G2.4 Olea europaea - Ceratonia siliqua woodland

Summary

This habitat of woodland dominated by arborescent *Olea europaea*, *Ceratonia siliqua, Pistacia lentiscus* or *Myrtus communis* is a very local feature of the hot lowlands of the Mediterranean and Canaries. Much modified by occasionally intense human influence, it can present a retrogression towards arborescent matorral, maquis or garrigues or a dehesa-like appearance. Overgrazing, cutting for firewood and fires are the main threats. Rectification of structure, encouraging regeneration and limiting grazing are the chief conservation needs.

Synthesis

The Least Concern (LC) category is assigned to this habitat, because it has an extensive distribution across the Mediterranean and the Canarian biogeographical zones, the reduction in quantity over the past 50 years has been very small and the decline in quality (abiotic and biotic) is slight to moderate affecting a relatively small part of the extent of the habitat.

Overall Category & Criteria			
EU 28		EU 28+	
Red List Category	Red List Criteria	Red List Category	Red List Criteria
Least Concern	-	Least Concern	-

Sub-habitat types that may require further examination

Sub-habitats may be distinguished for the Macaronesian and the Mediterranean Biogeographical region for further examination and documentation.

Habitat Type

Code and name

G2.4 Olea europaea - Ceratonia siliqua woodland

Olea europaea - Ceratonia siliqua woodlands in eastern Crete (Photo: Panayotis Dimopoulos)

Intensively grazed *Olea europaea - Ceratonia siliqua* woodlands in eastern Crete (Photo: Panayotis Dimopoulos)

Habitat description

This habitat includes woodland dominated by arborescent *Olea europaea* var. sylvestris, *Ceratonia siliqua, Pistacia lentiscus, Myrtus communis* or, in the Canary Islands, by *Olea europaea* subsp. *cerasiformis* and *Pistacia atlantica*. It is closely related to the habitat type F5.1/2 Mediterranean maquis and arborescent

matorral and, in fact, only a few stands have a sufficiently tall, closed canopy to qualify as this woodland type. All formations occur in the thermo-Mediterranean zone, or the thermo-Canarian for the *Olea europaea* subsp. *cerasiformis* type. The most typical example of the *Olea europaea* var. *sylvestris*-dominated formations with *Ceratonia siliqua* and *Pistacia lentiscus* are found in the northern Tunisia (Djebel Ichkeul) and in southern Andalusia (Tamo communis-Oleetum sylvestris, extinct?), in Menorca (Prasio majoris-Oleetum sylvestris), Sardinia, Sicily, Calabria and Crete. Some carob-dominated facies of the previous unit in Djebel Ichkeul (Tunisia) from the most typical example of the *Ceratonia siliqua*-dominated formations, often with *Olea europaea* var. *sylvestris* and *Pistacia lentiscus*. Carob-dominated formations are also found in Mallorca (Cneoro tricocci-Ceratonietum siliquae), in eastern Sardinia, in southeastern Sicily, in Puglia, in South Greece, Crete, in northeastern Algeria and in Cyrenaica. The use of these forests as agropastoral systems in some regions results in a physiognomy similar to the dehesas.

Indicators of quality:

- Natural composition and intact woodland canopy
- Vigorous regeneration of typical woody species
- Structural diversity/ complexity with (semi)natural age structure or completeness of layers with a considerable number of carob- and/or olive-tree individuals at the tree layer
- Typical flora and fauna composition of the region
- Presence of old trees and a variety of dead wood (lying or standing) and the associated flora, fauna and fungi
- Presence of natural disturbance such as treefall openings with natural regeneration
- Long historical continuity (ancient woodland) with high species diversity
- Survival of larger stands of forest without anthropogenic fragmentation and isolation (to support fauna which need large undisturbed forests)
- Absence of ruderal, invasive and planted non-native species in all layers (flora & fauna)
- Absence of signs of disturbances (either rare or of low intensity)
- Low levels of soil compactness, absence of trampling and erosion and well developed A_h horizon as good indicators for the lack of overgrazing.

Characteristic species:

Ceratonia siliqua, *Olea europaea* subsp. *cerasiformis, Olea europaea* var. *sylvestris*, *Pistacia atlantica*, *P. lentiscus,* Arbutus unedo, Arisarum vulgare, *Arum pictum* subsp. *sagittifolium*, *Asparagus acutifolius*, *Asphodelus ramosus*, *Brachypodium retusum*, *Bunium macuca* subsp. *balearicum*, *Calicotome infesta, C. villosa*, *Cistus incanus* subsp. *creticus*, *C. salvifolius*, *Clematis flammula*, *Dactylis glomerata* agg., *Dracunculus muscivorus*, *Euphorbia spinosa*, *Galium rubrum*, *Geranium purpureum*, *Genista majorica*, *Juniperus oxycedrus*, *J. phoenicea*, *Lonicera implexa*, *Myrtus communis*, *Phillyrea latifolia*, *Piptatherum coerulescens*, *P. miliaceum*, *Pistacia terebinthus*, *Prasium majus*, *Bituminaria bituminosa*, *Quercus coccifera*, *Rhamnus alaternus*, *Rosmarinus officinalis*, *Rubia peregrina*, *Smilax aspera*, *Teucrium flavum*, *Thymus vulgaris*, *Trifolium campestre* and *Urginea maritima.*

Classification

This habitat may be equivalent to, or broader than, or narrower than the habitats or ecosystems in the following typologies.

EUNIS:

G2.4 [*Olea europaea*]-[*Ceratonia siliqua*] woodland

EuroVegChecklist:

Ceratonio-Pistacion lentisci Zohary ex Zohary et Orshan 1959

Oleo-Ceratonion siliquae Br.-Bl. ex Guinochet et Drouineau 1944

Mayteno canariensis-Juniperion canariensis Santos & Fern. Galván ex Santos 1983 corr. Rivas-Martínez et al.1993

Mayteno umbellatae-Oleion maderensis Capelo, J.C. Costa, Lousã, Fontinha, Jardim, Sequeira & Rivas-Martínez 2000

Annex I:

9320 Olea and Ceratonia forests

Emerald:

G2 Broadleaved evergreen woodland

MAES:

Woodland and forest

IUCN:

1.4 Temperate Forest

EFT:

9.2 Olive-carob forest

Does the habitat type present an outstanding example of typical characteristics of one or more biogeographic regions?
Yes

Regions
Macaronesian
Mediterranean

Justification
This habitat is typical of the Mediterranean Biogeographical region due to its distribution range that almost coincides with the limits of the "true" Mediterranean vegetation and prevailing climate. Its presence in the Canary Islands belonging to the Macaronesian region is characterized by other species combination and dominant species the *Olea europaea* subsp. *cerasiformis* and *Pistacia atlantica.*

Geographic occurrence and trends

EU 28	Present or Presence Uncertain	Current area of habitat	Recent trend in quantity (last 50 yrs)	Recent trend in quality (last 50 yrs)
Croatia	Present	55 Km^2	Stable	Stable
Cyprus	Present	108 Km^2	Stable	Stable
France	Corsica: Present France mainland: Present	34 Km^2	Stable	Increasing
Greece	Crete: Present East Aegean: Present Greece (mainland and other islands): Present	605 Km^2	Stable	Stable
Italy	Italy mainland: Present Sardinia: Present Sicily: Present	249 Km^2	Increasing	Increasing
Malta	Present	24 Km^2	Stable	Stable

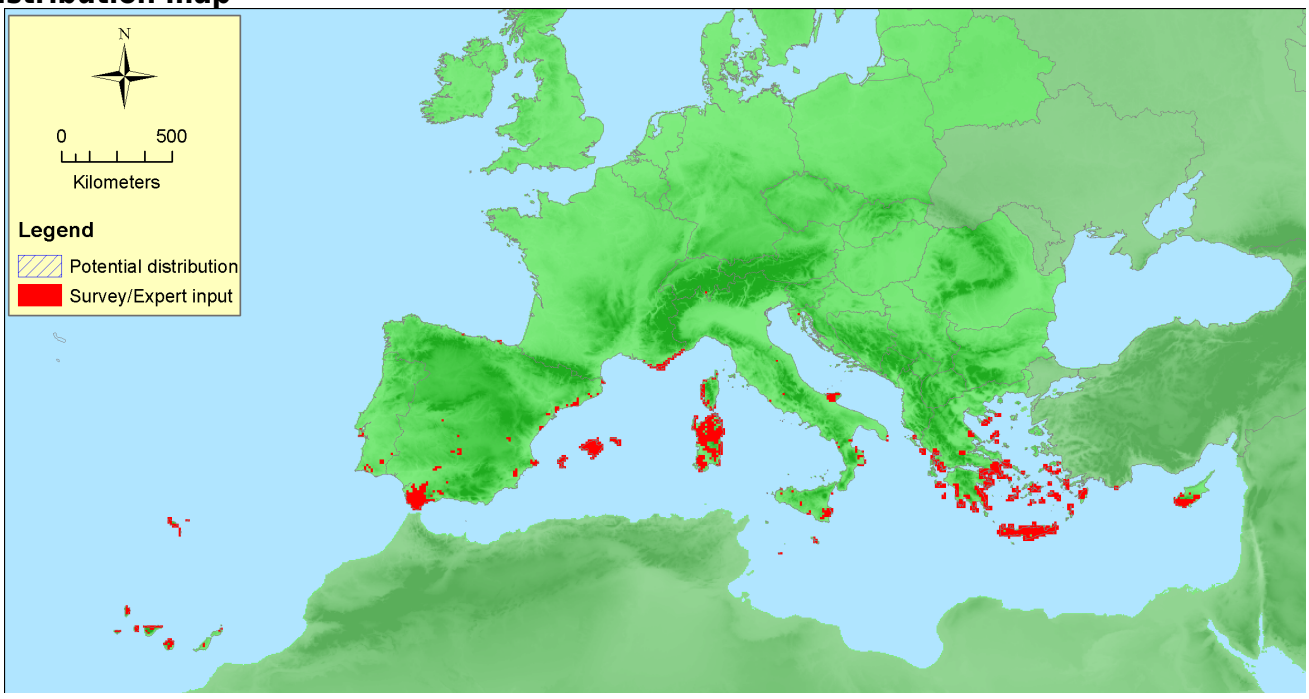
EU 28	Present or Presence Uncertain	Current area of habitat	Recent trend in quantity (last 50 yrs)	Recent trend in quality (last 50 yrs)
Portugal	Madeira: Present Portugal Azores: Present Portugal mainland: Present	15 Km^2	-	-
Spain	Balearic Islands: Present Canary Islands: Present Spain mainland: Present	463 Km^2	Increasing	Increasing

EU 28 +	Present or Presence Uncertain	Current area of habitat	Recent trend in quantity (last 50 yrs)	Recent trend in quality (last 50 yrs)
Former Yugoslavian Republic of Macedonia (FYROM)	Present	Unknown Km^2	Unknown	Unknown

Extent of Occurrence, Area of Occupancy and habitat area

	Extent of Occurrence (EOO)	Area of Occupancy (AOO)	Current estimated Total Area	Comment
EU 28	4024250 Km^2	1287	1066 Km^2	
EU 28+	4418050 Km^2	1289	1066 Km^2	

Distribution map



The map is rather complete, except possibly for the East-Adriatic coastal area. Data sources: Art17, EVA, NAT.

How much of the current distribution of the habitat type lies within the EU 28?

It is estimated that in the EU28 more than 85% of the habitat is represented.

Trends in quantity

The trend in quantity is in general stable and the past 50 years only a slight reduction in the extent of the habitat across the Mediterranean and Canarian zones has been recorded following the territorial data sheets with the national experts assessments.

- Average current trend in quantity (extent)
  EU 28: Stable
  EU 28+: Unknown
- Does the habitat type have a small natural range following regression?
  No
  Justification
  The EOO is much larger than 50000 km^2.
- Does the habitat have a small natural range by reason of its intrinsically restricted area?
  No
  Justification
  The distribution area of the habitat is very extensive and characteristic of the thermo-Mediterranean vegetation zone delineation.

Trends in quality

The trend in quality is currently generally stable; the average status taking into consideration the past 50 years is slight decline with moderate severity.

- Average current trend in quality
  EU 28: Stable
  EU 28+: -

Pressures and threats

This habitat type has been actively modified by occasionally intense human influence. Such human activities have resulted in retrogressive succession of olive-carob woodlands towards arborescent matorral, maquis or garrigues. Overgrazing and cutting for firewood, as well as the local intensive degradation caused by stock farming, are the main pressures and threats for the *Olea-Ceratonia* woodlands in the Mediterranean and the Macaronesian biogeographical regions.

List of pressures and threats

Agriculture

Cultivation
Grazing
Intensive mixed animal grazing
Stock feeding

Sylviculture, forestry

Grazing in forests/ woodland
Forestry activities not referred to above

Transportation and service corridors

Roads, paths and railroads
Paths, tracks, cycling tracks

Urbanisation, residential and commercial development

Urbanised areas, human habitation

Natural System modifications

Fire and fire suppression
Burning down

Conservation and management

Taking into consideration that this habitat has been actively modified by occasionally intense human influence, which has resulted in retrogressive succession of olive-carob woodlands towards arborescent matorral, maquis or garrigues, the conservation management measures should be related to the restoration/improvement of these woodland habitats in various aspects. For example, these measures should aim at: i) a vertical stand structure, with a considerable number of carob- and/or olive-tree individuals at the tree layer and an intact woodland canopy, ii) regulations of the grazing activity so that the regeneration of typical woody species becomes vigorous, iii) strengthening the presence and abundance of a given set of typical species or functional traits (i.e. morphological, physiological and life history characteristics) which can be used as proxy indicators of biodiversity level and succession stage, iv) lack of overgrazing which would prevent the soil compactness, absence of trampling and erosion and would allow a well developed Ah horizon.

List of conservation and management needs

Measures related to forests and wooded habitats

Restoring/Improving forest habitats
Adapt forest management

Measures related to spatial planning

Manage landscape features

Measures related to special resouce use

Regulating/Management exploitation of natural resources on land

Conservation status

Annex I:

9320: MAC U1, MED U1

When severely damaged, does the habitat retain the capacity to recover its typical character and functionality?

Expert judgement.

Effort required

10 years
Naturally

Red List Assessment

Criterion A: Reduction in quantity

Criterion A	A1	A2a	A2b	A3
EU 28	-2.2 %	unknown %	unknown %	unknown %
EU 28+	-2.2 %	unknown %	unknown %	unknown %

Based on the available data from the EU 28 countries national experts assessment (territorial data sheets)

it is evident that only a very slight reduction in the extent of the habitat over the past 50 years has been recorded.

Criterion B: Restricted geographic distribution

Criterion B	B1				B2				B3
	EOO	a	b	c	AOO	a	b	c	
EU 28	>50000 Km^2	No	No	No	>50	No	No	No	No
EU 28+	>50000 Km^2	No	No	No	>50	No	No	No	No

The habitat has not a restricted geographic distribution and there is no evidence of an ongoing decline in its spatial extent or in its abiotic and biotic quality.

Criterion C and D: Reduction in abiotic and/or biotic quality

Criteria C/D	C/D1		C/D2		C/D3	
	Extent affected	Relative severity	Extent affected	Relative severity	Extent affected	Relative severity
EU 28	21 %	34 %	unknown %	unknown %	unknown %	unknown %
EU 28+	21 %	34 %	unknown %	unknown %	unknown %	unknown %

Criterion C	C1		C2		C3	
	Extent affected	Relative severity	Extent affected	Relative severity	Extent affected	Relative severity
EU 28	unknown %	unknown %	unknown %	unknown %	unknown %	unknown %
EU 28+	unknown %	unknown %	unknown %	unknown %	unknown %	unknown %

Criterion D	D1		D2		D3	
	Extent affected	Relative severity	Extent affected	Relative severity	Extent affected	Relative severity
EU 28	unknown %	unknown%	unknown %	unknown%	unknown %	unknown%
EU 28+	unknown %	unknown%	unknown %	unknown%	unknown %	unknown%

Decline in quality has been calculated on the basis of territorial data from 4 countries. From the calculations on the trend in quality, it is evident that the last 50 years a slight decline in quality (extent of degradation equals 21%) of the habitat with a moderate severity (34%) has been occurred.

Criterion E: Quantitative analysis to evaluate risk of habitat collapse

Criterion E	Probability of collapse
EU 28	unknown
EU 28+	unknown

There is no quantitative analysis available that estimates the probability of collapse of this habitat.

Overall assessment "Balance sheet" for EU 28 and EU 28+

	A1	A2a	A2b	A3	B1	B2	B3	C/D1	C/D2	C/D3	C1	C2	C3	D1	D2	D3	E
EU28	LC	DD	DD	DD	LC	LC	LC	LC	DD	DD	DD	DD	DD	DD	DD	DD	DD
EU28+	LC	DD	DD	DD	LC	LC	LC	LC	DD	DD	DD	DD	DD	DD	DD	DD	DD

Overall Category & Criteria			
EU 28		EU 28+	
Red List Category	Red List Criteria	Red List Category	Red List Criteria
Least Concern	-	Least Concern	-

Confidence in the assessment
Medium (evenly split between quantitative data/literature and uncertain data sources and assured expert knowledge)

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