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## Woody flora of Hydra (Argosaronic Islands, Greece)

**Abstract:** From 5 to 27 May, floristic dendrological field studies were conducted on Hydra. The wild flora of trees and shrubs comprises 37 species belonging to 34 genera and to 21 families. An alphabetical list of cultivated woody species is added, including fruit trees.

**Additional key words:** shrubs, trees, Greece, Hydra Island

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### Introduction

Hydra, after Salamis (91 km<sup>2</sup>) and Aegina (83 km<sup>2</sup>) is the third largest island of the Argosaronic Gulf Islands. Its surface area is 50 km<sup>2</sup> and the shoreline has 56 km. The island is elongated from north-west to south-west and is cigar-shaped, broadest in the middle, between port of Hydra and a cape Rigas. Hydra is mountainous with the highest point, Mt. Eros 593 m. It is rocky and barren, without permanent rivers or streams, with scanty vegetation. The flora of trees and shrubs is very poor, represented by only 37 species.

The pine forests (*Pinus halepensis*) are developed only near the top of the higher hills, especially on Eros and between Koryfi–Episkopi–Molos, pure or in some places with addition of juniper. Also near the top, but only near Mandraki, the forests are formed by tree-like specimens of *Juniperus phoenicea*, which attain up to 8–10 m high. Unfortunately the biggest and almost pure such forests are located near the rubbish and damping ground. Where the juniper forests are more loose the single specimens of *Acer sempervirens* and *Quercus coccifera* are occurring.

Typical maquis is represented on the seaside slopes, but in fragmentary and paupered form, espe-

cially between Kaminia and Vlychos, but without participation of *Arbutus* and *Erica*. Also phrygana is very devastated and usually composed by few species, mainly by *Sarcopoterium spinosum* and *Phlomis fruticosa*, sometimes with addition of *Calycotome villosa*. Even such common on the another islands species of phrygana, as: *Erica manipuliflora*, *Genista acanthoclada*, *Cistus salvifolius* and *Lavandula stoechas* are lacking. Other shrubs are rather rare except *Euphorbia dendroides* common in the slopes of the central part of the island, especially near Hydra and Mandraki. This *Euphorbia* is growing over the port not only on the open places but also along the by-streets. Moreover quite common is *Capparis spinosa* subsp. *spinosa* between Hydra and Vlychos and near Mandraki.

I conducted the floristic penetration of the island, between 5 and 27 May 2000. The penetration was difficult, because the island is almost devoid of accessible roads and pathes, but exception is the littoral road between Mandraki to Hydra and from Kaminia to Vlychos and Molos. The crosswalk from one hill to another is much limited by stone-slip.

During the excursions I compiled the list of trees and shrubs and I collected the herbarium specimens. As result of such searches I have found 37 woody species. Below I show two lists of woody plants estab-

lished on the island: 1. occurring in the wild state, alphabetically by families and genera, 2. cultivated, alphabetically by species. I quote my herbarium specimens with the abbreviation HB (Hydra-Browicz). It is the first list of such species for the island of Hydra. My herbarium specimens are stored in the Herbarium of the Institute of Dendrology, Polish Academy of Sciences in Kórnik, as well in the Goulandris History Museum in Kifissia, Greece. This Museum sponsored partially my work.

## Wild trees and shrubs

### *Aceraceae*

1. *Acar sempervirens* L.  
Scattered but sometimes it forms a small group or even forests.  
Near Mandraki, clump of small trees ca 4 m high. HB 1.

### *Anacardiaceae*

2. *Pistacia lentiscus* L.  
Not common, usually single specimens, rarely small groups.  
Maritime slopes between Kaminia and Vlychos HB 16; above Molos, along the road to Episkopi, singly or in clumps at the edge of pine forests. HB 40.
3. *Pistacia x saportae* Burnat  
In the town of Hydra, in the middle part, near the building, only one tree-like specimen. HB 22.
4. *Pistacia terebinthus* L.  
Very rare, only single specimen.  
In the town of Hydra, above the ultimate building, on the high slope. HB 23.

### *Asparagaceae*

5. *Asparagus aphyllus* L.  
Common but scattered throughout the island.  
Ca 2 km NE direction from Mandraki, between the clump of juniper. HB 9.

### *Capparaceae*

- 6a. *Capparis spinosa* L. subsp. *spinosa*  
Common in the central part of the island, along the roads, on the stones and walls of the old building.  
Between Kaminia and Vlychos, near the road. HB 14; Kaminia, on the stones and wall of the old building, near the sea, together with subsp. *orientalis*. HB 55.
- 6b. *Capparis spinosa* L. subsp. *orientalis* (Veillard) Jafri  
Very rare. I saw it only once, together with the previous subspecies, in Kaminia. HB 54.

### *Cistaceae*

7. *Cistus incanus* L.  
In the central part of the island, on the higher slopes, at the edge of the pine forests.  
Above Hydra, on the small slope along the road, only single specimens HB 26; Above Molos, at the border of the pine forest, along the road to Episkopi. HB 39.
8. *Fumana arabica* (L.) Spach  
Above the town of Hydra, near the road to Profitis Ilias, rare. HB 24, HB 25a.
9. *Fumana thymifolia* (L.) Spach ex Webb  
Along the road to Profitis Ilias, at the border of the pine forest. HB 25; near Vlychos. HB 41.

### *Compositae*

10. *Ptilostemon chamaepeuce* (L.) Less.  
Rare, only on the rocky slopes above and below of the road from Kaminia to Vlychos. HB 31, HB 49.

### *Cupressaceae*

11. *Juniperus phoenicea* L.  
Common species, especially on the slopes over Mandraki and also at the border of the pine forests.  
Ca 2 km in NE direction from Mandraki – single specimens, small clumps and even pure forests. HB 10.

### *Ephedraceae*

12. *Ephedra foeminea* Forssk.  
Rare, between Hydra and Kaminia, on the rocky slopes over or below the road. HB 11.

### *Euphorbiaceae*

13. *Euphorbia dendroides* L.  
Common on the hills along the western part of the island, especially near the town of Hydra and Mandraki.  
Ca 2 km in NE direction from Mandraki, common on the dry slopes, often together with *Juniperus phoenicea*, *Acer sempervirens* and *Quercus coccifera*. HB 36.

### *Fagaceae*

14. *Quercus coccifera* L.  
Scattered and usually as the single small trees or shrubs.  
Near Kaminia. HB 8; Inside of the pine forest, along the road to Profitis Ilias. HB 28.

### *Guttiferae*

15. *Hypericum empetrifolium* Willd.  
Along the road from Hydra to Profitis Ilias, inside of the loose pine forest and in the thickets on the slopes over the road, often. HB 27.

**Labiatae**

16. *Coridothymus capitatus* (L.) Reich. f.

Quite common in the central part of the island, usually at the border of the pine forests.

Along the road to Profitis Ilias, on the escarps, in some places abundantly. HB 30.

17. *Phlomis fruticosa* L.

Very common, especially on the dry and open slopes, often together with *Sarcopoterium spinosum*.

Between Hydra and Mandraki. HB 7.

18. *Prasium majus* L.

Very rare. I found it only once, poor specimen beneath the shrubs of *Pistacia lentiscus*.

Near the road to Episkopi. BH 42.

19. *Satureja juliana* L.

Common but scattered, throughout the island.

Common on the dry slopes between Hydra and Mandraki. HB 8; Near Mandraki. H 20.

20. *Salvia fruticosa* Mill.

I observed it only in the gardens of Hydra, probably as the remnant of the previous natural vegetation (in observ.).

21. *Teucrium divaricatum* Sieber ex Heldr.

Only between Kaminia and Vlychos, on the rocky slopes over the road. HB 15.

**Leguminosae**

22. *Anagyris foetida* L.

Probably limited to the western part of the island, usually growing singly or in small group.

Between Hydra and Mandraki, together with *Phlomis fruticosa* and *Sarcopoterium spinosum*. HB 38.

23. *Anthyllis hermanniae* L.

Scattered between Hydra and Vlychos and Hydra and Profitis Ilias.

Dry, stony slopes between Kaminia and Vlychos, single specimens. HB 17.

24. *Calycotome villosa* (Poir.) Link

Common on the dry and waste slopes.

Ca 2 km NE direction from Mandraki, sometimes in small clumps. HB 37.

25. *Ceratonia siliqua* L.

Scattered in the western part of the island, usually as single specimen, sometimes in the gardens.

In Hydra, in the higher part of the town. HB 46.

26. *Medicago arborea* L.

Rare. I found it only in the higher part of Hydra, one clump of shrubs – cultivated? HB 44.

27. *Spartium junceum* L.

Rare, only in small thickets near Mandraki. HB 52.

**Myrtaceae**

28. *Myrtus communis* L.

Along the road to Profitis Ilias, only two dwarf shrubs near the trunk of *Cupressus sempervirens*. It is

untypical site for this species, maybe it escaped from the gardens of the town of Hydra. HB 29.

**Oleaceae**

29. *Phillyrea latifolia* L.

Rare and scattered.

Between Hydra and Mandraki, single specimen on the slope over the road. HB 32.

**Pinaceae**

30. *Pinus halepensis* L.

Common in the central part of the island where it forms more or less pure forests in the higher part of the hills, occasionally the single specimens are occurring near the sea (in observ.).

**Ranunculaceae**

31. *Clematis cirrhosa* L.

Rare but common between Kaminia and Vlychos, on the littoral rocky slopes. HB 13.

**Rosaceae**

32. *Pyrus spinosa* Forssk.

Between Kaminia and Vlychos, represented by single, isolated shrubby specimens. HB 19.

33. *Sarcopoterium spinosum* (L.) Spach

The commonest shrub in the whole island, on the dry and open slopes, degraded sites.

Near Mandraki, abundantly. HB 47.

**Smilacaceae**

34. *Smilax aspera* L.

Only one big patch on the rock in Hydra, near the road to Kaminia. HB 12.

**Solanaceae**

35. *Nicotiana glauca* R.C.Graham

Xenophyte. Common along the sea in the town of Hydra and along the road between Hydra and Mandraki, sometimes on the walls, in ruins and gardens. Hydra. HB 6.

36. *Lycium europaeum* L.

I found only one shrub in Kaminia – cultivated? (in observ.).

**Verbenaceae**

37. *Vitex agnus-castus* L.

Rare, only in the higher part of the town of Hydra, on the waste places, sometimes in the gardens. HB 45.

**Cultivated trees and shrubs**

*Acacia karroo* Hayne, *Ailantus altissima* (Mill.) Swingle, *Araucaria heterophylla* (Salisb.) Franco, *Argyranthemum frutescens* (L.) Webb, *Bilderdykia aubertii* (Louis

Henry) Moldenke, *Brachychiton populneum* (Cav.) R.Br., *Caesalpinia gillesii* (Hook.) Dietr., *Cassia corymbosa* Lam., *Cercis siliquastrum* L., *Citrus limon* (L.) Burm.f., *Citrus sinensis* (L.) Osbeck, *Cupressus sempervirens* L. f. *sempervirens* & f. *horizontalis* (Mill.) Voss., *Eriobotrya japonica* (Thunb.) Lindl., *Eucalyptus camaldulensis* Dehnh., *Euonymus japonicus* Thunb., *Ficus benjamina* L., *Ficus carica* L., *Ficus elastica* Roxb., *Hedera helix* L. forms, *Hibiscus rosa-sinensis* L., *Jasminum mesnyi* Hance, *Jacaranda mimosifolia* D.Don, *Juglans regia* L., *Lantana camara* L., *Laurus nobilis* L., *Ligustrum lucidum* Aiton, *Lonicera japonica* Thunb., *Lygos monosperma* (L.) Heywood, *Koelreuteria paniculata* Lam., *Magnolia grandiflora* L., *Malus domestica* Borkh., *Melia azedarach* L., *Morus alba* L., *Myoporum tenuifolium* G.Forster, *Myoporum tetrandrum* (Labill.) Domin, *Nerium oleander* L., *Opuntia ficus-indica* (L.) Miller, *Parkinsonia aculeata* L., *Parthenocissus quinquefolia* (L.) Planchon, *Phoenix canariensis* Chaub., *Pistacia vera* L., *Pittosporum tobira* (Thunb.) W. T. Aiton, *Platanus acerifolia* (Aiton) Willd., *Platycladus orientalis* (L.) Franco, *Plumbago auriculata* Lam., *Populus nigra* L., *Prunus cerasifera* Ledeb., *Punica granatum* L., *Pyracantha coccifera* Roemer, *Pyrus communis* L., *Ricinus communis* L., *Robinia pseudacacia* L., *Rosa* sp. cult. forms, *Rosmarinus officinalis* L., *Schinus molle* L., *Tecomaria capensis* (Thunb.) Spach, *Vitis vinifera* L., *Washingtonia filifera* H.Wendl., *Wisteria floribunda* (Willd.) DC., *Yucca* sp.