

# Steppe Vegetation of Şanlıurfa

In Şanlıurfa, steppes cover 39% of the surface area. There are several steppe types according to the physiomy (external appearance) as follows: Steppes dominated by grasses (Poaceae) and broad-leaved plants, steppes dominated by *Astragalus* and *Acantholimon* species and lowland, and mountain steppes hosting rare and endemic plants.



*Clinopodium congestum*

Şanlıurfa steppes are not as rich as the other steppes of Anatolia in plant species. However, as a result of the climate and soil characteristics, Şanlıurfa steppes have unique plant species and plant communities formed by these species. The steppe vegetation here comprises noteworthy species like perennial xerophytic plants, e.g. milkvetch (*Astragalus* spp.), mullein (*Verbascum* spp.), *Phlomis*, knapweeds (*Centaurea* spp.), sainfoin (*Onobrychis* spp.), *Onosma*, *Echinops* and *Cirsium* species.

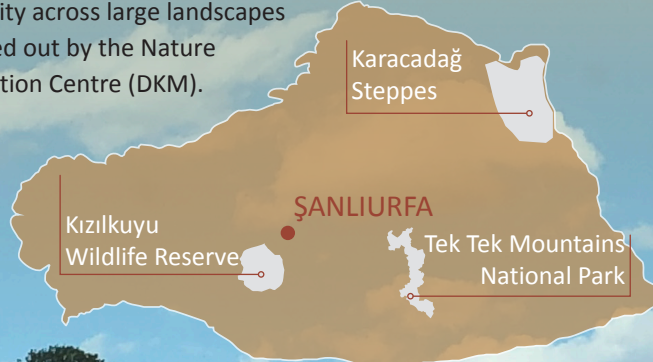


*Astragalus plumosus* (Milkvetch)

*Iris aucheri* (Aucher-Éloy iris)

## Conservation and Sustainable Management of Turkey's Steppe Ecosystems Project

Conservation and Sustainable Management of Turkey's Steppe Ecosystems Project is implemented by the United Nations Food and Agriculture Organization (FAO), Ministry of Agriculture and Forestry General Directorate of Nature Conservation and National Parks (GDNCNP), General Directorate of Plant Production (GDPP), and General Directorate of Forestry (GDF) with the financial support of Global Environment Facility (GEF). The works within the scope of enabling environment established for the effective conservation of steppe biodiversity across large landscapes are carried out by the Nature Conservation Centre (DKM).



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This brochure was prepared within the scope of Conservation and Sustainable Management of Turkey's Steppe Ecosystems Project by Nature Conservation Centre.

For the details

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## "Conservation and Sustainable Management of Turkey's Steppe Ecosystems Project"

GCP/TUR/061/GFF

# THE SECRET TREASURE OF ŞANLIURFA: STEPPE PLANTS



Karacadağ Steppes

## Plants of Şanlıurfa Steppes

Şanlıurfa province is one of the first places to come to mind when steppes of Turkey are considered. With its vast plains, semi-arid climate, and plain topography, steppes make up most of the natural vegetation in Şanlıurfa.

The most important factors in the formation of the Şanlıurfa steppes have been high summer temperatures and drought in autumn. As a result of these factors, Şanlıurfa steppes have come to possess unique characteristics, which are different from those of the Central and Eastern Anatolian steppes. Low precipitation and accordingly steppe vegetation prevail in Şanlıurfa, which represents the driest and hottest region of Turkey.



Karacadağ Steppes

## An Important Gene Center

The Fertile Crescent is where hunter-gatherer communities started to settle and began farming. Şanlıurfa steppes, located at the northern tip of the Fertile Crescent, is one of the important plant areas where endemic and rare plants, as well as the wild relatives of many different grasses (Poaceae) and legumes (Fabaceae) are distributed.



*Pisum sativum* (Green pea)



Rice harvesting



Map of Fertile Crescent

Especially, the presence of ancestral varieties of wheat (*Triticum* spp.), barley (*Hordeum* spp.), lentil (*Lens* spp.), chickpeas (*Cicer* spp.) in Şanlıurfa steppes, makes this region an important gene center.

The steppe-human interaction in Şanlıurfa dates back thousands of years. Agriculture and animal husbandry are still the most important sources of livelihood in the region that is the birthplace of agriculture and domestication of animals.



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Kargalı Neighbourhood

*Aegilops* sp.

*Astragalus gummifer* (Gum tragacanth-milkvetch)

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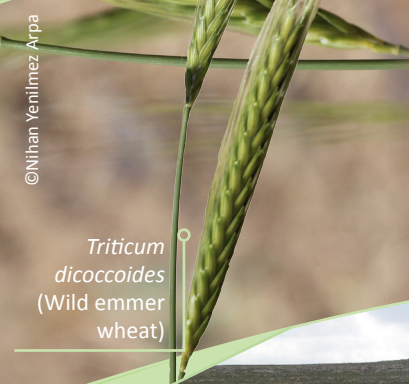
## Kızılkuyu Wildlife Reserve

Kızılkuyu Wildlife Reserve (WR) is one of the important protected areas in our country. The steppes in Kızılkuyu WR are lowland steppes shaped by human influence, as in the most of the steppes in Anatolia.

Kızılkuyu WR has been extensively used for grazing due to its large plains. Common herbaceous plants in the area include grasses (Poaceae), such as bulbous bluegrass (*Poa bulbosa*), winter wild oat (*Avena sterilis* subsp. *sterilis*), barbed goatgrass (*Aegilops triuncialis* subsp. *triuncialis*), Japanese brom (*Bromus japonicus* subsp. *japonicus*), thorny plants, such as hillside milkvetch (*Astragalus diphtherites* var. *diphtherites*) and oriental globe thistle (*Echinops orientalis*), and broadleaved perennials, such as *Phlomis bruguieri* and *Phlomis kurdica*.



*Biarum carduchorum*



*Triticum dicoccoides* (Wild emmer wheat)

*Aegilops triuncialis* subsp. *triuncialis* (Barbed goat grass)



Karacadağ Steppes



*Poa bulbosa* (Bulbous bluegrass)



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Important plant areas in the WR are situated between Keberli and Kızılkuyu villages, to the southeast of Kızılkuyu Village, rocky areas in the northeast of Bildim Village, and the stony region to the north of İkizce Village. According to the most recent study on the site, the WR has 252 plant taxa, 5 of which are endemic. In addition, this area that is extensively used by Arabian sand gazelles, one of the symbol species of our country and the steppes, is among the priority conservation areas.

## Karacadağ Steppes

Karacadağ steppes contain examples of lowland and mountain steppes in Şanlıurfa in relatively protected parts of the area, such as the vicinity of the TRT transmitter and the military complex. The steppes in the area have been losing their naturalness due to overgrazing and conversion of steppes into agricultural fields. Karacadağ, which is an extinct volcano, does not presently hold a protection status.



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Tek Tek Mountains National Park

In terms of plant species, the prominent sites in the area are the Karabahçe mountain road, Kollubaba Hill and Simo Creek.

Karacadağ vegetation comprises Tournefort's gundelia (*Gundelia tournefortii* var. *armata*) and *Astragalus plumosus* dominated communities observed in open rocky areas at 1.000-1.500 m, and gum tragacanth milvetch (*Astragalus gummifer*), *Phlomis kurdica* and *Phlomis armeniaca* dominated communities at 1,500-1,950 m.

*Colchicum trigynum*



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Among these communities, crocus (*Crocus* spp.), colchium (*Colchicum* spp.), grape hyacinth (*Muscari* spp.) and *Ornithogalum* spp. are significant.



*Phlomis bruguieri*

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*Ranunculus kochii* (Koch's buttercup)

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*Crocus leichtlinii* (Endemic)

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In Karacadağ, besides the steppe vegetation, there are also areas with partial oak stands. Other types of trees and shrubs in the area are Brant's oak (*Quercus brantii*), Aleppo oak (*Quercus infectoria* subsp. *veneris*), oriental hackberry (*Celtis tournefortii*), azarole (*Crataegus azarolus* var. *azarolus*), oriental hawthorn (*Crataegus orientalis* subsp. *orientalis*) and Syrian pear (*Pyrus syriaca* var. *syriaca*).

The plant diversity in Karacadağ is mostly threatened by the overgrazing activities. In the area, 332 plant taxa, 15 of which are endemic, have been defined, belonging to 44 different families and 199 different genera. Three of these endemics only exist in Karacadağ in the world.



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*Ranunculus bingoeldaghensis* (Regional endemic)

## Tek Tek Mountains National Park

Tek Tek Mountains National Park is an important protected area that hosts examples of lowland steppes and shrublands in Şanlıurfa. For many years, the National Park had been covered with shrubs dominated by terebinth trees (*Pistacia palaestina*), but with excessive cutting and overgrazing, it was converted to herbaceous steppes and bare rocks.



*Pistacia palaestina* (Terebinth)

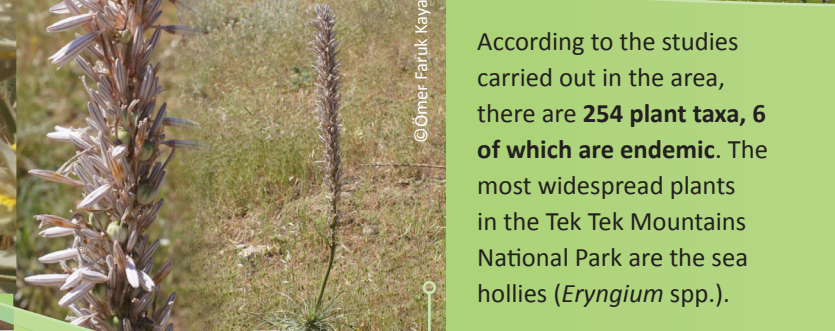
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Today, remaining terebinth trees (*Pistacia palaestina*) are in a small area and under protection. Rüstem Valley and Silesor Creek are among the important natural areas within the National Park. These areas are also rich in geophyte species.



Karacadağ Steppes

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According to the studies carried out in the area, there are 254 plant taxa, 6 of which are endemic. The most widespread plants in the Tek Tek Mountains National Park are the sea hollies (*Eryngium* spp.).

*Asphodeline damascena* subsp. *gigantea* (Regional endemic)

While the endemic species in the area are under pressure especially from agricultural practices and livestock grazing, species such as Mediterranean thyme (*Thymbra spicata* subsp. *spicata*), Tournefort's gundelia (*Gundelia tournefortii* var. *armata*) are also threatened by excessive and uncontrolled collection of plants for food consumption and medical use purposes, among others.



*Gundelia tournefortii*

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*Pistacia vera* (Pistachio nut)

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## Threats

Lowland steppes in Şanlıurfa are particularly under threat due to different reasons. Steppes are converted into agricultural fields with the increase of mechanization in agricultural activities.

Increased urbanization pressure, irrigation projects, energy investments and mining activities cause irreversible loss of steppes. Another important factor damaging the vegetation of Şanlıurfa steppes is overgrazing.

Other factors that threaten steppe ecosystems and the species they host include illegal hunting and species trafficking, over-collection of plants and intensive agricultural activities in the region.



Kızılkuyu Wildlife Reserve

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Kargali Neighbourhood

Today, the steppes remain only in stony or rocky areas as islets that contain the remains of natural vegetation between agricultural fields and grazing areas.

The lack of awareness about the importance of steppe species in the region, and conservation efforts for these species being limited to protected areas are two other factors that affect the biological diversity of steppes. To mitigate these threats, works on the conservation and sustainable management of steppes are becoming more and more crucial.