

The Hyrcanian Forests form a green arc of deciduous mixed broad-leaved forests stretching across some 850 kilometres along the Caspian Sea, from the Talish Mountains in the Republic of Azerbaijan across the Alborz Mountains all the way to Golestan Province in the Islamic Republic of Iran.

These Forests encompass a remarkable diversity of forest types. They tell the fascinating story of uninterrupted and ongoing evolution over some 25 million years from the Tertiary period to this day, an extraordinary story of continuity and survival, of persistence and flexibility, of adaptation and diversification. This long history becomes more significant when we consider the fact that during the Pleistocene (Ice Age), all broadleaved forests were destroyed except for a few, including the Hyrcanian forests with a temperate climate being located between the Mountains and the Caspian Sea. Consequently glaciations had minimal impact on them. Thus, the Hyrcanian forests can be considered the 'mother' of young forests in Europe.



Photo by Hamed Zolfagharikouhi

The 'Hyrcanian Forests' World Heritage Site is comprised of 15 component sites in Iran and 2 component sites in Azerbaijan. The total area covers about 145,000 ha of forests inscribed under the criterion (ix). These Forests are a globally outstanding example of the evolution of temperate forests, the survival of fossil tree species, as well as of the ongoing ecological processes of diversification and adaptation to constantly changing environmental conditions.

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The foundation engaged in environmental activities and projects with its guiding principles "preserve, sustain, value". The Succow Foundation technically supported the Iranian organizations throughout the nomination and later extension of the 'Hyrcanian forests'

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Our World Heritage THE HYRCANIAN FORESTS

01-02. Golestan (North, South)

Golestan (North, South) are the easternmost components of the Hyrcanian Forests World Heritage Site located in the Golestan National Park, the largest, oldest and richest forest park of Iran. Golestan represents the driest and most continental part of the Hyrcanian Forests. The forest cover is characterized by adapted thermophilous Oak Hornbeam forests in different variants including transition types to rocky cliff vegetation, open woodland, shrubs and mountain steppes/semi-deserts. It includes the ecotone between the Euro Siberian/Sub-Mediterranean and Irano-Turanian phyto-geographical region. Golestan component includes a wide altitudinal range 471 to 2,342 m a.s.l. Golestan is the habitat of the largest remaining population of the endangered Persian Leopard (*Panthera pardus saxicolor*). About 1,302 plant species are recognized in this area (Akhani, 1998). The forest cover is dominated by Oak-Hornbeam forests in different variants, in lower and middle mountain belts formed by *Quercus castaneifolia* and *Carpinus betulus*, mixed with *Parrotia persica*, *Zelkova carpinifolia* and several *Acer* species. In the upper mountain belt it changed to *Quercus macranthera* forests. On rocky slopes the closed forest cover opens to *Carpinus orientalis*-*Celtis australis* open shrubland and rock cliff vegetation. Beech forests are missing in this Eastern region. The most important animal species of this component are: Persian leopard, wolf, red deer, roe deer, urial, wild goat and gazelle.

03-04. Abr (East, West)

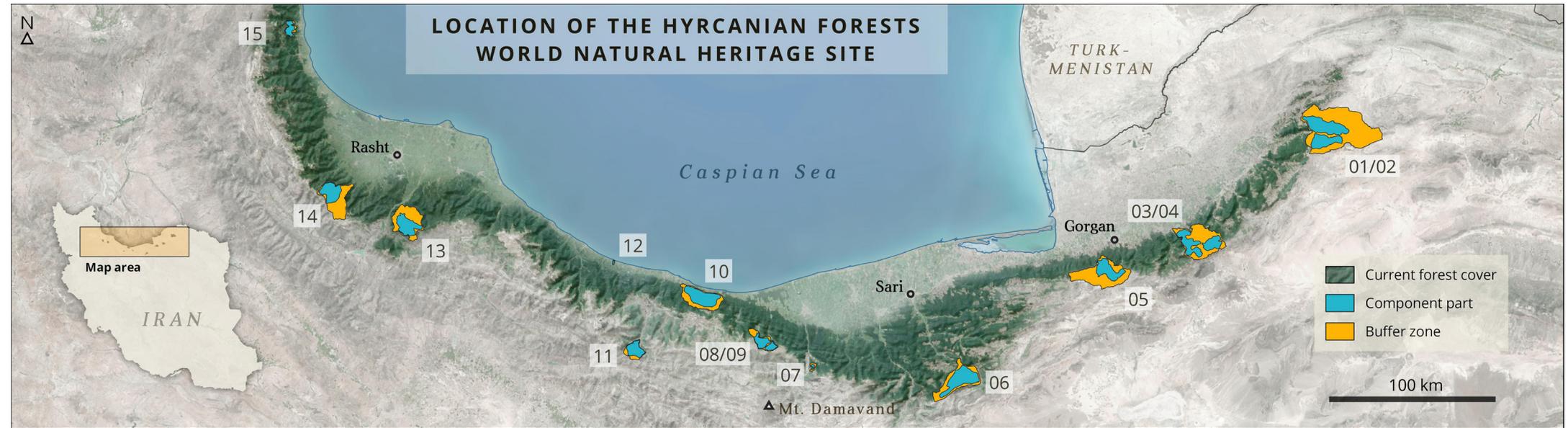
Abr components (East and West) going through an altitudinal range from 125 to 2,908 m a.s.l., include the ecotone of two contrary biogeographic and climatic regions; the Hyrcanian deciduous broadleaved forest and the Irano-Turanian semi-desert and desert region. Abr is almost mountainous and includes a great variety of forest types and habitats such as dense deciduous broadleaved forests including pure and mixed stands of *Taxus baccata* with very old trees, riverine forests, woodlands and rocky cliff vegetation. Abr means "cloud" in the Persian etymology, which is related to formation of clouds just after sunrise and before sunset creating a scenic view of a forest hidden in an ocean of clouds. Indeed, Abr is a combination of fog and forest. Dense forests in this area with mean annual precipitation of 550 mm is very unusual. The most important animal species in the area are: wolf, red deer, roe deer, wild goat, brown bear, partridge, vulture, falcon, ring necked pheasant, lesser spotted eagle, quail.

05. Jahan Nama

This component include a diverse topography, deep and inaccessible valleys, typical subalpine and montane ecosystems and steep cliffs. This area has a transitional condition; northern parts have humid and relatively warm but southern parts have dry and Mediterranean climate. This climatic difference has resulted in completely different vegetation at northern and southern parts, which are deciduous closed montane forests in north and Juniper woodlands in south (Jafari and Akhiani 2008). Jahan Nama component includes an altitudinal range from 373 to 3,027 m a.s.l.

06. Boola

Boola, the southernmost component of the serial nomination, represents the middle mountain belt, covered by closed primeval beech forests at the southeastern border of the entire distribution area of Oriental beech forests. It is a prominent example of the Hyrcanian beech forest evolution and survival under semi-humid dry conditions with its specific orographic attribute, adjacent to semi-arid Irano-Turanian vegetation types. The inaccessible forests with steep slopes (over 35%) are suitable refuge habitats for large mammals like Persian leopard, wild goat and brown bear.



07. Alimestan

Alimestan is a small and special component located in the eastside range of the upper Haraz valley in the Mazandaran province, where the clouds from the Caspian Sea penetrate wide into the Alborz mountains. It is covered by closed primary beech forests of the middle and upper mountain belts up to the forest line, and it contains forest stands of the Hyrcanian endemic trees *Alnus subcordata* and *Gleditsia caspica*. A wide range of rocky, spring and riverine habitats have been also identified in the area.

08-09. Vaz (East, West)

Vaz components represent the middle and upper mountain, as well as the subalpine and alpine belts including the ecotone between the Hyrcanian Forests and high mountain ecosystems of Alborz. These components are characterized by abundant rivers, diverse natural open habitats at diversified topographies, old growth yew stands, plentiful of dead trees, rich diversity of bird species and primary stands of mountain beech forests, which reach up to the forest line. The continuum of altitudinal range and the complexity of the forest structure including natural open habitats guarantee high resilience towards climate change and opportunities for ongoing adaptation.

10. Kojoor

Located in the middle of the Hyrcanian Forest region, embedded in an extensive mountain landscape covered by vast closed forests, Kojoor is like the "heart" of the Hyrcanian forests. It includes the best remaining primary forests of the lower and middle mountain belts from 24 to 2,246 m a.s.l. These forests cover the mountains and valleys, slopes and ridges like a green carpet, which opens only at extreme steep rocky slopes to local natural forests. Old giant trees of different species, diverse topography and abundant water resources are the main features of the Kojoor component. At a short distance from the Caspian Sea, a steep mountain slope containing numerous stream valleys rises like a great wall almost a thousand meters over the narrow coastal lowland. The warm temperate humid climate with about 1,300 mm annual precipitation is the underlying reason for this luxuriant forest cover.

11. Chahar-Bagh

Chahar-Bagh is a component with the highest elevation (915 – 3,395 m a.s.l.) and diverse ecosystems. From riparian forests in deep valleys to rock cliff vegetation and *Quercus castaneifolia*, *Carpinus betulus*- and *Fagus orientalis* mixed forests and open woodland to upper mountain belt up to subalpine-alpine thick-cushions and grassland. It also includes the ecotone between the Hyrcanian and Irano-Turanian phyto-geographical regions. Extensive primary forests, high biodiversity of ecotone plant and animal species, wilderness areas without destructive factors make this area a special highlight within the Hyrcanian Forests.

12. Khoshk-e Daran

Khoshk-e Daran is the only and last remnant of the lowland swamp forest in the Hyrcanian region. Its distance from the Caspian Sea is about 120 m. Several streams and small rivers flow through this area. The hygrophilous, rare, endemic and endangered tree species accompany the large old growth oak trees are the main feature of this forest. Wetlands of this component site are important bird habitats. This component is an isolated forest area surrounded by farmlands.



Quercus macranthera-*Juniperus sabina* woodland in upper mountain belt, Touskestan in Golestan Province. Photo by Hans D. Knapp

13. Siahroud-e-Roudbar

Siahroud-e-Roudbar includes the very distinctive mountain range of Dorfak, the slopes of which are covered on all sides by vast and dense Hyrcanian Forests. In the upper mountain belt up to the tree line, composed of *Fagus orientalis*, *Quercus macranthera* together with *Cupressus sempervirens* and *Juniperus polycarpus*. This mixture of the Hyrcanian deciduous broadleaved trees, the Mediterranean cypress, and the West-Asian juniper as xerophytic conifers is very unusual. It represents an ecotone between the Hyrcanian Forests and the Irano-Turanian dryland ecosystems in the humid western part of the region. The oldest evidences of the human settlement in Iran of the Lower Paleolithic occupation has been found in a cave near this component site.

14. Gasht Roudkhan

Gasht Roudkhan is the westernmost component of this serial World Heritage Site. It represents lush mountainous landscapes in the most humid part of the Hyrcanian Forest region with precipitation about 1,500 mm per year. It includes a broad altitudinal gradient from submontane up to subalpine belts (123 m to 2,852 m a.s.l.). It also includes the ecotone between deciduous forests and high mountain vegetation of Alborz. This area is covered by dense fog throughout the year. Dense ferns, mosses and epiphytes cover the understory of the forest. This component site represents a very high biodiversity in primary and old-growth forests due to an uninterrupted ongoing forest dynamic. It also includes huge old trees of different species. It is the only component with *Castanea sativa*, a rare and valuable tree species of sub-Mediterranean distribution.

15. Lisar

Lisar is almost mountainous and characterized by valuable wildlife species and dense forest of *Fagus orientalis*, *Quercus castaneifolia* and *Parrotia persica*. "Lisar" means "place of Li" in Persian etymology which is "*Ulmus carpinifolia*" that is called "Li" in local language.