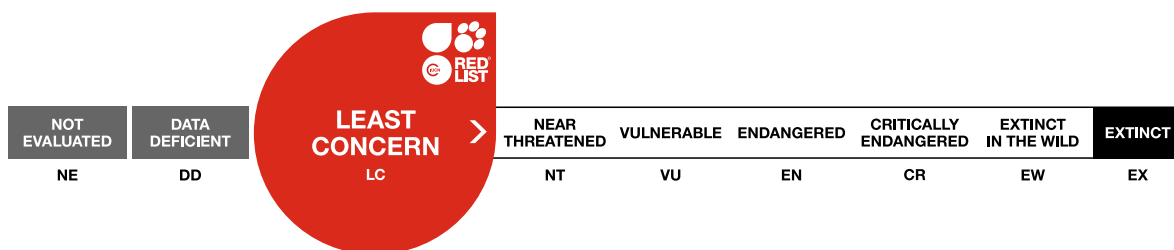


Capparis spinosa, Caper

Assessment by: Rankou, H., M'Sou, S., Diarra, A. & Ait Babahmad, R.A.



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Taxonomy

Kingdom	Phylum	Class	Order	Family
Plantae	Tracheophyta	Magnoliopsida	Brassicales	Capparaceae

Scientific Name: *Capparis spinosa* L.

Synonym(s):

- *Capparis spinosa* L. subsp. *spinosa*

Common Name(s):

- English: Caper
- French: Câprier
- Arabic: Kebbar
- Berber (Other): Taylulut, Teiloulout

Taxonomic Source(s):

Board of Trustees, RBG Kew. 2018. Plants of the World Online Portal. Richmond, UK Available at: <http://www.plantsoftheworldonline.org>.

Assessment Information

Red List Category & Criteria: Least Concern [ver 3.1](#)

Year Published: 2020

Date Assessed: June 22, 2018

Justification:

Capparis spinosa is widespread in the Mediterranean and southern Europe, northern Africa and Arabian Peninsula. The overall population trend of *Capparis spinosa* is considered to be stable and the subpopulations size and density vary from small to large and abundant in most of its locations.

Capparis spinosa is under numerous low to medium impact threats; collection and overharvesting for domestic uses and for trade, overgrazing and other impacts derived from human activities are the main threats, and it is also denoted to be affected by severe droughts.

These threats affecting the species globally and regionally are unlikely to cause the population a rapid decline in the near future that drives the species into a threatened category. The estimated extent of occurrence and the estimated area of occupancy of *Capparis spinosa* are greater than 20,000 km² and 2,000 km² respectively, thus, *Capparis spinosa* is assessed globally as Least Concern.

However – given this species' potential as adaptive crop in a climate change context, and its socio-economical value for its many uses – local declines should be surveyed and conservation attention on these subpopulations is recommended to focus in minimising the effects of anthropogenic activity.

Geographic Range

Range Description:

Capparis spinosa is considered native to the Mediterranean and southern Europe, northern Africa and the Arabian Peninsula (Battandier and Trabut 1888, Jahandiez and Maire 1934, Quézel and Santa, 1962, Pottier-Alapetite 1979, Ozenda 1983, Valdés *et al.* 1987, Fennane and Ibn Tattou 1998, Fennane *et al.* 1999, Valdés *et al.* 2002, Fennane and Ibn Tattou 2005, Inocencio *et al.* 2006, Dobignard and Chatelain 2010, Fici 2014, Euro+Med 2018, IPNI 2018, WCSP 2018). Records of this species occurrence have been made in the following countries: Morocco, Portugal, Spain (including Balearic Islands), France (including Corse), Italy (including Sardinia and Sicily), Croatia (islands), Albania, Greece (islands, including Crete), Turkey, Ukraine (Crimea), Georgia, Armenia, Azerbaijan, Uzbekistan, Tajikistan, northern Pakistan, India (near Srinagar), Afghanistan, Iran, Oman, Yemen (including Socotra), Saudi Arabia, Iraq, Syria, Lebanon, Israel, Jordan, Cyprus, Egypt, Libya, Tunisia and Algeria.

In the Mediterranean basin, *Capparis spinosa* occurs in Spain, Italy, Morocco, Algeria and Tunisia (Quézel and Santa 1962, Pottier-Alapetite 1979, Valdés *et al.* 1987, Fennane and Ibn Tattou 1998, Inocencio *et al.* 2006, Fici 2014). In Morocco, *Capparis spinosa* is found in most of the major floristic divisions across the country within a range of altitude up to 1,950 m (Jahandiez and Maire 1934, Ozenda 1983, Fennane and Ibn Tattou 1998, Fennane *et al.* 1999, Valdés *et al.* 2002, Fennane and Ibn Tattou 2005, Inocencio *et al.* 2006, Dobignard and Chatelain 2010). In Algeria, *Capparis spinosa* is found in Kabylie, Algerian coast, Bouzaréa, and Oran (Battandier and Trabut 1888, Quézel and Santa, 1962, Assia 2015). In Tunisia, *Capparis spinosa* occurs in the major floristic divisions across the country, mainly in Bizerte, Nachli, Kef, Kairouan, Sidi Bouzid, Bouhemda, Kebili, Kchem, Matmata and the Numidian sector (Pottier-Alapetite 1979, Ghorbel *et al.* 2001, Le Floc'h *et al.* 2010, Assia 2015). In Spain, *Capparis spinosa* is found in most part of the territory of the East Andalusia, extending to other parts of the Iberian Peninsula and the Balearic Islands within a range of altitude up to 1,300 m asl (Valdés *et al.* 1987, Inocencio *et al.* 2000, Blanca *et al.* 2011).

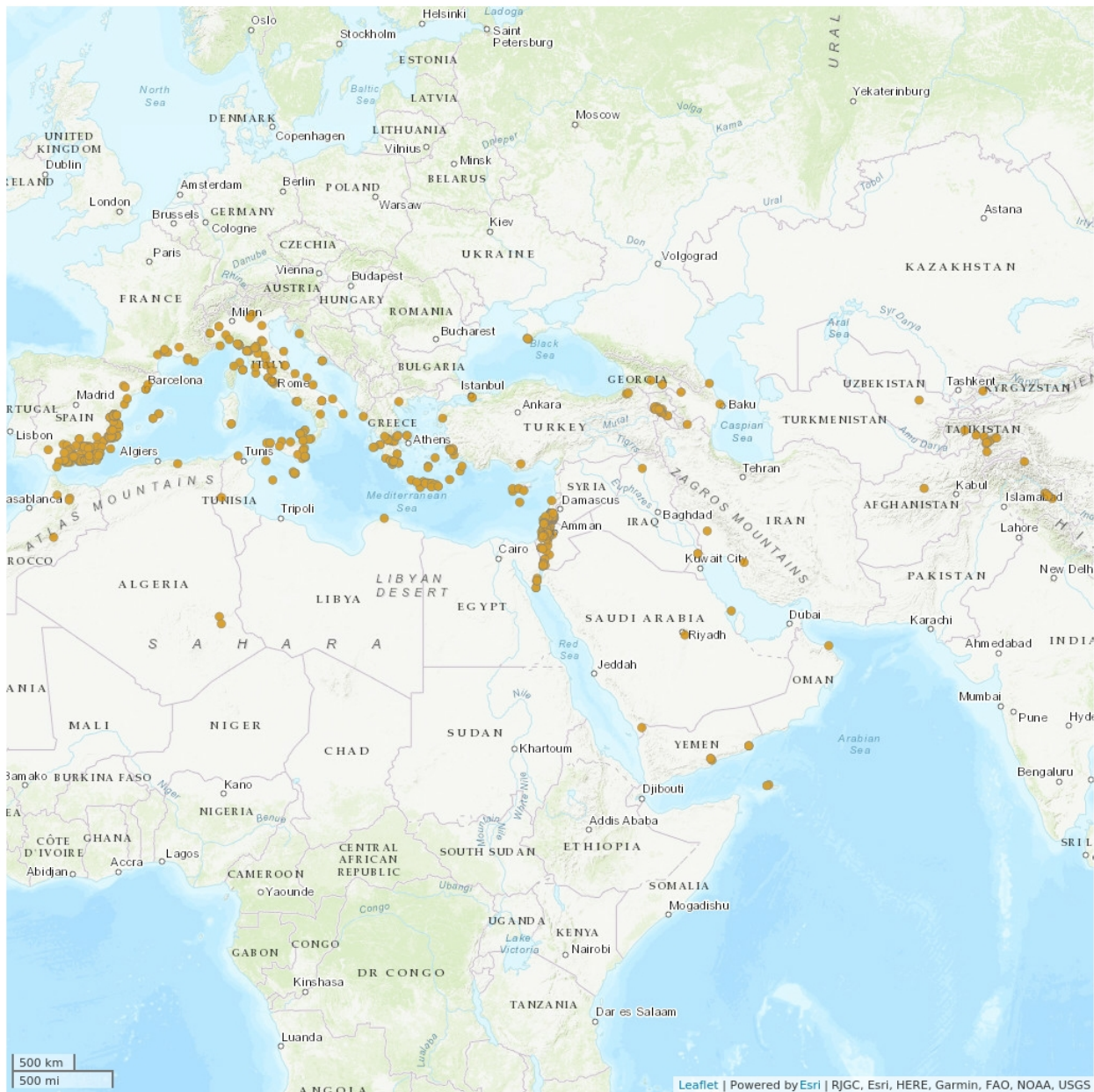
Country Occurrence:

Native, Extant (resident): Afghanistan; Albania; Algeria; Armenia; Azerbaijan; Croatia; Cyprus; Egypt; France (Corsica, France (mainland)); Georgia; Greece (East Aegean Is., Greece (mainland), Kriti); India; Iran, Islamic Republic of; Iraq; Israel; Italy (Italy (mainland), Sardegna, Sicilia); Jordan; Lebanon; Libya; Morocco; Oman; Pakistan; Portugal (Portugal (mainland)); Saudi Arabia; Spain (Balearic Islands, Spain (mainland)); Syrian Arab Republic; Tajikistan; Tunisia; Turkey; Ukraine; Uzbekistan; Yemen (Socotra)

Native, Possibly Extant: Turkmenistan

Extant & Origin Uncertain: Spain (Canary Is.)

Distribution Map

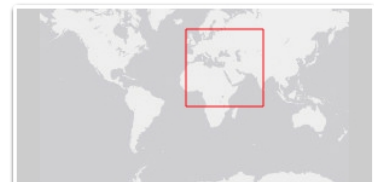


Legend

■ EXTANT (RESIDENT)

Compiled by:

IUCN 2019



The boundaries and names shown and the designations used on this map do not imply any official endorsement, acceptance or opinion by IUCN.



Population

Capparis spinosa is widespread in the Mediterranean basin. The population size is considered to be large, with a significant population density, and a stable overall trend.

The abundance of the species varies from occasional to abundant in some locations. The species is abundant in Morocco, whereas in Algeria, the caper covers large sparsely populated areas (Benseghir and Seridi 2007).

The genetic assessment of Moroccan capers indicated a remarkable phenotypic plasticity linked to the ecological area and environment, which might be explained by a low level of gene flow due to the fragmentation of habitats of these subpopulations that leads to accumulate significant genetic differences (Chedraoui *et al.* 2017).

Current Population Trend: Stable

Habitat and Ecology (see Appendix for additional information)

Capparis spinosa is spontaneous with great plasticity and grows in open spaces, slopes, cliffs, gorges, embankments, rocky soils, wadi banks and old walls (Jahandiez and Maire 1934, Nègre 1962, Ozenda 1983, Lakrimi 1997, Fennane *et al.* 1999, Benseghir and Seridi 2007). *Capparis spinosa* can grow in most soils and substrates types but prefers well-drained soils with a neutral to alkaline pH. In some areas it is found on sandy loam soils at pH 7.5 to 8 (Benseghir and Seridi 2007). The species prefers open and sunny habitats with wider temperature tolerance between -4 to over 40°C (Lakrimi 1997). *Capparis spinosa* is a xerophyte species with morphological and physiological characteristics allowing the species to adapt in severe climatic conditions from semi-arid to arid Mediterranean climates and it flowers from to May to July (Jahandiez and Maire 1934, Nègre 1962, Ozenda 1983, Lakrimi 1997, Benabid 2002, Benseghir and Seridi 2007).

Systems: Terrestrial

Use and Trade

Cultivation of caper started in Spain and Italy, and later in Morocco, with a maximum of about 4,000; 1,000 and 2,500 ha in cultivation, respectively (Infantino *et al.* 2007). In Morocco, *Capparis spinosa* is widely cultivated in the regions of Fez, Meknes, Taounat, Taza, Al Hoceima, Taroudant, Safi and Marrakech. However, the cultivation of *Capparis spinosa* depends mainly on the wild subpopulations (Tlili *et al.* 2011). *Capparis spinosa* is also cultivated in Turkey, Tunisia and Algeria (Tlili *et al.* 2011).

Capparis spinosa have been used in traditional medicinal remedies for many years (Dafni *et al.* 1984, Abbas *et al.* 1992). Most of the species parts; roots, leaves, buds, fruit, bark and seeds are used traditionally for medicinal purposes, to treat some diseases such as rheumatism, gastrointestinal problems, headache, kidney, liver disease, toothache and diabetes (Bellakhder 1997, Inocencio *et al.* 2000, Bellakhdar 2006, Benseghir and Seridi 2007, Sijelmassi 2011, Tlili *et al.* 2011, Lansky *et al.* 2013).

The pickled flower buds are harvested for consumption when they are still tightly closed packed with vinegar (Inocencio *et al.* 2000). *Capparis spinosa* is commercialized in the Mediterranean countries with an annual average production of 10,000 tonnes; 3,500–4,500 tonnes in Turkey, 3,000 tonnes in

Morocco, 500–1,000 tonnes in Spain, 150 tonnes in Tunisia (Özcan and Akgül 1998, Rivera *et al.* 1999, Inocencio *et al.* 2000, Janick and Paull 2006, Benseghir and Seridi 2007). Most of the productions are exported to USA one of the most important consumers, central European countries and the UK (Inocencio *et al.* 2000, Janick and Paull, 2006, Benseghir and Seridi 2007).

The chemical composition and bioactive components of *Capparis spinosa* contains mainly; phenolic compounds, flavonol rutin, flavonols kaempferol, quercetin, carotenoids, tocopherols and vitamin C (Inocencio *et al.* 2000, Tlili *et al.* 2011, Nabavi *et al.* 2016, Benseghir and Seridi 2007, Mahboubi and Mahboubi 2014).

Threats (see Appendix for additional information)

Capparis spinosa is widespread and widely commercialized in several countries in the Mediterranean region. However, the species is mainly threatened by collection and overharvesting for domestic uses (medicinal and food) and for trade (nationally and internationally) because most of the harvesting depends in a large proportion on the wild plants as the cultivation does not respond to market demand.

Capparis spinosa is more generally threatened by overgrazing and by the direct and indirect impact of human activities such as leisure activities, tourism, infrastructure development, land clearing and management activities. This species is currently also being affected by droughts.

Conservation Actions (see Appendix for additional information)

Although *Capparis spinosa* is widely cultivated in several countries, the following conservation actions are recommended to protect the wild subpopulations of these species and its habitats:

- Rational and sustainable use and exploitation of the resource.
- Increase crop production to answer the market demand.
- Protection of the wild species sites from random cutting and overgrazing.
- Rising of public awareness.
- *Ex situ* conservation: artificial propagation, re-introduction, seed collections.
- Monitoring and surveillance of the existing populations and sites.
- Estimation of population sizes and study of their dynamics, trends, biology and ecology.

This species has a special value for its medicinal/ pharmacological properties and its culinary uses, as well as for its potential as crop that can grow in arid regions, and therefore help palliate soil erosion and desertification within a climate change context, where adaptation of agricultural systems would be of utter importance (Chedraoui *et al.* 2017, Ashraf *et al.* 2018).

Credits

Assessor(s): Rankou, H., M'Sou, S., Diarra, A. & Ait Babahmad, R.A.

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Partner(s) and Institution(s): Royal Botanic Gardens, Kew

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External Resources

For [Supplementary Material](#), and for [Images and External Links to Additional Information](#), please see the Red List website.

Appendix

Habitats

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

Habitat	Season	Suitability	Major Importance?
1. Forest -> 1.4. Forest - Temperate	Resident	Suitable	Yes
3. Shrubland -> 3.4. Shrubland - Temperate	Resident	Suitable	Yes
3. Shrubland -> 3.8. Shrubland - Mediterranean-type Shrubby Vegetation	Resident	Suitable	Yes
4. Grassland -> 4.4. Grassland - Temperate	Resident	Suitable	Yes

Plant Growth Forms

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

Plant Growth Form
SS. Shrub - small

Use and Trade

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

End Use	Local	National	International
Food - animal	No	No	Yes
Medicine - human & veterinary	Yes	No	No
Food - human	No	No	No

Threats

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

Threat	Timing	Scope	Severity	Impact Score
1. Residential & commercial development -> 1.3. Tourism & recreation areas	Ongoing	Minority (50%)	Slow, significant declines	Low impact: 5
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.3. Indirect ecosystem effects 2. Species Stresses -> 2.2. Species disturbance		
2. Agriculture & aquaculture -> 2.2. Wood & pulp plantations -> 2.2.1. Small-holder plantations	Ongoing	Minority (50%)	Rapid declines	Medium impact: 6
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.3. Indirect ecosystem effects 2. Species Stresses -> 2.2. Species disturbance		

2. Agriculture & aquaculture -> 2.3. Livestock farming & ranching -> 2.3.1. Nomadic grazing	Ongoing	Minority (50%)	Rapid declines	Medium impact: 6
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.3. Indirect ecosystem effects 2. Species Stresses -> 2.2. Species disturbance		
5. Biological resource use -> 5.2. Gathering terrestrial plants -> 5.2.1. Intentional use (species is the target)	Ongoing	Majority (50-90%)	Rapid declines	Medium impact: 7
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.3. Indirect ecosystem effects 2. Species Stresses -> 2.2. Species disturbance		
6. Human intrusions & disturbance -> 6.3. Work & other activities	Ongoing	Minority (50%)	Slow, significant declines	Low impact: 5
	Stresses:	1. Ecosystem stresses -> 1.3. Indirect ecosystem effects 2. Species Stresses -> 2.2. Species disturbance		
11. Climate change & severe weather -> 11.2. Droughts	Ongoing	Minority (50%)	Rapid declines	Medium impact: 6
	Stresses:	1. Ecosystem stresses -> 1.3. Indirect ecosystem effects 2. Species Stresses -> 2.2. Species disturbance		

Conservation Actions in Place

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

Conservation Action in Place
In-place species management
Successfully reintroduced or introduced benignly: Yes
In-place education
Included in international legislation: Yes
Subject to any international management / trade controls: Yes

Conservation Actions Needed

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

Conservation Action Needed
2. Land/water management -> 2.1. Site/area management
3. Species management -> 3.1. Species management -> 3.1.1. Harvest management
3. Species management -> 3.1. Species management -> 3.1.2. Trade management
3. Species management -> 3.4. Ex-situ conservation -> 3.4.1. Captive breeding/artificial propagation
3. Species management -> 3.4. Ex-situ conservation -> 3.4.2. Genome resource bank
4. Education & awareness -> 4.3. Awareness & communications

Research Needed

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

Research Needed
1. Research -> 1.2. Population size, distribution & trends
3. Monitoring -> 3.1. Population trends
3. Monitoring -> 3.2. Harvest level trends
3. Monitoring -> 3.3. Trade trends

Additional Data Fields

Distribution
Continuing decline in area of occupancy (AOO): No
Continuing decline in extent of occurrence (EOO): No
Lower elevation limit (m): 0
Upper elevation limit (m): 2,000
Population
Extreme fluctuations: No
Population severely fragmented: No

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