<http://www.biome-explorer.net/Montane%20Forest/Hyrcanian%20Montane%20Forest.html>

Hyrcanian Montane Forest

Included here are the Talish Mountains and the Elburz Mountains extending in a crescent around the south and southwest parts of the Caspian Sea.

**Hyrcanian *Alnus-Pterocarya* Forest**

These ancient yet ill-defined forests are confined mostly to damp and poorly drained soils on the coastal plain. They are characterized by the near endemic *Alnus subcordata* (Betulaceae) and *Pterocarya fraxinifolia* (Juglandaceae). Common associates include *Acer insigne, Albizia julibrissin, Alnus glutinosa, Buxus sempervirens, Celtis australis, Diospyros lotus, Ficus carica, Fraxinus excelsior, Melia azedarach, Mesilus germanica, Morus nigra, Paliurus spina-christa, Prunus laurocerasus, Punica granatum* and *Salix fragilis,* while common endemic or near endemic species are *Gleditsia caspica* (Fabaceae), *Populus caspica* (Salicaceae), and *Prunus caspica* (Rosaceae). The shrub layer comprises *Andrache colchica, Hypericum androsaemum, Sambucus edulis* and several endemic taxa like *Epimedium pinnatum* subsp. *pinnatum* (Berberidaceae), *Ruscus hyrcanus* (Liliaceae) and *Teucrium hyrcanus* (Lamiaceae). These forests are also characterised by the presence of numerous lianas and climbers, which occur on many of the trees and shrubs - typical species are *Clematis vitalba, Hedera colchica, Jasminum officinale, Peroploca graeca, Rubus caesius, Smilax excelsa, Solanum dulcamara, Tamus communis* and *Vitis sylvestris*.

**Hyrcanian *Zelkova-Parrotia* Forest**

These forests, dominated by *Zelkova carpinifolia* and the near endemic *Parrotia persica* (Brassicaceae), are primarily confined to the foothills and lower mountain slopes up to about 800 m. For a long time *Parrotia* was thought to be an endemic Hyrcanian genus, but a small stand of *P. persica* was discovered in the Alazab Valley near Kutkashen (Azerbaijan) in the early 1970s. Other important tree species are *Albizzia julibrissin,* *Carpinus betulus, C. caucasica, Diospyros lotus* and the endemic or near endemic *Acer velutinum* (Aceraceae), *Ficus hyrcana* (Moraceae) and *Quercus castaneifolia* (Fagaceae), while understory species frequently include *Cornus meyeri, Crataegus pentagyra, Danaë racemosa, Frangula alnus, Prunus divaricata* together with the endemic *Ilex hyrcana* (Aquifoliaceae) and *Ruscus hyrcanus* (Ruscaceae). Lianas typically include *Hedera pastuchowii, Periploca graeca* and *Smilax excelsa*.

**Hyrcanian *Fagus orientalis* Montane Forest**

These upland beech forests occupy some of the most humid parts of the Hyrcanian uplands usually between altitudes of about 600 to 1200m. The few arboreal associates include *Acer cappadocicum, A. insigne, Fraxinus excellsior, Mespolus germanica* and *Taxus buccata*. The ground layer is typically poor in species but may include *Asperula odorata, Cardamine bulbifera, Fragaria vesca, Filipendula ulmaria, Geranium robertianum, Geum urbanum, Lamium luteum, Lathraea squamaria, Phyllitis scolopendium, Potentilla reptans, Ranunculus constantinopolitanus, Sanicula europaea, Stellaria holostea* and *Viola odorata*. At heights above 1200m the forest becomes very stunted and its here that the endemic *Acer hyrcanum* (Aceraceae) is encountered.

**Hyrcanian *Quercus macranthera* Sub-Alpine Forest**

These more xeric forests are confined to the higher mountain zones mainly between elevations of 1600-3000 m. Among the comparatively rich assemblage of associated low trees and shrubs are *Berberis integerrima, Celtis tournefortii, Cotoneaster racemiflora, Juniper communis, Lonicera caucasica, Pyrus cordata, Rhamnus spathulifolia, Sorbus aria, S. boisseri, S. torminalis, Ulmus monyana, Viburnum lantana,* and the two endemic or near endemic species *Acer hyrcanum* (Aceraceae) and *Pyrus boissieriana* (Rosaceae). A version of this type of forest occurs in the high altitude, rocky forest of Dodangeh south of Sari. This is the last refuge of the endemic tree *Betula pendula* (Betulaceae). Studies show that this species and *Corylus avellana* are relicts of an ancient more extensive Hyrcanian forest that has now largely disappeared. Species found associated with these *Betula* stands include a rich variety of endemic taxa such as *Alchemilla farinosa* (Asteraceae), *Cortusa matthiola* subsp. *iranica* (Primulaceae), *Delphinium elbursense* var. *elbursense* (Ranunculaceae), *Scabiosa hyrcanica* (Dipsaceae), *Semervivum iranicum* (Crassulaceae) and *Stachys persica* (Lamiaceae).

**Hyrcanian *Cupressus sempervirens* Forest**

These rare cypress forests are thought to be relict stands of a once much more extensive forest of ancient Mediterranean vegetation that probably pre-dates much of the current Hyrcanian vegetation.

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# Hyrcanian Endemic Plants

**Endemics in Family Order**

**Amaryllidaceae**  
Allium lenkoranicum

**Apiaceae**  
Chaerophyllum meyeri

**Aquifoliaceae**  
Ilex hyreana

**Asparagaceae**  
Ornithogalum bungei  
Ruscus hyrcanus

**Asteraceae**  
Amblyocarpum inuloides  
Cousinia hablizii  
Doronicum wendelboii

**Berberidaceae**  
Epimedium pinnatum

**Betulaceae**  
Alnus cordifolia var. subcordata

**Boraginaceae**  
Caccinia strigosa  
Eritrichium gracillimum  
Lepechiniella persica   
Lepechiniella wendelboi  
Lindelofia kandavanensis   
Myosotis anomala   
Nonea longiflora  
Onosma anisocalyx   
Onosma borragoidina  
Onosma sharifi  
Onosma urmensis  
Paracaryum pygmaeum   
Rindera regia   
Rochelia mirheydari

**Brassicaceae**  
Elburzia fenestrata  
Thlaspi inhumile

**Buxaceae**  
Buxus hyrcana

**Caprifoliaceae**  
Pterocephalus glandulissimus   
Scabiosa hyrcanica

**Caryophyllaceae**  
Saponaria bodeana

**Crassulaceae**  
Sempervivum iranicum

**Fabaceae**  
Gleditsia caspica

**Fagaceae**  
Quercus aegilops var. castaneifolia

**Geraniaceae**  
Geranium montanum

**Hamamelidaceae**  
Parrotia persica

**Iridaceae**  
Crocus boryanus var. caspius  
Crocus hyrcanus

**Lamiaceae**  
Ballota platyloma  
Betonica nivea subsp. mazandarana  
Lophanthus allotrius  
Origanum hyrcanum  
Phlomis ghilanensis  
Salvia hypoleuca  
Scutellaria glechomoides  
Scutellaria tournefortii  
Stachys laxa  
Stachys persica  
Stachys subaphylla  
Stachys talyschensis  
Teucrium hyrcanum

**Liliaceae**  
Fritillaria canum  
Fritillaria grandiflora  
Lilium ledebourii

**Linaceae**  
Linum bungei

**Malvaceae**  
Alcea gorganica  
Alcea hyrcana  
Alcea sotudehi  
Malvalthaea heterphylla   
Malvalthaea palmata

**Moraceae**  
Ficus ovata var. octomelifolia

**Onagraceae**  
Epilobium rechingeri

**Orobanchaceae**  
Orobanche eriophora   
Pedicularis rechingeri  
Rhynchocorys maxima

**Papaveraceae**  
Corydalis chionophila subsp. firouzii  
Corydalis persica var. hyrcana  
Papaver chelidoniifolium

**Phyllanthaceae**  
Andrachne pulvinata

**Plantaginaceae**  
Linaria demawendica  
Veronica aucheri  
Veronica bungei  
Veronica chionantha  
Veronica euphrasiifolia  
Veronica francispetae  
Veronica mazanderanae  
Veronica mirabilis  
Veronica paederotae  
Veronica rechingeri

**Plumbaginaceae**  
Acantholimon bodeanum var. faustii  
Acantholimon demavendicum  
Acantholimon embergeri  
Acantholimon esfandiarii  
Acantholimon gadukense  
Acantholimon ophiocladus  
Acantholimon scirpinum  
Acantholimon scorpius  
Acantholimon senganense  
Acantholimon serotinum  
Acantholimon sorchense  
Acantholimon spinicalyx

**Polygalaceae**  
Polygala platyptera

**Primulaceae**  
Cortusa matthioli subsp. iranica  
Cyclamen coum subsp. elegans  
Dionysia aretioides  
Primula heterochroma

**Ranunculaceae**  
Aconitum iranshahrii  
Delphinium elbursense  
Ranunculus dolosus

**Rosaceae**  
Alchemilla amardica  
Alchemilla condensa  
Alchemilla farinosa  
Alchemilla melancholica  
Potentilla gilanica  
Potentilla kandauensis  
Potentilla radiata  
Potentilla sischanensis var. peterae  
Prunus divaricata  
Pyrus boissieriana  
Pyrus grossheimii  
Pyrus hyrcana  
Pyrus mazanderanica  
Rosa rechingeri  
Rubus persica  
Rubus rechingeri

**Rubiaceae**  
Asperula mazanderanica  
Asperula microphylla  
Galium aucheri  
Galium elbursense  
Galium subvelutinum subsp. delicatulum  
Matthiola subglabra

**Salicaceae**  
Populus caspica

**Sapindaceae**  
Acer hyrcanum  
Acer monspessulanum  
Acer velutinum

**Saxifragaceae**  
Saxifraga mazanderanica

**Scrophulariaceae**  
Scrophularia crassicaulis  
Scrophularia elbursensis  
Scrophularia gaubae  
Scrophularia gorganica  
Scrophularia hyrcana  
Scrophularia megalantha  
Scrophularia rostrata  
Verbascum stachydiforme  
Verbascum sublobatum

**Solanaceae**  
Atropa pallidiflora  
Solanum kieseritzkii

**Thymelaeaceae**  
Daphne rechingeri

**Violaceae**Viola spathulata

**Summary**

Included here are relict Hyrcanian forests of the coastal plains extending in a crescent around the south and southwest of the Caspian Sea including the area around Lenkoran, Gilan and Mazanderan. It also extends up the northwestern slopes of the Talish Mountains and the northern slopes of the Elburz Mountains.

Of the endemic and near endemic vascular plants so far recorded there are 138 species in 83 genera and 41 families but no endemic genera. However, this area is a refuge for the near endemic genus Parrotia which is a surviving member of the once widely distributed family Hamamelidaceae.

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