F7.4b Central Mediterranean mountain hedgehog-heath

Summary

This habitat, with vegetation dominated by low spiny cushion plants occurs in high mountains of the Central Mediterranean region, in very windy situations exposed to intense sunshine. It is found on both acidic and base-rich soils with a rich flora including many endemics, different species dominating according to region and altitude. A natural habitat above the timberline, grazing can extend its cover to lower altitudes and less exposed situations and there sheep and goat pastoralism may be essential for its conservation. However, over-grazing can be damaging.

Synthesis

The habitat qualifies for a Least Concern (LC) status, due to a limited (-20%) decrease in area over the last 50 years, linked to a reduction of summer grazing, and a slightly decreasing quality over the same period. The habitat occurs very localised, but values for distribution and range do not meet the thresholds of the restricted geography criterion.

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

Due to high floristic endemism, the hedgehog heath habitats from Corsica, Elba, Sardinia and Sicily could be considered as subtypes.

Habitat Type

Code and name

F7.4b Central Mediterranean mountain hedgehog-heath

Genista desoleana heath dominated slope of Monte Cabbane, Isle of Elba, Italy (Photo: John Janssen).

Genista salzmannii heath in the higher parts of Corsica (Photo: P. Delbosc).

Habitat description

This habitat includes high-mountain thorny-cushion dwarf scrub in the Central Mediterranean region. In terms of structure and ecology it is similar to the hedgehog heaths from the West-Mediterranean (F7.4a) and the East-Mediterranean (F7.4c). It is however distinguished as a separate, vicariant type, because of its different species composition, with many endemics. The dominant species are chamaephytes,

morphologically similar to those in the West and East Mediterranean hedgehog heath. In the Central Mediterranean region the characteristic shrubs belong to the genera *Aspalathus*, *Genista* or *Armeria.* Central Mediterranean hedgehog heath is found in the supra-mediterranean and oro-mediteranean belts of the islands of Elba, Sardegna and Sicily and of the Southern Apennines and Cantabrian mountains. It is found both on acidic and calcareous soils, mainly on very windy sites that are exposed to an intense solar radiation.

Spiny *Astragalus*-species dominate primary stations above or near the timberline. Due to deforestation or grazing, such communities may have a downslope expansion. In lower altitudes they also grow on rocky ridges that are free of trees. In the Central Mediterranean the following *Astragalus* species are important in the mountain hedgehog heath: *Astragalus calabrus* in the Sila Massive of Calabria, *Astragalus gennargenteus* on Mount Gennargentu (Sardinia) and in the mountains of Corse, *Astragalus nebrodensis* (= *Astragalus siculus* subsp. *nebrodensis*) in the Madonie mountain chain of Sicily, *Astragalus siculus* on Mount Etna (Sicily), and relict stands of *Astragalus sirinicus* in the southern Appennines. These *Astragalus*-communities contain a high amount of endemic vascular plants, amongst which several species of *Viola*. In the Central Mediterranean region only the Mount Etna is sufficiently high to allow an optimal development of the thorny *Astragalus* dominated belt. In the other mountain groups the *Astragalus*-associations occur rather localized near the top of the mountains.

Genista dominated hedgehog-heath occurs mainly below the timberline, and in most cases is considered a secondary habitat, although it may form the climax vegetation on strongly wind-swept locations. In general such communities have a lower percentage of endemics than the *Astragalus*-communities, and a higher frequency of broader Mediterranean species, amongst which many therophytes. Examples of characteristic species are *Genista salzmannii* on Sardegna and Corse, *Genista desoleana* on Elba and *Genista cupanii* on Sicily. *Genista*-dominated scrub forms transitions towards *Juniperus communis* ssp. *nana* (Corse) or *Juniperus hemisphaerica* (Sicily) dominated dwarf scrub (F2.2b), in general found on deeper and more humid soils. *Berberis aetnensis* is a common species of both the *Juniperus*-dominated and the *Genista*-dominated dwarf scrub. On Sardegna and Corse mountain hedgehog heath is often found in mosaic with patches of oro-mediterranean grassland (E1.5c).

In Calabria spiny heaths are found on Mont Aspromonte, dominated by *Armeria aspromontana*, *Potentilla calabra* and *Centaurea poltiana*. *Armeria nebrodensis* is one of the dominant species in hedgehog heath on acidic soils in the Madonie mountains of Sicily.

Spiny scrub communities in the warmer parts of the Alps and Pyrenees, like those dominated by *Astragalus sempervirens* subsp*. sempervirens*, *Genista lobelii* or *Genista hispanica*, are not included in this habitat, but in F6.3 (supra-mediterranean garrigues). Spiny heathlands in the warmer parts of the Alps, like those dominated by *Genista lobelii* and *Genista pulchella* ssp. *villarsii* (alliance *Genistion lobelii*) or by *Astragalus sempervirens* (alliance *Ononidion cenisiae = Avenion sempervirentis*) are considered part of F6.6.

Indicators of good quality:

In good condition the habitat has a low structure and is rather open, forming mosaics with bare soil or grassland types. Indicators of good quality are:

- No or little presence of trees,
- Low hedgehog-like vegetation structure,
- Forming landscape mosaics with grasslands or bare soil.

Characteristic species:

Flora

Vascular plants: *Alyssum robertianum*, *Anthyllis hermanniae*, *Armeria aspromontana*, *Armeria brutia*,

Armeria canescens, *Armeria multiceps*, *Armeria nebrodensis*, *Armeria sardoa*, *Astragalus calabrus*, *Astragalus genargenteus* (= *A. sirinicus* ssp. *gennargenteus*), *Astragalus nebrodensis*, *Astragalus siculus*, *Berberis aetnensis*, *Centaurea poltiana*, *Centaurea sarfattiana*, *Cerastium boisserianum*, *Genista corsica*, *Genista cupanii*, *Genista desoleana*, *Genista lobelioides* (= *G. lobelii* var. *lobelioides*), *Genista salzmannii* (= *Genista lobelii* var. *salzmannii*), *Helichrysum italicum* ssp*. italicum*, *Juniperus communis*, *Plantago humilis*, *Plantago subulata*, *Plantago serpentina*, *Potentilla calabra*, *Prunus spinosa*, *Rosa seraphini*, *Rumex aetnensis,Ruta corsica, Scleranthus vulcanicus, Senecio aetnensis, Teucrium marum, Thymus herba-barona, Viola aethnensis*, *Viola corsica*, *Viola nebrodensis*.

Classification

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

EUNIS

F7.4 Hedgehog-heaths

EuroVegChecklist (alliances)

Berberidion aetnensis S. Brullo et al. 2001 (marginal)

Anthyllidion hermanniae Klein 1972

Rumici-Astragalion siculi Poli 1965

Cerastio-Astragalion nebrodensis Pignatti et Nimis ex S. Brullo 1984

Armerion nebrodensis S. Brullo 1984

Armerion aspromontanae S. Brullo et al. 2001

Koelerio brutiae-Astragalion calabrici Giacomini et Gentile ex S. Brullo in S. Brullo et al. 2005

Annex 1:

4090 Endemic oro-Mediterranean heaths with gorse

Emerald:

F7 Spiny Mediterranean heaths (phrygana, hedgehog-heaths and related coastal cliff vegetation)

MAES-2:

Heathland and shrub

IUCN:

3.8. Mediterranean-type Shrubby Vegetation

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

Yes

Regions
Mediterranean

Justification
This hedgehog heath is a typical habitat of the highest belts of the Central Mediterranean mountains. It is present in Corsica, Elba, Sardinia, north-east of Sicily, and some moutains in the center and south of continental Italy.

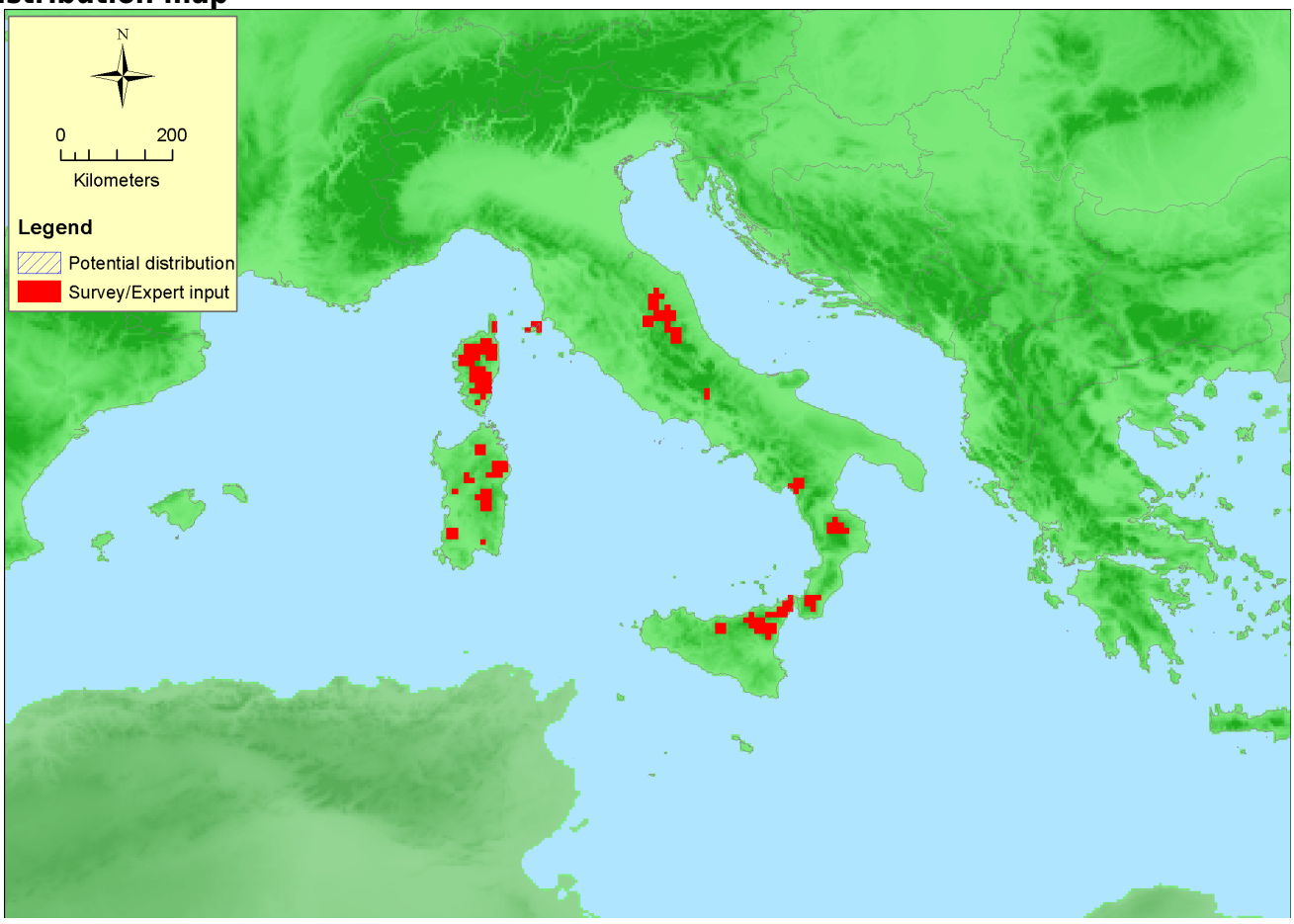
Geographic occurrence and trends

EU 28	Present or Presence Uncertain	Current area of habitat	Recent trend in quantity (last 50 yrs)	Recent trend in quality (last 50 yrs)
France	Corsica: Present	390 Km^2	Decreasing	Stable
Italy	Italy mainland: Present Sardinia: Present Sicily: Present	227 Km^2	Decreasing	Stable

Extent of Occurrence, Area of Occupancy and habitat area

	Extent of Occurrence (EOO)	Area of Occupancy (AOO)	Current estimated Total Area	Comment
EU 28	306500 Km^2	160	617 Km^2	
EU 28+	306500 Km^2	160	617 Km^2	

Distribution map



The map seems complete. Data sources: Art17.

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

100%. The habitat is restricted to the EU28 (France and Italy).

Trends in quantity

In Italy the trend is stable to increasings, while in France a negative trend over the lats 50 years has been reported. Overall the trend is about 20% decline.

- Average current trend in quantity (extent)

EU 28: Decreasing
EU 28+: Decreasing

- Does the habitat type have a small natural range following regression?
  No
  Justification
  The habitat is restricted to the moutains of the Central Mediterranean and there has been a decline in area, but the range is a bit too large to meet the criteria under B.
- Does the habitat have a small natural range by reason of its intrinsically restricted area?
  Yes
  Justification
  This habitat is limited to some moutains of Corsica, Sardinia, Sicily and continental Italy, where it is widespread.

Trends in quality

In Italy the trend in quality is slightly decreasing, while for France a stable status has been reported.

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

Pressures and threats

The most significant threats affecting this habitat are linked to the reduction or abandonment of sheep and goat grazing in moutain areas.

List of pressures and threats

Agriculture

Intensive grazing
Abandonment of pastoral systems, lack of grazing

Natural biotic and abiotic processes (without catastrophes)

Species composition change (succession)

Conservation and management

The hedgehog heath of the central Mediterranean are grazed in summer by goats and sheep. This type of pastoralism maintains the habitat. This habitat does'nt need any reglementary protection measures, except the continuation of the traditional sheep and goat grazing.

List of conservation and management needs

No measures

No measures needed for the conservation of the habitat/species

Measures related to agriculture and open habitats

Maintaining grasslands and other open habitats

Conservation status

Annex I:

4090: MED FV

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

Only in case of destruction of the habitat connectivity.

Effort required

10 years
Naturally

Red List Assessment

Criterion A: Reduction in quantity

Criterion A	A1	A2a	A2b	A3
EU 28	-20 %	unknown %	unknown %	unknown %
EU 28+	-20 %	unknown %	unknown %	unknown %

An overall reduction in quantity of about 20% has been calculated from the data of Italy and France, leading to the conclusion Least Concern.

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

Despite the fact that the habitat is localised in the central Mediterranean mountains of Corsica, Elba, Sardinia, Sicily and continental Italy, the EOO and AOO and number of locations are larger than the thresholds for criterion B. The conclusion is therefore Least Concern (LC).

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	16 %	25 %	unknown %	unknown %	unknown %	unknown %
EU 28+	16 %	25 %	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%

The average reduction in quality is slight, both in terms of extend and severity, leading to the conclusion Least Concern (LC) for criterion C/D1.

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 type.

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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