General

In antiquity, Cyprus was widely known as the "Green Island" because most of the island, even the Mesaoria central plain which is almost completely treeless today, was covered with extensive forests. Over the centuries, however, forest vegetation has dramatically been reduced in extent and quality due to human and other influences, predominantly expansion of cultivations and human settlements, misuse and overexploitation, intensive grazing, fires and recently, climatic change.

Rural landscape, Asinou area

Considerable forests still exist along the Troodos and Pentadaktylos ranges and along the coast of the Akamas peninsula in the west, the Akrotiri peninsula in the south, Cape Greko in the southeast, the Karpasia peninsula in the east, as well as along the northern coasts. The central Mesaoria plain which is classified as a semi-arid zone, is devoid of forest vegetation, with the exception of the high shrub communities of lotus tree ***(Ziziphus lotus)***, the Mediterranean hawthorn ***(Crataegus azarolus)***, and the low shrub communities mainly composed of prickly burnet ***(Sarcopoterium spinosum)*** and wild thyme ***(Thymus capitatus)***.

The Forests

The forests of the island can be classified into five major forest types on the basis of species composition and structure:

- Pine forests
- Riparian forests
- Maqui forests
- Garigue and phrygana
- Other high forests

Tree stand composed of pallas pine (Pinus nigra ssp. pallasiana) and Troodos juniper (Juniperus foetidissima). Troodos National Forest Park

Forest areas in Cyprus, including high forests, maquis and lower natural vegetation such as *garigue* and *phrygana*, account for 42,3% of the total land area. High forests make up the 43,8%, whereas maquis and lower vegetation account for 56,2% of the island's total forest cover.

Pine Forests

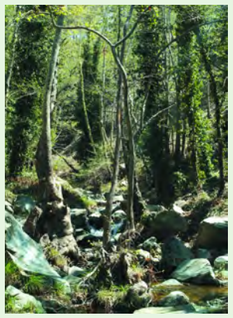
The predominant forest type on the island is the Calabrian pine ***(Pinus brutia)*** forests. They cover a significant part of Cyprus (18,2% of the land) from sea level up to the high mountains reaching an altitude of about 1 200 m and in certain cases up to 1 400 m. This species has an admirable tolerance against drought, it grows on nearly every geological substratum of the island and has also been adapted to readily colonise recently burnt areas. In the lowlands, it is accompanied by many xerophilous species including Phoenicean juniper ***(Juniperus phoenicea)***, wild olive ***(Olea europaea)***, carob tree ***(Ceratonia siliqua)***, lentisk ***(Pistacia lentiscus)***, common smilax ***(Smilax aspera)***, wild thyme ***(Thymus capitatus)*** etc. On the highest regions it is associated with golden oak ***(Quercus alnifolia)***, strawberry tree ***(Arbutus andrachne)***, terebinth ***(Pistacia terebinthus)***, myrtle ***(Myrtus communis)***, sumach ***(Rhus coriaria)***, rockroses ***(Cistus*** spp.***)*** etc.

Calabrian pine forest (Pinus brutia), Asinou area

The second indigenous pine species of Cyprus, the black pine ***(Pinus nigra*** ssp. ***pallasiana)*** forms high forests over a limited area on the highest peaks of the central range of Troodos, at altitudes between 1 200 to 1 951 m. On the lower zone, it is found mixed with ***Pinus brutia***, but gradually as elevation increases it forms pure forests together with other mountain plants like the foetid juniper ***(Juniperus foetidissima)***, the barberry ***(Berberis cretica)***, white beam ***(Sorbus aria*** ssp. ***cretica)***, Troodos wild-rose ***(Rosa chionistrae)***, cotoneaster ***(Cotoneaster racemiflorus*** var. ***nummularia)*** etc.

Riparian Forests

These forests grow along main streams of the island mostly in the range of 300 m up to 1 600 m, though sometimes they descend down to the sea level. They contribute much to the diversity of landscapes and habitat, as they differ significantly from the rest forest types, in species, colour, structure and density. They are composed mostly of broadleaves with dominant species the oriental plane ***(Platanus orientalis)***, the oriental alder ***(Alnus orientalis)*** and infrequently white willow ***(Salix alba)***. Other main species are white willow ***(Salix alba)***, oleander ***(Nerium oleander)***, giant reed ***(Arundo donax)***, bay laurel ***(Laurus nobilis)***, bramble ***(Rubus sanctus)***, myrtle ***(Myrtus communis)***, long-leaved mint ***(Mentha longifolia)*** etc.



Riparian forest of Oriental Alder (Alnus orientalis). Kryos Potamos (Troodos)

Maqui Forests

This group includes a range of different vegetation types that are made of evergreen shrubs and/or low trees with an average height usually between 2 to 3m. On the coasts, the typical maquis include xerophilous, sclerophyllous, evergreen, sometimes thorny, species. Characteristic species are the ***Juniperus phoenicea, Olea europaea, Ceratonia siliqua, Pistacia lentiscus, Lithodora hispidula, Cistus*** spp., ***Smilax aspera,*** thorny gorse ***(Cenista sphacelata*** ssp. ***sphacelata)***,

Inland maqui forest of the endemic golden oak (Quercus alnifolia), near Kykkos monastery

thorny broom ***(Calycotome villosa)*** etc. Inland maquis which extend up to 1 500 m, include mainly ***Quercus alnifolia*** which forms extensive shrubberies from 600 m up to 1 500 m. Other species are kermes oak ***(Quercus coccifera*** ssp. ***calliprinos)***, ***Arbutus andrachne, Pistacia terebinthus,*** storax ***(Styrax officinalis)***, ***Olea europaea, Genista sphacelata*** ssp. ***sphacelata, Calycotome villosa*** and ***Cistus*** spp.

Garrigue and Phrygana

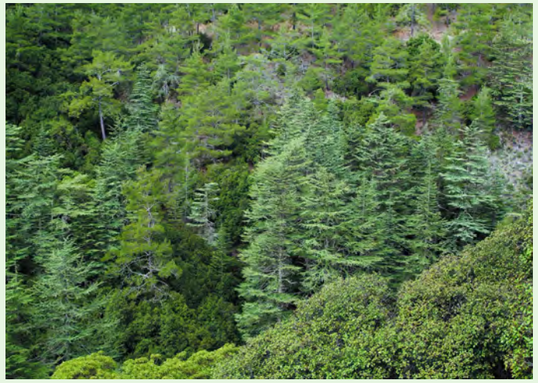
Phrygana vegetation, Mitsero village

Garrigues differ from maquis in their average height which rarely exceeds one metre and in that they contain a higher proportion of subshrubs and low shrubs. Phrygana tend to contain a significantly reduced shrubby element, the subshrubs and herbs being dominant. They usually occupy recently burnt areas or areas repeatedly burnt or overgrazed and as such they are impoverished plant communities developing under constant human influence. Most of them, if left undisturbed, may eventually evolve into maquis or pine forests, but very often they persist for centuries and they constitute a permanent part of Cyprus' landscape and an important habitat for many plant and animal species. The main plant species occurring in this type of natural vegetation are ***Sarcopoterium spinosum, Thymus capitatus, Helichrysum conglonbatum, Genista shacelata, Phagnalon rupestre, Fumana*** spp. ***Cistus*** spp., ***Helianthemum*** spp., ***Urginea maritima, Aphodelus aestivus***, many orchids and other herbaceous plants.

Other High Forests

They include forests covering small areas but commonly with high conservation value. The most important are the natural forests of the endemic ***Cedrus brevifolia*** in the Pafos forest, growing on a limited area known as the "Cedar Valley", a designated Nature Reserve area. Another important forest type is the oak woodlands of ***Quercus infectoria*** ssp. ***veneris*** which are made up of small stands, relics of the once extensive forests mainly in the Pafos and Lemesos districts. Most of these stands are protected by law.

The forests of the Mediterranean cypress ***(Cupressus sempervirens)*** occur on mountainous areas, chiefly on limestone and marls and rarely on igneous formations. Although this forest type is quite widespread it has a limited area. The only extensive forests are found along the whole stretch of the Pentadaktylos range. The greater part of these formations are mixed forests with ***Pinus brutia*** while pure ***Cupressus sempervirens*** stands occur mainly on steep slopes and mountain peaks. Apart from the northern range, smaller Cypress forests occur also in several places, from 100 to 1 200 m, like the Lemesos Forest, Koili village at Pafos and near Lagoudera.



Mixed forest of Calabrian pine (Pinus brutia) and the endemics Cyprus cedar (Cedrus brevifolia) and golden oak (Quercus alnifolia), Cedar Valley (Pafos forest)

Other types of natural vegetation

Other botanically interesting natural plant communities include halophytic, coastal and chasmophytic vegetation, pastures and wild plants associated with agricultural crops and species colonising wasteland or uncultivated land subjected to periodical disturbance.

Halophytic vegetation, Akrotiri salt lake

Of these, halophytic vegetation is of special interest and high conservation value. It is found mainly in the vicinity of the two main salt lakes of the island, Larnaka and Akrotiri salt lakes. Characteristic species of these plant communities are ***Salicornia*** spp., ***Arthrocnemum microstachyum***, ***Suaeda vera***, ***Juncus*** spp., ***Halimione portulacoides***, ***Inula crithmoides*** etc. The conservation value of the Akrotiri and Larnaka salt lakes lies mainly with their function as important bird habitats but their floristic value is also significant.

Coastal vegetation is another type of natural vegetation with distinct features. Dominant species are ***Limonium*** spp., ***Mesembryanthemum*** spp., ***Euphorbia paralias***, ***Pancratium maritimum***, ***Eryngium maritimum***, ***Medicago marina***, ***Taraxacum aphrogenes***, ***Otanthus maritimus***, ***Cakile maritima*** etc. Coastal habitats receive a comparatively high pressure due to heavy tourist development of the coastline and they need special attention.

Chasmophytic vegetation establishes on unoccupied niches of rocky areas and exhibits a significant variation in species depending on rock type, altitude, exposure (aspect), proximity to the sea etc. Typical species are ***Arabis purpurea***, ***Umbilicus*** spp., ***Micromeria*** spp., ***Cyclamen*** spp., ***Sedum*** spp., ***Rosularia cypria***, ***Ptilostemon chamaepeuce*** var. ***cyprius*** etc.

Exotic and cultivated plants

A large number of ornamental trees and shrubs have been introduced in Cyprus, especially during the last century. Some of these exotic plants, particularly acacias and eucalypts, have been so extensively planted, especially in the lowlands that today they characterise some of the lowland areas of the island. Other exotic species with significant occurrence are several species of pine trees, such as stone pine ***(Pinus pinea)***, Canary-island pine ***(P. canariensis)***, Aleppo pine ***(P. halepensis)***, ***Casuarina*** spp., hopseed-bush ***(Dodonea viscosa)***, Judas tree ***(Cercis siliquastrum)*** etc., fig trees ***(Ficus*** spp.***)***

Appricot tree (Prunus armeniaca)

Cultivated plants on the lowlands include cereals, irrigated crops of various vegetables (potatoes, tomatoes etc.), whereas citrus species and bananas are commonly cultivated along the coastal zone. A major component of cultivated plants at low and mid altitudes is the olive, the carob tree, and the almond tree. At medium altitudes, vineyards are dominant in many places, especially the Lemesos and Pafos districts. At higher elevations, in addition to vineyards, the deciduous orchards of apple, cherry and peach trees are characteristic.

Flora

The flora of Cyprus is as rich as the floras of other areas in the Mediterranean region. This is due to a number of factors, including geological structure, climatic conditions, geographic location (at the boundary of three continents), its insular character, the surrounding sea and the topographical configuration. Extensive plains, mountain masses, wetlands, coasts, sand dunes, gorges and cliffs provide a home for many indigenous and endemic species.

The number of the indigenous plant taxa (species, subspecies, varieties, hybrids and forms) recorded until now in Cyprus exceeds 1900, as shown below:

Trees	52
Shrubs	131
Subshrubs	88
Herbs	1 637
Total number	**1 908**

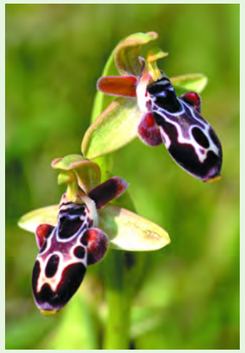
The Cyprus flora includes a comparatively high proportion of endemic plants counting to about 140 or 7,34% of the total number of native plants. Among the most important endemic plants is the Cyprus bosea ***(Bosea cypria)*** which is one of the three species of boseas occurring in the world, the Cyprus cedar ***(Cedrus brevifolia)*** one of the four cedar species occurring worldwide, Cyprus tulip ***(Tulipa cypria)***, crocuses ***(Crocus cyprius*** and ***C. hartmannianus)***, the golden oak ***(Quercus alnifolia)*** and many more.

Another important constituent of the indigenous flora are the plants that are typical of the Eastern Mediterranean region many of which are known as near-endemics because they occur only in two or three countries of the world. Representative examples are ***Pinguicula crystallina***, ***Cyprinia gracilis*** (a monotypic genus named after Cyprus), ***Colchicum troodi***, ***Glaudosciadium cordifolium***, ***Euphorbia thompsonii*** etc.

Cyprus crocus (Crocus cyprius), Troodos National Forest Park

The main habitats of the endemic and other important plants of Cyprus with European and national interest are included in areas proposed as "NATURA 2000" sites, as part of the European network of protected areas. These areas will be managed and monitored based on the prescriptions of formal management plans targeting to the effective protection of the floral diversity and habitats occurring in them. Some of the most important of these areas with outstanding floristic richness are the Akamas peninsula, the Pafos Forest, the National Forest Park of Troodos, Cape Greko National Forest Park, the Larnaka salt lake, Koilada Diarizou and the state forests of Macheras, Adelphoi and Lemesos.

The flora of Cyprus is threatened by a number of factors which are common to many countries worldwide. The principal threats are habitat loss, change in land use, abandonment, tourist development, expansion of built-up areas, drying out of watercourses and climatic change. A Red Data List for the Cyprus flora compiled in 2003 indicates that about 300 plant species (15,7% of the indigenous plants), are faced with extinction - some are already extinct - and at least for some, immediate protection measures are required.



Cyprus bee orchid (Ophrys kotschyi), Pallouriotissa

The best period of the year to study the native flora, especially the herbaceous plants, is spring, but also winter for the lowlands, where the flowering season begins early with the first good rains. On the mountains and along main streams this period is extended.

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