F2.2c Balkan subalpine genistoid scrub

Summary

This genistoid scrub, dominated mainly by submediterranean *Genista* species, is found in the subalpine belt of mountains in southeastern Europe (centred on EU28+ Balkans) and the southern outcrops of the Alps. It forms dense stands mainly on carbonate and ultramaphic deposits, in rocky situations with rudimentary soils but a warm but humid microclimate. Although it can be a primary vegetation occuring in natural mosaics with alpine grasslands, it also spreads where forest has been cut or degraded or pasture abandoned. It is threatened by clearance and abandonment of grazing, by tourist developments and climate change. Thoughtful land management and planning are needed for conservation.

Synthesis

The habitat is assessed as Least Concerned (LC), as it is distributed in a rather large range and area and no reduction in quality and quantity has occurred in about the last 50 years.

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

The assessment is based mainly on *Genista radiata dominated* habitats. Less information is available and further research is needed on occurrences of *Genista holopetala* and *Genista hassertiana* (syn. *Genista holopetala* var. *hasertiana*) dominated habitats that are found along the eastern Adriatic coast.

Habitat Type

Code and name

F2.2c Balkan subalpine genistoid scrub

Habitat dominated by *Genista radiata* on shallow soils over carbonate bedrock on Galičica Mountain in the southern Balkan (Photo: V. Matevski).

Dense community *Daphne oleoides* and *Genista radiata* on former pastures in the southern Balkan mountains (Photo: V. Matevski).

Habitat description

This habitat encompasses genistoid dominated high mountain scrub in the Balkan, Apennines and southern outcrops of the Alps. It can be found mainly on carbonate and ultramaphic bedrock, in places also over siliceous bedrock. The genistoid scrub (mainly dominated by *Genista radiata*) can reach about one

meter and forms dense communities. It prefers warm-humid habitats, where fog condensates or that are exposed to precipitation, mainly steep, sunny and rocky sites with shallow soil types, where more demanding plant species cannot thrive. It often appears on sites of degraded *Pinus mugo* communities. Above the timberline this habitat can form the climax vegetation and mosaics with alpine pastures, *Pinus mugo* and *Juniperus* scrub. It can thrive also in the subalpine vegetation belt, on clear cuttings, burnt sites, rocky pastures and similar habitats, or form the mantle vegetation of subalpine forests, on sites of *Fagus*, *Picea*, *Betula* and *Larix*. The dominant species of this habitat is mainly *Genista radiata*, but also *Genista holopetala and Genista hassertiana* can be regarded as an element of illyric-tertiary flora and have a relict character. Shepherds favor grasslands and they often cut or burn these shrubby-habitats to provide more grazing area, but on the other hand abandonment of traditional land use leads to an increase of the surface occupied by this habitat.

Indicators of quality:

This vegetation can be threatened by (over)grazing, burning, extirpation of shrub for cultivation, global warming and urbanization. In the areas where it presents secondary vegetation it may be subject to succession towards forest.

The following characteristics may be considered as indicators of good quality:

- dense stands with presence of diagnostic species
- absence of tree species
- moderate grazing
- species richness

Characteristic species:

Flora: *Asperula cynanchica, Bromus fibrosus, Calamagrostis varia, Carex laevus, C. sempervirens, Cerastium decalvans, Daphne blagayana, D. oleoides, Dorycnium germanicum, Erica carnea, Genista hassertiana, G. holopetala, G. radiata, Hypericum alpinum, Iberis sempervirens, Juniperus communis* subsp*. alpinus, Linum tauricum, Polygala chamaebuxus, Scabiosa columbaria, Sesleria latifolia, S. robusta, S. varia, Thymus longicaulis; on non-carbonate bedrock we can find also: Avenella flexuosa, Calamagrostis arundinacea, Calluna vulgaris, Festuca scabriculmis, Phyteuma scheuzeri, Vaccinium myrtillus.*

Classification

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

EUNIS:

F2.2 Evergreen alpine and subalpine heath and scrub

F2.3 Subalpine deciduous scrub

EuroVegChecklist (alliance):

Daphno-Genistion radiatae N. Randelovic et Rexhepi 1980

Annex 1:

4060 Alpine and boreal heaths

Emerald:

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MAES-2:

Heathlands and scrub

IUCN ecosystems:

3.4 Temperate shrubland

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

Regions
Alpine

Justification
This habitat appears mainly in the Alpine region. It can be found in the mediterranean-montane vegetation belt but also in the southern outcrops of the Alps.

Geographic occurrence and trends

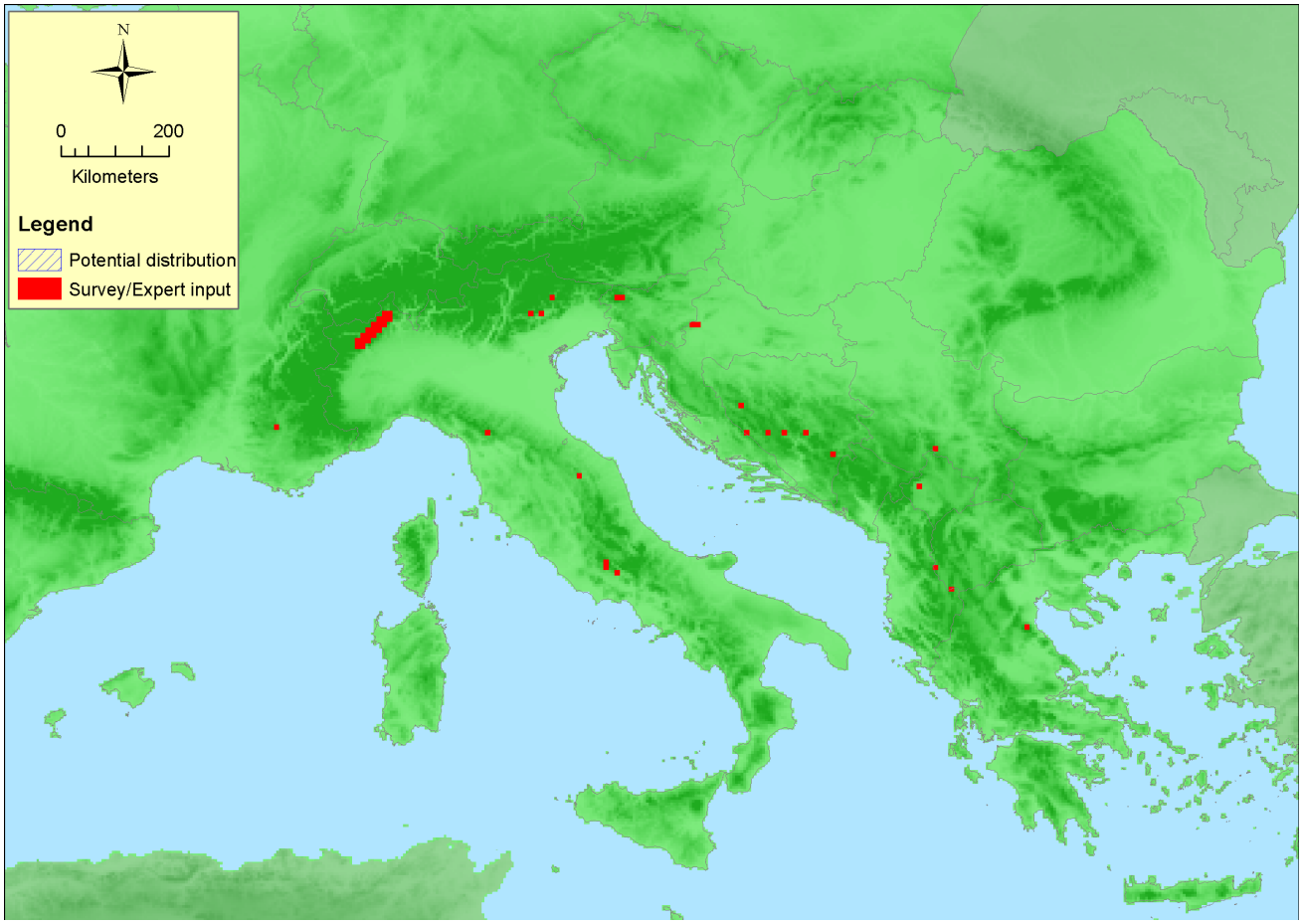
EU 28	Present or Presence Uncertain	Current area of habitat	Recent trend in quantity (last 50 yrs)	Recent trend in quality (last 50 yrs)
Bulgaria	Uncertain	unknown Km^2	Unknown	Unknown
Croatia	Present	1 Km^2	Stable	Stable
France	France mainland: Uncertain	Unknown Km^2	Unknown	Unknown
Greece	Greece (mainland and other islands): Present	unknown Km^2	Unknown	Unknown
Italy	Italy mainland: Present	unknown Km^2	Increasing	Stable
Slovenia	Present	0.5 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)
Albania	Present	unknown Km^2	Unknown	Unknown
Bosnia and Herzegovina	Present	15 Km^2	Increasing	Increasing
Former Yugoslavian Republic of Macedonia (FYROM)	Present	unknown Km^2	Unknown	Unknown
Kosovo	Present	1 Km^2	Decreasing	Decreasing
Switzerland	Present	1 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	421800 Km^2	31	1.5 Km^2	
EU 28+	498800 Km^2	43	17.5 Km^2	

Distribution map



The map is rather incomplete but data availability is scarce. AOO and EOO are likely to be larger, therefore. Data sources: EVA, LIT, EXP.

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

< 10% lies within the EU28.

Trends in quantity

On average a stable situation was detected in the EU28 situation in the past and likely also in the future (based on territorial data from Slovenia and Croatia). In the EU28+ an increasing trend of surface of this habitat was detected. In the past 50 years the increase was on average 23.5%, and predicted future trend is an increase of about 8.3%.

- Average current trend in quantity (extent)
  EU 28: Stable
  EU 28+: Increasing
- Does the habitat type have a small natural range following regression?
  No
  Justification
  The habitat range does not show an important decline in the past 50 years and it has a wide range, extending from the southern outcrops of the Alps to Thessaly in Greece.
- Does the habitat have a small natural range by reason of its intrinsically restricted area?
  Yes
  Justification
  In most sites the habitat has a very limited area, due to restricted suited conditions.

Trends in quality

The habitat is rather stable. No negative trend was detected within the EU28, but a small degradation of quality was analysed for the EU28 + (0.3 % of this habitat is 37% degraded). This habitat thrives mainly in areas or sites where few human activities occur.

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

Pressures and threats

The pressures can be divided into three groups. Firstly there are human interventions, such as planting of trees, removal of shrubs (cutting or by fire), grazing, construction of ski resorts). Secondly succession and afforestation is a pressure in the subalpine belt. The third group consists of abiotic influence due to global warming, that may shift the vegetation upwards or to sites with cool aspects.

List of pressures and threats

Sylviculture, forestry

Forest planting on open ground (native trees)

Human intrusions and disturbances

Skiing, off-piste
Trampling, overuse

Natural System modifications

Burning down

Natural biotic and abiotic processes (without catastrophes)

Species composition change (succession)

Climate change

Temperature changes (e.g. rise of temperature & extremes)

Conservation and management

No special treatment is needed. Grazing and removal of genistoid scrub should not be too intensive. On the other side, afforestation of these areas (especially under the timberline) should be precented. Finally, the occurrence of the habitat should be taken into account with planming of constructions in the mountains, like ski resorts.

List of conservation and management needs

Measures related to forests and wooded habitats

Adapt forest management

Measures related to spatial planning

Establish protected areas/sites
Establishing wilderness areas/allowing succession
Legal protection of habitats and species

Conservation status

Annex I:

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

If completely destroyed, the habitat needs a lot of time to recover due to extreme site conditions in mountains. If there are some shrub populations left nearby, one could roughly estimate that the habitat can recover within 20-30 years, with intervention (planting) even within 10-20 years.

Effort required

10 years	20 years	50+ years
Through intervention	Naturally	Naturally

Red List Assessment

Criterion A: Reduction in quantity

Criterion A	A1	A2a	A2b	A3
EU 28	0 %	unknown %	unknown %	unknown %
EU 28+	+23 %	unknown %	unknown %	unknown %

A more or les stable trend in quantity was detected from the data provided by EU28 countries, but the data shjowed an increase of surface up to 23% in the EU28+. This increase was caused by abandonment of grazing leading to afforestation of pastures.

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 EOO is over the 50000 km^2, and the number of locations is high. For the EU28 and EU28+ the AOO values meet the thresholds for criterion B2. However, exact figures are not known, because of lacking of precise distribution data, and it is likely that at least for EU28+ the value is over 50. Anyway, as there are no negative trends or threats overall assessment of criterion B leads to the conclusion Least Concern.

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	0 %	stable %	unknown %	unknown %	unknown %	unknown %
EU 28+	5 %	slightly-moderate %	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 human impact in this habitat is low. There is a more or less stable quality in the EU28, and some slight negative trend in the EU28+.

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

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