</i> L.			*N				*N		
53.	<i>Cytisus villosus</i> Pourret			*					*	
54.	<i>Daphne oleoides</i> Schreber							*		
55.	<i>Dianthus fruticosus</i> L. subsp. <i>occidentalis</i> Runemark							*	*	
56.	<i>Ephedra foeminea</i> Forssk.	*	*	*	*	*	*	*	*	*
57.	<i>Erica arborea</i> L.	*?		*	*	*	*	*	*	*
58.	<i>Erica manipuliflora</i> Salisb.	*		*	*	*		*	*	*
59.	<i>Euonymus europaeus</i> L.			*						
60.	<i>Euphorbia acanthothamnus</i> Heldr. et Sart.			*?		*	*	*		
61.	<i>Euphorbia dendroides</i> L.	*	*	*	*		*	*	*	*
62.	<i>Ficus carica</i> L.	*N	*N	*N	*N	*N				*N
63.	<i>Frangula alnus</i> Miller.			*?						
64.	<i>Fraxinus ornus</i> L.	*		*		*				
65.	<i>Fumana arabica</i> (L.) Spach			*	*	*				*
66.	<i>Fumana ericoides</i> (Cav.) Gand.					*		*		
67.	<i>Fumana laevipes</i> (L.) Spach			*						
68.	<i>Fumana procumbens</i> (Dunal) Gren.			*		*				
69.	<i>Fumana thymifolia</i> (L.) Spach ex Webb	*		*	*	*	*	*	*	*
70.	<i>Genista acanthoclada</i> DC.			*						*
71.	<i>Genista monspessulana</i> (L.) L. Johnson			*						
72.	<i>Genista sylvestris</i> Scop.			*						
73.	<i>Globularia alypum</i> L.							*	*	
74.	<i>Halocnemum strobilaceum</i> (Pallas) Bieb.			*						
75.	<i>Hedera helix</i> L.			*	*	*	*	*	*	*
76.	<i>Helianthemum nummularium</i> (L.) Miller			*		*		*		
77.	<i>Helianthemum syriacum</i> (Jacq.) Dum.-Courset									*
78.	<i>Hippocrepis emerus</i> (L.) Lassen subsp. <i>emeroides</i> (Boiss. & Spruner) Lassen	*		*	*	*	*	*	*	*
79.	<i>Hypericum aegypticum</i> L.							*	*	*
80.	<i>Hypericum empetrifolium</i> Jaub et Spach					*		*	*	*
81.	<i>Ilex aquifolium</i> L.			*?						
82.	<i>Jasminum fruticans</i> L.			*						
83.	<i>Juniperus macrocarpa</i> Sibth. & Sm.			*						
84.	<i>Juniperus oxycedrus</i> L.					*?				
85.	<i>Juniperus phoenicea</i> L.			*	*	*	*	*	*	*
86.	<i>Laurus nobilis</i> L.			*	*	*	*	*	*	*
87.	<i>Lavandula stoechas</i> L.			*				*	*	*

Table 1 (contd.)

1	2	3	4	5	6	7	8	9	10	11
88.	<i>Lavatera arborea</i> L.			*	*					
89.	<i>Lavatera bryoniifolia</i> Miller			*		*			*	
90.	<i>Ligustrum vulgare</i> L.			*						
91.	<i>Lonicera etrusca</i> Santi			*		*	*	*	*	
92.	<i>Lonicera implexa</i> Aiton	*	*	*	*	*	*	*	*	*
93.	<i>Lycium europaeum</i> L.			*		*	*	*	*	
94.	<i>Micromeria graeca</i> (L.) Reichenb.	*		*	*	*	*	*	*	
95.	<i>Micromeria juliana</i> (L.) Reichenb.	*		*	*	*	*	*	*	
96.	<i>Micromeria myrtifolia</i> Boiss. & Hohen.						*			
97.	<i>Micromeria nervosa</i> (Desf.) Bentham			*				*	*	*
98.	<i>Myrtus communis</i> L.	*		*	*	*	*	*	*	
99.	<i>Nerium oleander</i> L.		*	*	*	*		*	*	
100.	<i>Nicotiana glauca</i> R. C. Graham			*			*	*		
101.	<i>Olea europaea</i> L.	*		*	*	*	*	*	*	
102.	<i>Ostrya carpinifolia</i> Scop.			*		*		*		
103.	<i>Osyris alba</i> L.	*		*	*	*	*	*	*	
104.	<i>Paliurus spina-christi</i> Miller			*	*	*				
105.	<i>Periploca graeca</i> Labill.			*						
106.	<i>Phillyrea latifolia</i> L.	*		*	*	*	*	*	*	
107.	<i>Phlomis fruticosa</i> L.	*	*	*	*	*	*	*	*	
108.	<i>Pinus halepensis</i> Miller			*	*	*	*	*	*	
109.	<i>Pinus nigra</i> Arnold			*						
110.	<i>Pinus pinea</i> L.			*	*		*	*	*	
111.	<i>Pistacia lentiscus</i> L.	*		*	*	*	*	*	*	
112.	<i>Pistacia terebinthus</i> L.	*		*	*	*	*	*	*	
113.	<i>Platanus orientalis</i> L.			*	*	*		*	*	
114.	<i>Populus alba</i> L.			*						
115.	<i>Prasium majus</i> L.	*		*	*	*	*	*	*	*
116.	<i>Prunus spinosa</i> L.	*		*		*	*	*	*	
117.	<i>Ptilostemon chamaepeuce</i> (L.) Less.	*				*	*	*	*	
118.	<i>Ptilostemon gnaphalioides</i> (Cyr.) Sojak			*			*			
119.	<i>Putoria calabrica</i> (L. f.) DC.	*	*	*	*	*	*	*	*	
120.	<i>Pyracantha coccinea</i> M. Roemer			*						
121.	<i>Pyrus communis</i> L.							*		
122.	<i>Pyrus spinosa</i> Forssk.			*	*	*	*	*	*	
123.	<i>Pyrus communis</i> L. × <i>Pyrus spinosa</i> Forssk.			*						
124.	<i>Quercus cerris</i> L.			*?						
125.	<i>Quercus coccifera</i> L.	*		*	*	*	*	*	*	
126.	<i>Quercus frainetto</i> Ten.			*		*				
127.	<i>Quercus ilex</i> L.	*		*	*	*	*	*	*	
128.	<i>Quercus ithaburensis</i> Decne subsp. <i>macrolepis</i> (Kotschy) Hedge et Yalt.			*		*	*	*		
129.	<i>Quercus robur</i> L. subsp. <i>pedunculiflora</i> (C. Koch) Menickij			*						
130.	<i>Quercus pubescens</i> Willd.			*		*		*	*	
131.	<i>Rhamnus alaternus</i> L.	*	*	*	*	*	*	*	*	
132.	<i>Rhamnus oleoides</i> L.					*	*	*	*	

Table 1 (contd.)

1	2	3	4	5	6	7	8	9	10	11
133.	<i>Rhamnus saxatilis</i> Jacq. subsp. <i>prunifolia</i> (Sm.) Aldén			*						
134.	<i>Rhus coriaria</i> L.			*		*				
135.	<i>Rosa agrestis</i> Savi			*		*		*		
136.	<i>Rosa canina</i> L.			*		*		*		
137.	<i>Rosa sempervirens</i> L.		*	*	*	*	*	*	*	*
138.	<i>Rosmarinus officinalis</i> L.			*		*		*	*	*
139.	<i>Rubia peregrina</i> L.			*	*	*		*	*	*
140.	<i>Rubia tenuifolia</i> D'Urv.							*	*	*
141.	<i>Rubus canescens</i> DC.			*			*	*		
142.	<i>Rubus ulmifolius</i> Schott	*	*	*	*	*	*	*	*	*
143.	<i>Ruscus aculeatus</i> L.	*		*	*	*	*	*	*	*
144.	<i>Ruta chalepensis</i> L.	*		*	*	*	*	*	*	*
145.	<i>Ruta graveolens</i> L.					*		*		
146.	<i>Salix alba</i> L.			*		*		*		
147.	<i>Salix cinerea</i> L.							*		
148.	<i>Salix elaeagnos</i> Scop.			*						
149.	<i>Salvia fruticosa</i> Miller	*	*	*	*	*	*	*	*	*
150.	<i>Sambucus nigra</i> L.			*			*	*	*	*
151.	<i>Sarcocornia perennis</i> (Miller) A. J. Scott			*						*
152.	<i>Sarcopoterium spinosum</i> (L.) Spach	*		*	*	*	*	*	*	*
153.	<i>Satureja thymbra</i> L.			*						*
154.	<i>Smilax aspera</i> L.	*	*	*	*	*	*	*	*	*
155.	<i>Spartium junceum</i> L.	*	*	*	*	*	*	*	*	*
156.	<i>Sueda vera</i> J. F. Gmelin					*				
157.	<i>Tamarix hampeana</i> Boiss. et Heldr.			*				*	*	*
158.	<i>Tamarix tetrandra</i> Pallas ex Bieb.	*		*		*		*		
159.	<i>Thymbra spicata</i> L.			*?						*
160.	<i>Thymelaea hirsuta</i> (L.) Endl.							*	*	
161.	<i>Thymelaea tartonraira</i> (L.) All.			*?				*	*	
162.	<i>Tilia platyphyllos</i> Scop.			*						
163.	<i>Ulmus minor</i> Miller			*		*	*	*	*	*
164.	<i>Viburnum tinus</i> L.	*		*						
165.	<i>Vitex agnus-castus</i> L.	*		*	*	*	*	*	*	*
166.	<i>Vitis sylvestris</i> C. C. Gmelin			*						

Abbreviations and signs used: Oth – Othoni, Eri – Ericoussa, Kor – Korfu and Vidos, Paxi – Paxi and Antipaxi, Lef – Lefkas, Ita – Ithaki, Kef – Kefalinia, Zak – Zakynthos, Str – Strophades; * – presence of species; *N – naturalized; *? – uncertain.

There are also taxonomic problems with four species of *Tamarix*, placed on the list by Gutermann (1990). The genus *Tamarix* belongs to the most complicated ones, and Prof. J. Zieliński from our Institute has not found more than two species among the herbarium specimens revised.

In all 166 species of trees and shrubs have been found on the Ionian Islands and this is almost half of the number of woody species growing throughout Greece. The

richest island is Korfu – 134 species, the next is Kefallinia – 125 and afterwards Zakynthos and Lefkas – 88 each, Ithaki – 69, Paxi – 60, Othoni – 41 and Ericoussa – 13 (Table 1). For Strophades, unfortunately, we have no good information, except from Gutermann's Catalogue (1990) where only 3 species were reported: *Micromeria nervosa* (Desf.) Bentham, *Prasium majus* L. and *Lonicera implexa* Aiton.

Some species are rather rare or even very rare, represented only on few islands and on few localities. About 30 species occur only on one island, mostly on Korfu. Also 30 species occupy every or almost every island. The majority of species, over 100, belong to the Mediterranean and sub-Mediterranean element but central-European species are also represented here, especially on Korfu.

The herbarium specimens collected during our field work are preserved in the herbarium of the Institute of Dendrology at Kórnik (KOR) and in the Goulandris Natural History Museum at Kifissia (ATH). Specimens of herbaceous plants collected incidentally, mostly on Ithaki, have been sent to Dr. W. Gutermann to Vienna.

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Drzewa i krzewy Wysp Jońskich – wstępna lista gatunków

Streszczenie

Na podstawie danych z piśmiennictwa oraz zielników, sprawdzonych częściowo w terenie, w trakcie prac florystycznych wykonywanych przez autorów na Lefkas (1981), Zakintos (1986), Itace (1992), Kefalinii (1992) i Korfu (1995), zestawiona została wstępna lista gatunków drzew i krzewów występujących na Wyspach Jońskich. Prezentowana lista obejmuje ponad 160 gatunków i podgatunków, przy czym najliczniejszą florę mają największe wyspy: Korfu – 134 gatunków i podgatunków oraz Kefalinia – 125 gatunków i podgatunków. Na mniejszych wyspach występuje mniej taksonów, a z jednej z najmniejszych – Strofades dotychczas podano tylko 3 gatunki krzewów (tab. 1).