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## Trees and shrubs of Lemnos Is. (Greece)\*

### *Abstract*

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From June 13th to 30th floristic dendrological field studies were conducted on Lemnos island. The woody flora of Lemnos has 51 species, 21 of which are new taxa for the island, first reported by the author. All the species were characterized as regards their mode of occurrence. Besides there occur on the island at least 77 species of introduced trees and shrubs, including 20 for fruit growing.

*Additional keywords:* Flora, trees, shrubs, Greece, Lemnos.

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The volcanic island Lemnos, having an area of 482 km<sup>2</sup> is located in the northern part of the Aegean Sea, south of Thasos Is. Its northeastern tip slightly exceeds 40° Lat. N. It belongs to one of the larger Greek islands and in this respect it is exceeded only by Crete, Evvia (Euboea), Lesbos (Mytilene), Rodhos, Chios, Kefallinia and Kerkira (Korfu). The surface of the island is strongly undulating, hilly, particularly in its southern and western part, and the highest elevations do not exceed 450 m. The highest are Mt. Skopia in the northwest – 429 m, Profitis Elias – 355 m, Fakos – 264 m, and Paradisi – 259 m, while others scarcely attain a height of 200 m. The coastline is richly developed, and the two main bays, in north Pournias and in south Moudrou are separated from each other only by 4–5 km in a straight line dividing the island into two very distinct eastern and western parts.

The climate of Lemnos is subhumid or almost semiarid, with the mean annual precipitation around 500 mm, however, most of this, more than 400 mm comes in the period between October and March. The precipitation minimum comes in July. Mean annual temperature is about 17°C and the mean maximal one almost 20°. Numerous and frequent

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winds blowing from northeast, from Thrace and the Dardanelles make the island dry. Detailed climatic data about the island have been published recently by Economidou (1981).

Both the flora and the vegetation of Lemnos are inadequately known and the island has been rarely visited by botanists. First but very scanty data come from the beginning of the XIX c. Most fruitful here was a 6 day visit in 1927 of Rechinger, even though he was almost exclusively in the southwestern part of the island, and his herbarium collection from that time still present the richest documentation of the flora of Lemnos.

Basically speaking we have at our disposal only three valuable floristic publications about the island. In the first one, from the year 1929 Rechinger presented data about the plants collected and observed by him in 1927. This data was repeated and somewhat enriched by information from other botanists in Rechinger's "Flora Aegaea" (1943). It appears that at that time there were 196 species reported for the island. Finally, a third publication, which, however, concerns more the vegetation of the island rather than its flora was published 40 years ago by Rauh (1949). This was based on a longer stay of the author on the island, during the whole vegetative season. In that paper Rauh presents the first for this island vegetation map, even though it is quite generalized, and at the same time when describing the most important plant communities he mentions several species, including new ones for the island compared to what was published in the "Flora Aegaea". It appears, however, that some of these species have been reported erroneously, as for example *Hypericum aegypticum*, which is a western Mediterranean shrub and in Greece it is known from only few stands in Kefallinia, Zakynthos and Crete and only from seaside cliffs. Also the presence on the island of *Ephedra distachya* is doubtful – probably this information concerns another species, *Ephedra foeminea*.

Summarizing the data from "Flora Aegaea" with the data from Rauh's paper, the list of wild plants on the island number 313 species. This is no doubt an approximate number. Thus for example Economidou (1981) adds 7 other species, and my collections from the year 1990, devoted primarily to trees and shrubs increase it further by 21 species. Thus the flora of the island as we know it today is represented by 341 species, belonging to 64 families, of which the richest are: *Compositae* – 48 species, *Leguminosae* – 37, *Gramineae* – 36, *Umbelliferae* – 15 and *Cruciferae* – 13.

The vegetation of Lemnos is very poor and not very differentiated, to a large extent degraded (Fig. 1). The cause of this lies in the volcanic origin of the island, low elevations and many centuries of mismanagement by man who brought lowlands and moderate slopes under cultivation and allowed steeper slopes to be grazed by sheep and goats. Trees have been cut for fuel and when they were no longer available shrubs were used for the same purpose, pulled out even with their roots (Rauh, 1949). The grazing has eliminated many species



and at the same time led to the expansion of plants unsuited for fodder – foul-tasting, poisonous and very prickly (particularly *Compositae*), and of various weeds.

Until not long ago the island was considered to be woodless, however, ten years ago Economidou (1981) discovered here near Repandini remnants of



Fig. 1. *Sarcopoterietum spinosi* in the slope near Avlonas. Phot. K. Browicz



oak forests (*Quercus ithaburensis* subsp. *macrolepis*) and the presence of this species in several other places permits the suggestion that this type of forests was once more common on the island. Possibly there was also a coniferous forest with pine (*Pinus brutia*) since single pine trees can be seen in various parts of the island. Besides in the west, near the village Kaspakas, I have observed remnants of such forest, which could confirm the above mentioned suggestion (Fig. 2).



Fig. 2. The remnant of *Pinus brutia*-forest near Kaspakas. Phot. K. Browicz

As regards other communities of woody plants than forests it has to be said that strictly speaking also maquis and phrygana are lacking on the island, at least in the classical specific composition. Such typical species for the maquis as *Erica arborea*, *Arbutus andrachne* and *A. unedo*, *Pistacia lentiscus* and *P. terebinthus*, *Laurus nobilis*, *Myrtus communis*, *Rhamnus alaternus*, *Smilax aspera* or *Quercus ilex* do not occur on the island and even *Quercus coccifera* is rare



and larger groups of it are known only from two places, in the vicinity of Agios Dimitrios (Fig. 3) and on Mt. Paradisi.

Also phrygana is residual in nature. Of the typical phrygana species only a few are more widely distributed, though they do not always occur jointly. On the island *Sarcopoterium spinosum* dominates covering almost all sites that are unsuited for agricultural use, such as slopes and mountain tops. It forms its own association *Sarcopoterietum spinosi*, particularly well developed in the western part of the island. Quite commonly it covers slopes with such a dense carpet of "cushions" that it does not allow other species to grow. It is accompanied mostly by such species as *Ballota acetabulosa* (distributed over the whole island), *Euphorbia characias* and *Asphodelus microcarpus*, and of the woody plants, *Asparagus acutifolius*, *Coridothymus capitatus* and sometimes *Cistus incanus*, *Anthyllis hermanniae* and *Genista acanthoclada*.

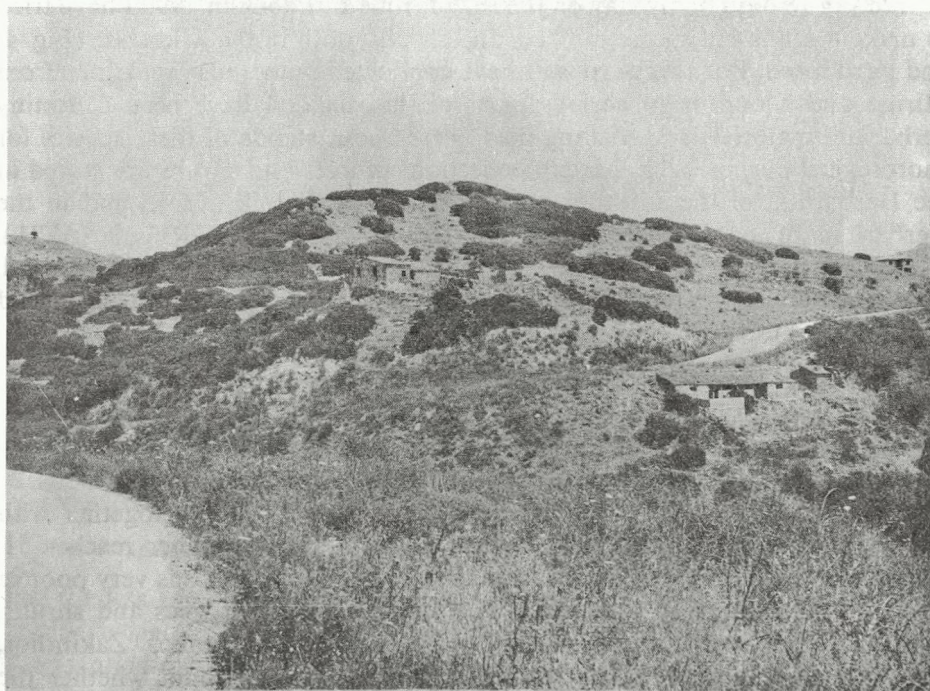


Fig. 3. The thicket of *Quercus coccifera* near Agios Dimitrios. Phot. K. Browicz



Of other communities of woody plants one would have to mention also occurring in several places, but on a very limited area along drying streams that flow in the rain period from slopes, the growth of *Vitex agnus-castus* and *Nerium oleander*. This is an exceptionally well visible community, particularly during the summer, when the herbaceous vegetation is almost completely dry and slopes of hills are brownish-yellow in colour, among others as a result of the fructification of *Sarcopoterium spinosum* which has dark brown fruits. In that period, as a consequence of the flowering of *Nerium oleander*, pinkish-green ribbons of such thickets apart from the patches of green *Dittrichia viscosa* are well visible from a distance and constitute the only element enlivening this sad landscape.

Finally one cannot avoid mentioning the communities of halophytes with the participation of woody species (*Atriplex portulacoides*, *Arthrocnemum macrostachyum*, *Halocnemum strobilaceum*). These communities are distributed along the bay, north and south of Moudros, not only on the seashore itself but also well into cultivated fields (particularly *Atriplex portulacoides*). The other place where halophyte are well developed is the salt lake Limni Aliki, dry in the summer in the northeastern part of the island. It appears that the flora of this region requires a more accurate study.

During 18 days of my stay on the island, June 13th to 30th 1990 I have tried to make a full list of species of trees and shrubs, both in the wild state (Fig. 4) and introduced. For this purpose I have conducted numerous excursions from Mirina and Moudros to various parts of the island. I have been collecting herbarium materials and making field notes about stands of these species for chorological purposes. Herbarium collections of trees and shrubs are stored in the Herbarium of the Institute of Dendrology in Kórnik (KOR) and in the Herbarium of the Goulandris Natural History Museum in Kifissia (ATH.).

Below I give two lists of species of trees and shrubs, wild and introduced, which I have seen on the island, arranged alphabetically. Against each wild species I quote my own collections (abbreviation KB/L.).

#### 1. WILD TREES AND SHRUBS

Rechinger (1929, 1943) mentions 8 such species, Rauh (1949) adds 20 more and Economidou (1981) adds 2. Compiling these data together with my own herbarium collections and field notes the total number reaches 51. Compared to other large Greek islands it appears that Lemnos is very poor in this kind of plants. For example Evvia has 179 species of trees and shrubs, Chios 108, Samos 103, Rodhos 97, Thasos, Samothrake, Zakynthos, Kephallinia – 70–72. In some instances, however, I had doubt whether the species mentioned below are only introduced and gone wild. Sometimes, however, they grow in such places, which fully correspond to their ecological requirements, thus possibly some of the reported stands are of natural origin.



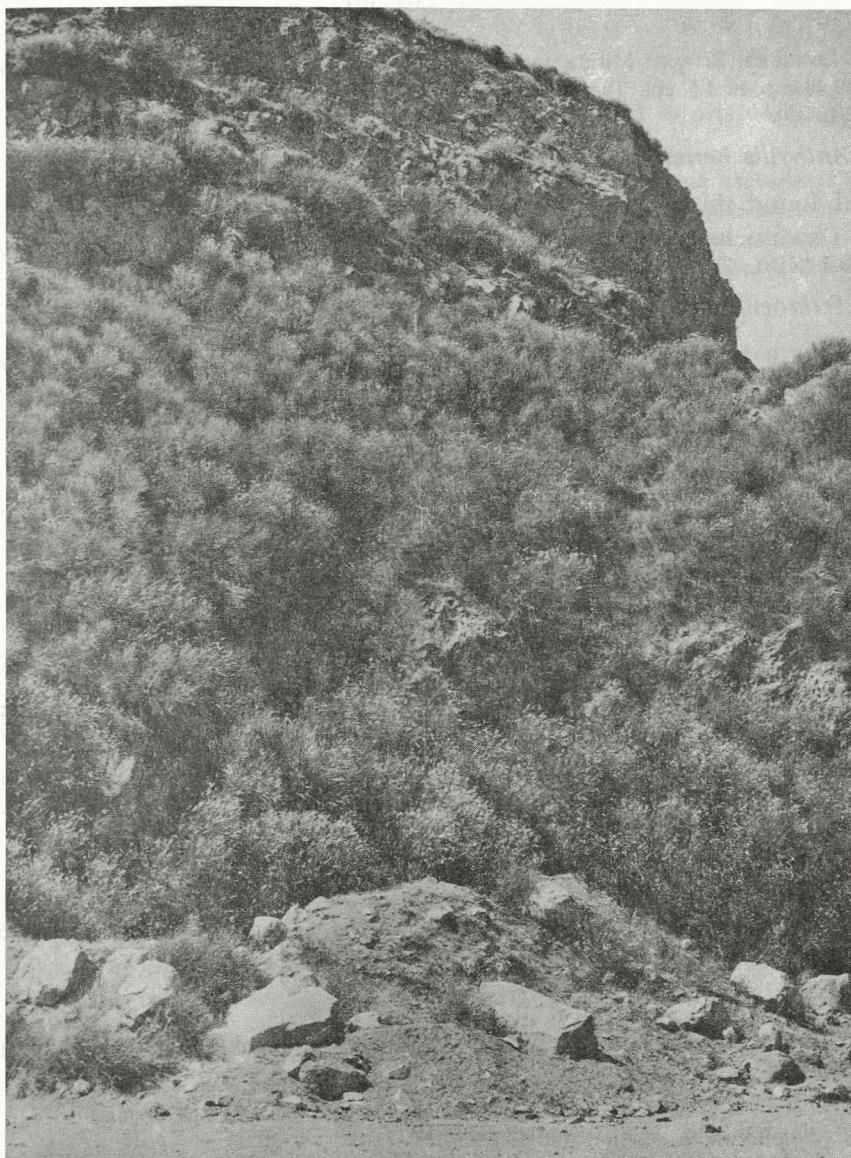


Fig. 4. *Spartium junceum* on the rocky slope near Kaspakas. Phot. K. Browicz

None the less some wild species are also cultivated in towns and villages (e.g. *Platanus orientalis*, *Nerium oleander*, *Populus alba*, *Vitex agnus-castus*, or *Pistacia atlantica*).

1. *Anagyris foetida* L. (*Leguminosae*)

It is a new species for the flora of Lemnos. I found it only on two localities in the western part of the island.



Localities: Between Mirina and Therma, S side of the road, on the dry rock. Only one, small clump ca 1.5' tall. The specimens are characterized by very small and narrow leaflets. (KB/L. 19).

2. *Anthyllis hermanniae* L. (*Leguminosae*)

I found this shrub only in one place.

Localities: Between Mirina and Therma, S side of the road, inside of the dense *Sarcopoterietum spinosi* (KB/L. 23).

3. *Arthrocnemum macrostachyum* (Moric.) Moris (*Chenopodiaceae*)

It is a new species for the flora of Lemnos. Common in the region of Moudros at the seaside, on maritime marshes.

Localities: S side of Limni Alike, in the communities of halophytes (KB/L. 49); N of Moudros, seashore (KB/L. 36).

4. *Asparagus acutifolius* L. (*Liliaceae*)

Very common throughout the whole island.

Localities: Between Mirina and Therma, S side of the road, on the dry rock, in maquis-phrygana community (KB/L. 42).

5. *Atriplex portulacoides* L. (*Chenopodiaceae*)

Seashores. Common in the region of Moudros, sometimes also in corn-fields.

Localities: From Moudros to Lihna, along the beach, marshy soils; also S of Moudros. (KB/L. 34, 35).

6. *Calicotome villosa* (Poiret) Link (*Leguminosae*)

Scattered throughout the island, but not common.

Localities: Ca 1-2 km S of Mirina, small slope over the bay, very compact, low (ca 50 cm) specimens (KB/L. 9).

7. *Capparis spinosa* L. (*Capparaceae*)

Rather common, but scattered, on the rocks, roadside scarps, hilly slopes and in the settlements (Fig. 5).

Localities: Between Thanos and Kontias, on rocks, in the valley of a small drying stream (KB/L. 30); Repandini, on the wall (KB/L. 47).

8. *Centaurea spinosa* L. (*Compositae*)

Common in the southern part of the island, especially near the seashores.

Localities: Between Mirina and Thanos, on dry slopes near road, common (KB/L. 29); between Kaspakas and Avlonas, sandy beach, many cushion-like specimens (KB/L. 68).

9. *Cionura erecta* (L.) Griseb. (*Asclepiadaceae*)

It occurs mainly in S part of the island, in some places quite abundantly (e.g. Kastro in Mirina and southwards of Kap Sagrada, near seaside); Fig. 6.

Localities: Between Mirina and Therma, N side of the road, at the border of field (KB/L. 5).



10. *Cistus incanus* L. (*Cistaceae*)

Scattered throughout the island, mainly in degraded forests and maquis-phrygana communities.

Localities: Between Repandini and Kontopouli, open forest of *Quercus ithaburensis* subsp. *macrolepis* (KB/L. 46). Mirina, S of the town, in a small and dry, planted pine-forest, rare (KB/L. 52, 53).

11. *Clematis cirrhosa* L. (*Ranunculaceae*)

Very rare. Usually represented by a few and weak specimens.

Localities: S confines of Kaspakas, inside of the small clump of *Quercus coccifera* (KB/L. 31).

12. *Coridthymus capitatus* (L.) Reichenb. f. (*Labiatae*)

Scattered throughout the island.

Localities: Between Mirina and Therma, S side of the road, on the dry rock, rare (KB/L. 24).

13. *Crataegus monogyna* Jacq. (*Rosaceae*)

It is a new species for the flora of Lemnos. It was mentioned by Rechinger (1929), but this information probably refers to the next species (Browicz, in print).

Localities: Ca 500–1000 m westwards of Agios Dimitrios, lower part of slope covered by dense thicket of *Quercus coccifera*. Only two, small trees (KB/L. 58).

14. *Crataegus* × *ruscinonensis* Gren. et Blanc. var. *aronioides* Browicz

Rare, only in the western part of the island, single and isolated trees up to 6–7 m tall.

Localities: Between Mirina and Avlonas, on the slope over the southern part of Kaspaka Bay (KB/L. 70); Therma, E confines, near the field's road, 2 trees (KB/L. 55, 56) (Fig. 13).

15. *Elaeagnus angustifolia* L. (*Elaeagnaceae*)

Planted, but probably wild on some localities.

Localities: Moudros, along the bay, N of the town (KB/L. 51).

16. *Ephedra foeminea* Forsskall (*Ephedraceae*)

It is a new species for the flora of Lemnos. I found it only once.

Localities: Between Mirina and Therma, S side of the road, on the dry rock, together with *Quercus coccifera* (KB/L. 18).

17. *Ficus carica* L. (*Moraceae*)

Commonly planted, but probably on some stands could be considered as native, particularly in rocky terrain, on the upper portion of the seaside cliffs.



18. *Genista acanthoclada* DC. (*Leguminosae*)

Rare, I found it only once.

Localities: Ca 2 km N of Kaspakas, on the border of *Sarcopoterietum spinosi*, over the road (KB/L. 33).

19. *Gomphocarpus fruticosus* (L.) Aiton f. (*Asclepiadaceae*)

It is a new species for the flora of Lemnos – I found it only once.

Localities: S of Kaminia, near village, very rare (KB/L. 40).

20. *Halocnemum strobilaceum* (Pallas) MB. (*Chenopodiaceae*)

It is a new species for the flora of Lemnos.

Localities: N of Moudros, marshy soils along the bay, locally common (KB/L. 37).

21. *Lonicera etrusca* Santi (*Caprifoliaceae*)

It is a new species for the flora of Lemnos. Scattered, mainly in the crevices of the rocks (Fig. 7).

Localities: Between Mirina and Therma, S side of the road, on the dry rock, inside of the thicket remnants (KB/L. 21).

22. *Lycium europaeum* L. (*Solanaceae*)

It is a new species for the flora of Lemnos. It is scattered, especially in the southern part of the island, particularly in the thicket of *Rubus ulmifolius* and along the roads (Fig. 8).

Localities: N confines of Mirina, single specimens or small groups on the border of *Rubus ulmifolius* clump (KB/L. 7); Between Moudros and Roussopouli, wayside (KB/L. 38).

23. *Medicago arborea* L. (*Leguminosae*)

It is a new species for the flora of Lemnos. Very common in cultivation, but most probably wild near Mirina.

Localities: Kastrou Bay, S of Mirina, steep, rocky slope over the seashore. Some specimens grow as a little tree, up to 3 m high. (KB/L. 11).

24. *Micromeria graeca* (L.) Bentham ex Reichenb. (*Labiatae*)

Mentioned by Rechinger (1929), from Kastro (Rech. 1357).

25. *Nerium oleander* L. (*Apocynaceae*)

Common, along the valley of drying streams, especially in the southern part of the island.

Localities: About 500–1000 m westwards of Agios Dimitrios, at the south side of the road to Mirina, at the base of *Quercus coccifera* thicket (KB/L. 62).



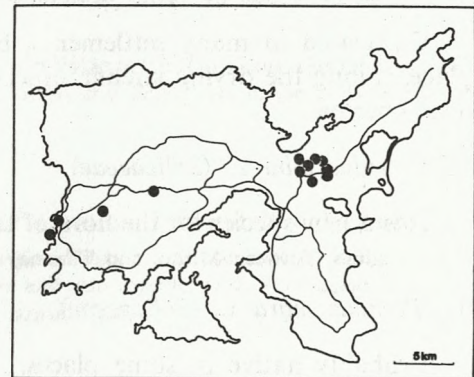
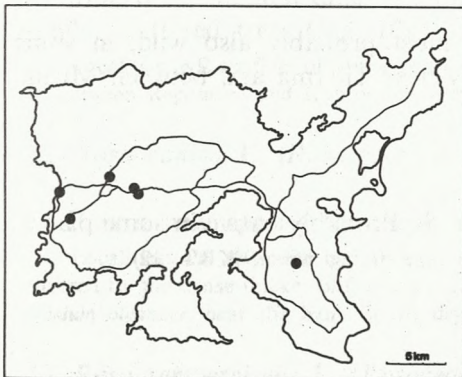
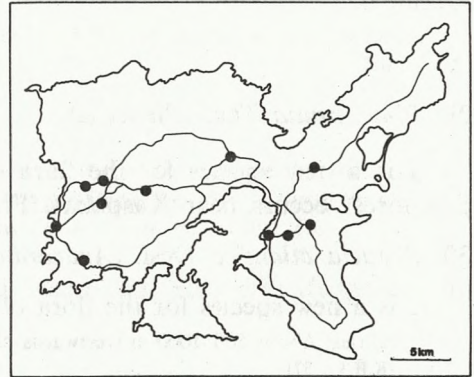
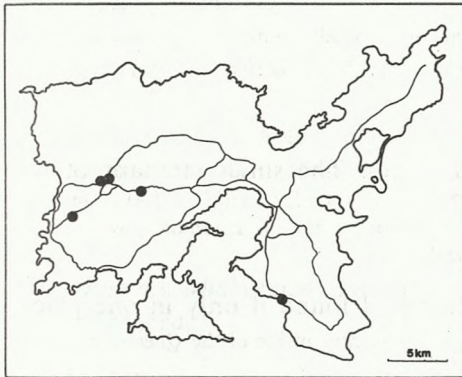
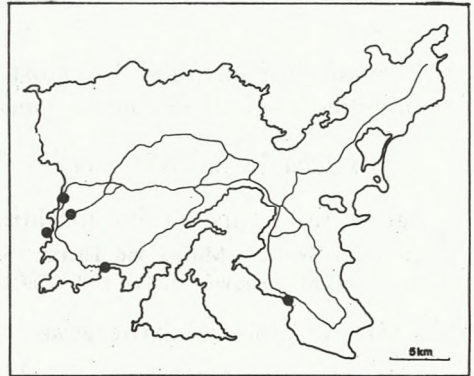
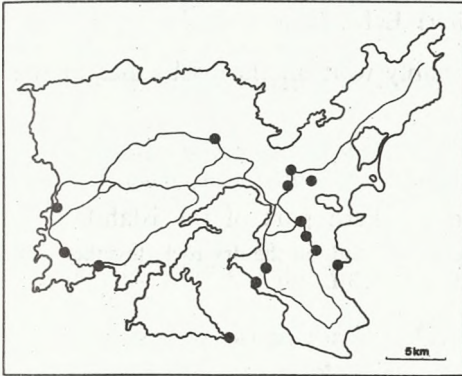


Fig. 5. *Capparis spinosa* L.

Fig. 6. *Cionura erecta* (L. Griseb,

Fig. 7. *Lonicera etrusca* Santi

Fig. 8. *Lycium europaeum* L.

Fig. 9. *Quercus coccifera* L.

Fig. 10. *Quercus ithaburensis* Decne. subsp. *macrolepis* (Kotschy) Hedge et Yalt.



26. *Olea europaea* L. var. *sylvestris* (Miller) Lehr. (*Oleaceae*)

Common in cultivation, but most probably wild on the rocks and in the communities of *Sarcopoterietum spinosi*.

27. *Osyris alba* L. (*Santalaceae*)

Rather rare, only on few localities in southern part of the island.

Localities: Between Mirina and Therma, S side of the road, on the dry rock, together with *Quercus coccifera*, *Anagyris foetida* and *Lonicera etrusca* (KB/L. 16).

28. *Phillyrea latifolia* L. (*Oleaceae*)

It is a new species for the flora of Lemnos. I found it only once and only one specimen.

Localities: Near Kornos, stony slope covered by a small clump of *Quercus coccifera* (KB/L. 66).

29. *Pinus brutia* Ten. (*Pinaceae*)

It is a new species for the flora of Lemnos. The small remnant of the pine-forest occurs near Kaspakas (Fig. 2).

30. *Pistacia atlantica* Desf. (*Anacardiaceae*)

It is a new species for the flora of Lemnos. I found it only in one place.

Localities: About 500–1000 m westwards of Agios Dimitrios, inside of the *Quercus coccifera* thicket (KB/L. 57).

31. *Platanus orientalis* L. (*Platanaceae*)

Cultivated in many settlements, but most probably also wild, in some places, along the drying stream, especially near Therma and between Mirina and Therma.

32. *Populus alba* L. (*Salicaceae*)

It is a new species for the flora of Lemnos. Probably native in some places.

Localities: Between Mirina and Therma, along the drying stream (KB/L. 12).

33. *Populus nigra* L. (*Salicaceae*)

Probably native in some places.

Localities: Between Mirina and Therma, nearer Mirina, N side of the road, in the more moist depression in the fields. (KB/L. 17).

34. *Prunus spinosa* L. subsp. *dasyphylla* (Schur) Domin (*Rosaceae*)

Rather common, especially near the roads.

Localities: N confines of Mirina, thicket of *Ulmus minor* in the fields (KB/L. 8).



35. *Pyrus spinosa* Forsskal (*Rosaceae*)

Common, but scattered throughout the island, especially in the western part.

Localities: N confines of Mirina, near the road to Kaspakas, on dry slope covered by *Sarcopoterietum spinosi*. (KB/L. 69); between Mirina and Therma, small trees in the fields along the road (KB/L. 13).

36. *Pyrus spinosa* Forsskal  $\times$  *P. communis* L. (*Rosaceae*)

It is a new taxon for the flora of Lemnos.

Localities: N confines of Mirina, near the road to Kaspakas, in the vicinity of the garden with cultivated forms of *Pyrus communis* and dry slope with scattered specimens of *P. spinosa* (KB/L. 66).

37. *Quercus coccifera* L. (*Fagaceae*)

Rare, only on a few places (Figs 3 and 9).

Localities: Between Mirina and Therma, S side of the road, on the dry rock, only two specimens (KB/L. 25); ca 500–1000 m westwards of Agios Dimitrios, from the top to the base of the slope – very compact thicket – some specimens up to 3–4 m tall (KB/L. 64).

38. *Quercus ithaburensis* Decne. subsp. *macrolepis* (Kotschy) Hedge et Yalt. (*Fagaceae*)

Mainly between Repandini-Kotsinas-Kontopouli, from where it was mentioned for the first time by Economidou (1981). In other localities only single, scattered trees (Fig. 10).

Localities: NE confines of Mirina, only few trees inside of the *Rubus ulmifolius* thicket (KB/L. 4); between Repandini and Kontopouli – small forests and single trees in the fields (KB/L. 45)

39. *Rosa canina* L. (*Rosaceae*)

It is a new species for the flora of Lemnos. I found it only once.

Localities: Ca 500–1000 m westwards of Agios Dimitrios, at the lower part of the slope covered by the dense thicket of *Quercus coccifera* and also together with *Vitex agnus-castus* and *Nerium oleander*, near the bank of the drying stream. (KB/L. 61).

40. *Rosa sempervirens* L. (*Rosaceae*)

It is a new species for the flora of Lemnos. Very rare – I found it only in two places (Fig. 11).

Localities: Ca. 500–1000 m westwards of Agios Dimitrios, inside of the thicket of *Quercus coccifera*, in its lower part – with flowers and fruits (KB/L. 59, 60); near Kornos, at the base of *Quercus coccifera* clump, only in vegetative state. (KB/L. 65).



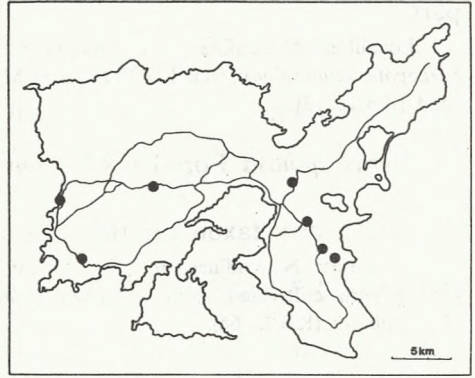
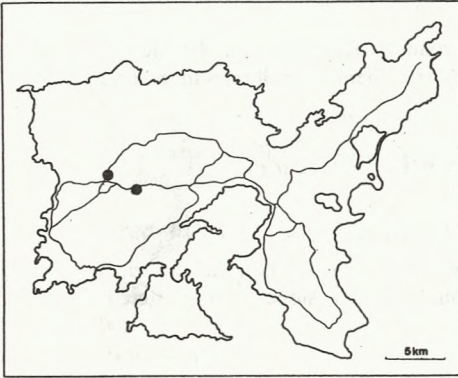


Fig. 11. *Rosa sempervirens* L.

Fig. 12. *Morus nigra* L.

41. *Rubus ulmifolius* Schott. (*Rosaceae*)

Common throughout the whole island, especially along the field-roads and near the settlements.

Localities: N confines of Mirina, roadside thicket (KB/L. 1); Ca 500–1000 m westwards of Agios Dimitrios, S side of the road to Mirina, along the drying stream, common (KB/L. 63).

42. *Ruscus aculeatus* L. (*Liliaceae*)

Rare – usually represented by single specimens.

Localities: Between Polichni and Kaminia, W side of the road, in crevice of the isolated rock. (KB/L. 42).

43. *Salix alba* L. (*Salicaceae*)

It is a new species for the flora of Lemnos. Scattered throughout the island, along the banks of drying streams.

Localities: Between Mirina and Therma, nearer to Mirina, together with *Populus nigra* (KB/L. 15); between Mirina and Therma, along the drying stream, together with *Platanus orientalis*, *Vitex agnus-castus* and *Nerium oleander* (KB/L. 71).

44. *Sambucus nigra* L. (*Caprifoliaceae*)

Mentioned by Rauh (1949), but without locality.

45. *Sarcopoterium spinosum* (L.) Spach (*Rosaceae*)

It is the most common shrub on the island, occurring almost everywhere, from the top of the highest hills up to the seaside, in many places covering



completely the slopes by the large and dense carpet of cushion-like specimens.

Localities: Between Kaspakas and Avlonas, dry slope, common (KB/L. 67).

46. *Solanum dulcamara* L. (*Solanaceae*)

It is a new species for the flora of Lemnos. I found it only once.

Localities: S confines of Moudros, between the stones, very rare (KB/L. 110).

47. *Solanum elaeagnifolium* Cav. (*Solanaceae*)

It is a new species for the flora of Lemnos growing only near Mirina and Moudros.

Localities: On the wayside in NE confines of Mirina, road to Therma (KB/L. 48).

48. *Spartium junceum* L. (*Leguminosae*)

Rare – mainly in the western part of the island. (Fig. 4).

Localities: NE of Kaspakas, rocky, steep slope over the road, abundantly. (KB/L. 32).

49. *Tamarix hampeana* Boiss. et Heldr.? (*Tamaricaceae*)

Probably native, but also planted at the seashores. It was mentioned by Rauh (1949) as *Tamarix pentandra*.

Localities: Communities of halophytes at the NE border of Limni Aliko (KB/L. 60).

50. *Ulmus minor* Miller subsp. *canescens* (Melville) Browicz et Zieliński (*Ulmaceae*)

It is a new species for the flora of Lemnos – planted but probably wild in some places.

Localities: NE confines of Mirina, thicket in the fields, together with *Rubus ulmifolius* and *Prunus spinosa* (KB/L. 2). Ca 1 km westwards of Roussopouli, near the road, some trees and many suckers (KB/L. 39).

51. *Vitex agnus-castus* L. (*Verbenaceae*)

Rather common, particularly along the drying streams, together with *Nerium oleander*.

Localities: Ca 2 km S of Mirina, in small depression between the dry slopes, small thicket (KB/L. 10).

## 2. CULTIVATED TREES AND SHRUBS

Rechinger (1929) mentions only two such species, namely *Ailanthus altissima* and *Melia azedarach* and Rauh (1949) adds a long list of fruit trees, including *Morus alba* and *M. nigra*. It turns out, however, that the number of introduced species is much longer, primarily in larger settlements and particularly in Mirina and Moudros as well as along coastal roads and near beaches. These have been divided into two groups: a) fruit trees and shrubs, and b) ornamental trees and shrubs.





Fig. 13. *Crataegus* × *rusciniensis* Gren. et Blanc. var. *aronioides* Browicz near Therma. Phot. K. Browicz

2a. FRUIT TREES AND SHRUBS

1) *Amygdalus communis* L. – Undoubtedly this is the most common tree species on the island. It is to be found everywhere, in settlements as well as along the roads, in fields and on exposed dry slopes of hills and



in rock fissures, both as single specimens or in groups as well as in smaller or larger orchards. It appears to be going wild readily, and consequently a considerable variation in the fruits can be found here, both in the size and shape (Fig. 14). A number of old specimens attain considerable dimensions, even up to 8–10 m in height. As a rule they produce fruits very abundantly.

2) *Armeniaca vulgaris* L.

3) *Castanea sativa* Miller – only one tree, between Repandini and Kotsinas.

4) *Cerasus vulgaris* Miller.

5) *Ceratonia siliqua* L. – only one old tree in Mirina, and 3 smaller on the slope of Kastro.

6) *Citrus* sp. – near the houses in towns and bigger settlements.

7) *Cydonia oblonga* Miller – rare.

8) *Diospyros kaki* L. f. – 3 trees in the abandoned garden in Therma and one in Mirina.

9) *Eriobotrya japonica* (Thunb.) Lindley – only two specimens – one in Mirina and second in Kontopouli.

10) *Ficus carica* L. – Besides *Amygdalus communis* and *Morus alba* it is one of the most common trees on the island and in some places it attains considerable dimensions, both in the size of trunk and in the diameter of its dense crown. Specimens occurring along roads, in fields, in towns and settlements (there are no plantations) have either been planted or have gone wild.

11) *Juglans regia* – rare.

12) *Malus domestica* Borkh. – rather rare.

13) *Morus alba* L. – very common throughout the whole island.

14) *Morus nigra* L. – only old trees: 1 tree in Thanos; 2 trees near Avlonas; 3 trees near Agios Dimitrios, near the clump of *Quercus coccifera*; 1 tree between Romanou and Repandini, 1 tree in Roussopouli; 1 tree near Kaminia; 2 trees between Kaminia and Polichni (Fig. 12).

15) *Olea europaea* L. – near settlements, rather common.

16) *Persica vulgaris* Miller.

17) *Pistacia vera* L. – a species that is to be found quite frequently, though few specimens at a time, primarily in settlements and occasionally in small orchards. These specimens are grafted on *Pistacia atlantica* and occasionally as a consequence of the death of the grafted *P. vera* shoots from the sprouting rootstock dominate.

18) *Prunus* × *domestica* L. – common, in many forms.

19) *Punica granatum* L.

20) *Pyrus communis* L.

## 2b. ORNAMENTAL TREES AND SHRUBS

- 1) *Acacia cyanophylla* Lindley – especially in Mirina, near beach.
- 2) *Acer negundo* L. – very rare, only in Moudros, road to Roussopouli.
- 3) *Ailanthus altissima* (Miller) Swingle – common, in Mirina on the slope of Kastro it forms a small but compact thickets.
- 4) *Albizzia julibrissin* Durazz. – mainly in Mirina, especially at the harbour.
- 5) *Bougainvillea spectabilis* Willd. – frequently on the walls of the houses.
- 6) *Brachychiton diversifolius* (G. Don) Terrac. – only in Moudros, before the hotel, small trees.
- 7) *Caesalpinia gilliesii* (Hook.) Dietr. – Moudros.
- 8) *Campsis radicans* (L.) Seeman – often, on the walls of the houses.
- 9) *Casuarina equisetifolia* Forst. – very rare in Moudros.
- 10) *Cerasus mahaleb* (L.) Miller – only between Mirina and Therma, few trees along the road.
- 11) *Cercis siliquastrum* L. – very rare, small specimens in Mirina and Moudros.
- 12) *Cupressus sempervirens* L. f. *sempervirens* and f. *horizontalis* (Miller) Voss – especially in Mirina.

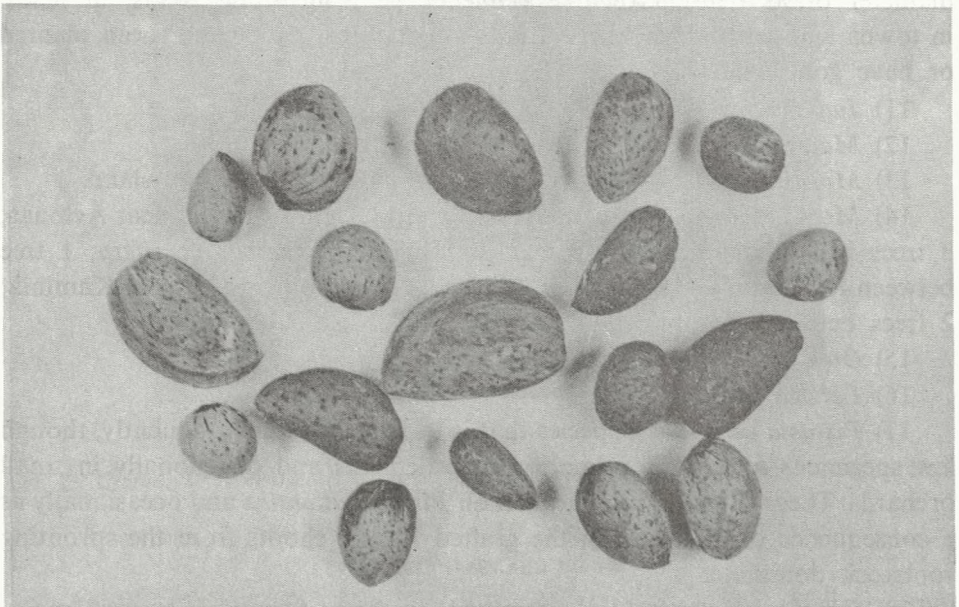


Fig. 14. Variability of stones of *Amygdalus communis* L. from Lemnos.



- 13) *Elaeagnus angustifolia* L.
- 14) *Eucalyptus camaldulensis* Dehnh. – especially in Mirina.
- 15) *Euonymus japonicus* L. – in the gardens.
- 16) *Gleditsia triacanthos* L. – only in Mirina (Kastro) and in Avlonas.
- 17) *Hedera helix* L. – Mirina, on the walls.
- 18) *Hibiscus syriacus* L. – Mirina, with white and violet flowers.
- 19) *Hydrangea macrophylla* (Thunb.) DC. – Mirina.
- 20) *Jasminum officinale* L. – in the gardens.
- 21) *Lantana camara* L.
- 22) *Laurus nobilis* L. – tree-like specimens in the garden, in Mirina.
- 23) *Ligustrum lucidum* Ait. – few trees in Mirina.
- 24) *Ligustrum ovalifolium* Hassk. – Mirina, hedgerows.
- 25) *Lonicera japonica* Thunb.
- 26) *Lygos monosperma* (L.) Heywood – near Polichni, on the dune.
- 27) *Maclura pomifera* (Raf.) Schneid. – only in Moudros, before the hotel, two trees, with fruits.
- 28) *Medicago arborea* L. – in some gardens, and near the beach in Mirina.
- 29) *Melia azedarach* L. – sometimes along the road, especially near Mirina.
- 30) *Nerium oleander* L. – frequently planted near houses.
- 31) *Parkinsonia aculeata* L. – near Mirina, along the road and in Polichni.
- 32) *Parthenocissus quinquefolia* (L.) Planchon.
- 33) *Parthenocissus tricuspidata* (Sieb. et Zucc.) Planch. – Mirina, rare.
- 34) *Phoenix* sp. – Mirina.
- 35) *Pinus pinea* L. – Mirina and along the road from Mirina to Therma.
- 36) *Pinus pinaster* Ait. – between Repandini and Kotsinas.
- 37) *Pistacia atlantica* Desf. – few old trees in Mirina.
- 38) *Pittosporum tobira* (Thunb.) Ait. f. – in the gardens.
- 39) *Platanus orientalis* L. – old trees in Mirina.
- 40) *Platycladus orientalis* (L.) Franco – very rare, only in Mirina, near monastery.
- 41) *Plumbago auriculata* Lam. – only in Mirina, rare.
- 42) *Bilderdykia aubertii* (Louis Henry) Moldenke.
- 43) *Populus alba* L. – old trees in Mirina.
- 44) *Populus nigra* L. – old trees in Mirina, also in pyramidal form.
- 45) *Populus* × *canadensis* Moench – one old tree in Mirina.
- 46) *Pyracantha coccinea* Roemer – common in the gardens.
- 47) *Ricinus communis* L. “Sanguineus” – Mirina.
- 48) *Robinia pseudoacacia* L. – common in the settlements, along the road and in the fields.
- 49) *Rosmarinus officinalis* L. – rare, in Mirina and near Kaminia.
- 50) *Salix alba* L.
- 51) *Sophora japonica* L. – Mirina and Moudros.

- 52) *Syringa vulgaris* L. – Mirina, in the gardens, rare.
- 53) *Tamarix* sp.
- 54) *Ulmus minor* Miller.
- 55) *Viburnum tinus* L. – rare, Mirina and Moudros.
- 56) *Vitex agnus-castus* L. – old, tree-like specimens in Kaminia.
- 57) *Wisteria floribunda* (Willd.) DC. – rare, in Mirina.

#### SUMMARY

From 13th to 30th June 1990 the author conducted field observations of trees and shrubs on the island of Lemnos, botanically the least studied island of Greece. On the basis of existing floristic studies (Rechinger, 1929, 1943; Rauh 1949; Economidou 1981) it appears that on the island there occur only 320 species of plants though this is likely to be an incomplete list. Thus the flora of Lemnos is poor and the vegetation much destroyed. The island is almost completely devoid of forests, only small residual fragments of which remain near Repandini (*Quercus ithaburensis* subsp. *macrolepis*) and Kaspakas (*Pinus brutia*). The characteristic Mediterranean maquis and phrygana in their typical floristic composition practically do not exist, or are to a large extent degraded. The dominating community of woody plants consists of *Sarcopoterietum spinosi*, frequently covering with a dense mantle all slopes from mountain tops to the sea level particularly in the southern part of the island. Also present are communities of *Centaurea spinosa* and of shrub halophytes (near Mudros and Limni Alik).

As a result of intensive penetration of the island the author found 21 new species of trees and shrubs for the flora of Lemnos, which have not been named so far in the existing literature. One of these is a fixed hybrid, *Crataegus* × *rusciniensis*. This hawthorn is not only a new species for Lemnos but also for the flora of Greece and even for the flora of the eastern Mediterranean. It is represented here by a new endemic variety – var. *aronioides* Browicz (*C. monogyna* × *C. azarolus* var. *aronia*).

In an alphabetic listing of trees and shrubs growing wild (51 species) the author quoted his own herbarium collections and he also compiled a list of cultivated species. The latter includes 20 fruit trees and shrubs and 57 ornamental ones.

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## Drzewa i krzewy wyspy Lemnos (Grecja)

### Streszczenie

W roku 1990, od 13 do 30 czerwca, autor prowadził poszukiwania terenowe poświęcone drzewom i krzewom wyspy Lemnos, jednej z najsłabiej poznanych wysp greckich. Opierając się na dotychczas opublikowanych pracach florystycznych (Rechinger 1929, 1943; Rauh 1949; Economidou 1981) okazało się, że na wyspie występuje zaledwie 320 gatunków roślin, co jak się wydaje nie jest jeszcze liczbą pełną. Tak więc flora Lemnosu jest uboga, a do tego jej roślinność silnie zniszczona. Wyspa jest niemal całkowicie pozbawiona lasów, których tylko drobne, szczątkowe fragmenty zachowały się koło Repandini (*Quercus ithaburensis* subsp. *macrolepis*) i Kaspakas (*Pinus brutia*). Charakterystyczna dla Śródziemnomorza makia i frygana, w swym typowym składzie gatunkowym, właściwie biorąc nie istnieje, względnie jest w znacznej mierze zdegradowana. Dominujące zbiorowisko roślin zdrewniałych to *Sarcopoterietum spinosi*, pokrywające często, szczególnie w południowej części wyspy, zwartym kobiercem całe zbocza, od wierzchołka po nasadę, aż do brzegów morza. Znane są także zbiorowiska *Centaurea spinosa* i krzewiastych słonorośli (koło Mudros i Limni Aliki).

W wyniku intensywnej penetracji wyspy autor znalazł 21 nowych dla flory Limnosu gatunków drzew i krzewów nie wymienionych w dotychczasowych publikacjach, w tym jednego, utrwalonego mieszańca – *Crataegus × ruscinonensis*. Głóg ten jest nie tylko nowym gatunkiem dla Lemnosu, ale również nowym dla flory Grecji, a nawet dla flory wschodniego Śródziemnomorza. Jest on tutaj reprezentowany przez nową, endemiczną odmianę – var. *aronioides* Browicz (*C. monogyna* × *C. azarolus* var. *aronia*).

W sporządzonej w porządku alfabetycznym liście gatunków drzew i krzewów dziko rosnących (razem 51) autor cytuje własne zbiory zielnikowe, a ponadto zestawiał listę gatunków uprawianych, w tym 20 gatunków drzew i krzewów owocowych i 57 ozdobnych.

Accepted in November 1990

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Overzicht van de inhoud (Table of Contents)

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