

F7.4d Canary mountain hedgehog-heath

Summary

This endemic habitat characterised by hedgehog cushion plants is confined to a volcanic caldera and summit scree in the Canaries, with extreme substrates and fog the only source of moisture. The flora is species-poor but consists almost entirely of endemic or very rare plants. The only threat is low intensity trampling from trekking and mountain activities by visitors, but the impact of climate change is uncertain.

Synthesis

In spite of its very restricted geographical area, the habitat is assessed as Least Concern, because of stable trends in quantity and quality. It may become endangered (EN) in the future however, if negative effects will occur from climate change.

| 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

A possible separation in subtypes would be between broom communities and scree communities with *Viola cheiranthifolia* and *Viola palmensis*, but spatially the two are intermingled and usefulness of such further split is doubtful.

Habitat Type

Code and name

F7.4d Canary mountain hedgehog-heath



Spartocytisus supranubius dominated community in Cañadas del Teide lava fields, Tenerife, Canary Islands, Spain (Photo: Jacqueline Rohde).



Echium wildpretii community in the crater of the Teide mountain on Tenerife, Spain (Photo: Victoria Eugenia Martin Osorio).

Habitat description

Canarian high-mountain volcanic semi-desert scrub, restricted to the subalpine zone of Tenerife and La Palma. The main occurrence of this rare and unique habitat type concerns the Cañadas del Teide on Tenerife, where it covers several square kilometers of the comparatively flat bottom of this huge caldera, one of the largest in the world. The dominant shrub species here is the striking hemispherical 'hedgehog' species *Cytisus supranubius* (up to 2 m), accompanied by a set of smaller species from different plant

families showing a similar growth form, e.g. *Nepeta teydea* (Lamiaceae), *Pterocephalus lasiospermus* (Dipsacaceae) and *Descurainea bourgeana* (Brassicaceae). Every year, during its flowering period in May, *Cytisus supranubius* is painting the lava landscape in a bright white, in honor of its Spanish name 'retama blanca'. Another prominent species in this open habitat is the pillar-shaped *Echium wildpretii*, which appearance reminds us of the *Senecio* and *Lobelia* communities in the arid belt of East-African tropical mountains above the timber line. The caldera is situated above 2,000 m and almost never gets any precipitation. It is thought that the dead remains of the flower stalks of the various species are able to catch and transport water during periods with fog. In addition to the limited supply of water, the extreme soil conditions strongly determine plant growth in this bare volcanic landscape.

The habitat type further comprises two scree communities at the summits of the Canaries, one on Tenerife and one on La Palma. On Tenerife, *Viola cheiranthifolia* is found on the flanks of the Teide, above the caldera, and on La Palma, *Viola palmensis* is growing in the highest parts of the island. Both the hedgehog and the scree communities are permanent natural vegetation.

This mountain habitat type is of particular conservation value as it houses a set of endemic and extremely rare species, which even do not (or hardly) occur outside the range of the habitat. Another conspicuous feature is that these communities do not support the occurrence of more widespread species, as is the case in other endemic ecosystems. Where the endemic habitat types of the Canary Islands at lower altitude are generally accompanied by many mediterranean species, this is not the case in these high-altitude hedgehog and scree communities. As a consequence, the habitat type is rather poor in species (5-10 species in general).

Indicators of good quality:

- Presence of rare and endemic species.
- Absence of ruderal, often more nutrient-demanding species.
- Absence of alien species (grasses and shrubs).
- Long-term habitat stability, with no successional trends.

Characteristic species:

Vascular plants: *Adenocarpus viscosus* var. *spartioides* (dom), *Adenocarpus viscosus* var. *viscosus* (dom), *Argyranthemum teneriffae*, *Arrhenatherum calderae*, *Bencomia exstipulata*, *Cheirolophus teydis* (= *Cheirolophus argutus*), *Cytisus supranubius* (= *Spartocytisus supranubius*; dom), *Descurainea bourgeana*, *Descurainea gilva*, *Echium auberianum*, *Echium gentianoides*, *Echium wildpretii*, *Erysimum scoparium*, *Genista benehoavensis* (= *Teline benehoavenensis*), *Micromeria lasiophylla* ssp. *palmensis*, *Nepeta teydea*, *Pimpinella cumbrae*, *Plantago webbii*, *Pterocephalus lasiospermus*, *Pterocephalus porphyranthus*, *Scrophularia glabrata*, *Sideritis oriocephala*, *Silene nocteolens*, *Stemmacantha cynaroides*, *Viola cheiranthifolia*, *Viola palmensis*.

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 heath

EuroVegChecklist:

Spartocytisium nubigeni Oberd. Ex Esteve 1972

Violion cheiranthifoliae Voggenreiter ex Martín Osorio, Wildpret et Rivas-Mart. in Martín Osorio et al. 2007

Annex 1:

4090 Endemic oro-Mediterranean heaths with gorse

Emerald:

-

MAES-2:

Heathland and shrub

IUCN:

3.7. Subtropical/Tropical High Altitude shrubland

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

Yes

Regions

Macaronesian

Justification

This is an extremely localized habitat, found in lava fields above 2.200 m of altitude around the Teide Mountain on Tenerife, and on the highest volcano of La Palma (Canary Islands, Spain). It includes canarian endemics and La Palma and Tenerife endemics, including a monospecific genus (*Spartocytisus supranubius*) which is restricted to this habitat.

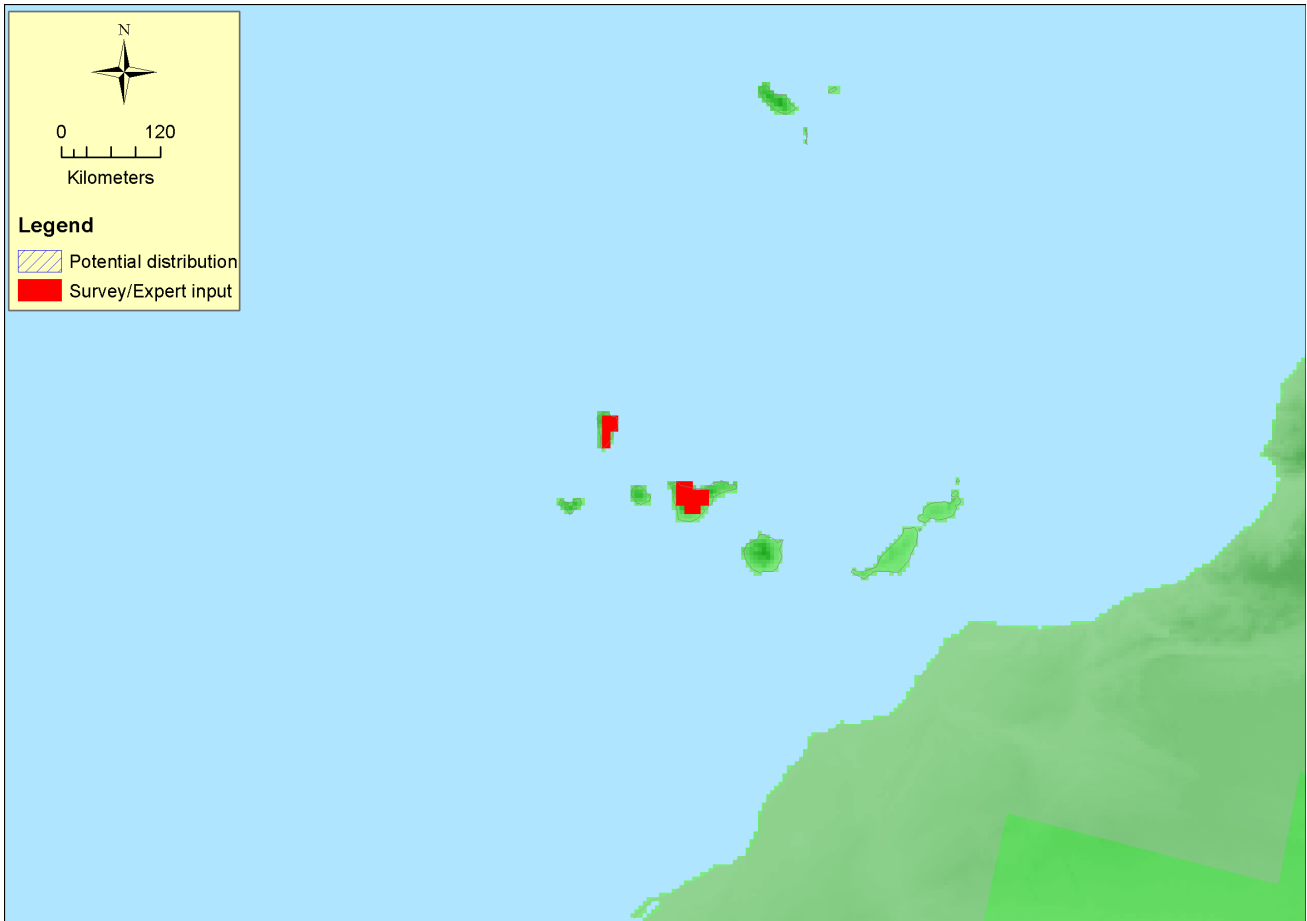
Geographic occurrence and trends

| EU 28 | Present or Presence Uncertain | Current area of habitat | Recent trend in quantity (last 50 yrs) | Recent trend in quality (last 50 yrs) |
|--------------|-------------------------------|-------------------------|--|---------------------------------------|
| <i>Spain</i> | Canary Islands: Present | 140 Km ² | Stable | Stable |

Extent of Occurrence, Area of Occupancy and habitat area

| | Extent of Occurrence (EOO) | Area of Occupancy (AOO) | Current estimated Total Area | Comment |
|---------------|----------------------------|-------------------------|------------------------------|---------|
| <i>EU 28</i> | 6600 Km ² | 18 | 140 Km ² | |
| <i>EU 28+</i> | 6600 Km ² | 18 | 140 Km ² | |

Distribution map



The map provides the complete distribution of the habitat. Data sources: Art17.

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

100%

Trends in quantity

As no agricultural or urban relevant activities exist, the area is a protected area, and human pressure from touristic activity is low on the lava fields, the habitat trends are stable.

- Average current trend in quantity (extent)

EU 28: Stable

EU 28+: -

- Does the habitat type have a small natural range following regression?

No

Justification

The range is extreme small, but the area and range of the habitat are stable.

- Does the habitat have a small natural range by reason of its intrinsically restricted area?

Yes

Justification

The most characteristic aspect of the habitat is a broom scrub dominated by the endemic *Spartocytisus supranubius*, of which the whole area is restricted to the Teide mountain and immediate surroundings. Besides it includes two scree communities of *Viola cheiranthifolia* (Tenerife) and *Viola palmensis* (La Palma), both also with a very restricted area.

Trends in quality

The habitat is well-preserved and probably accounts, in most of its area, for the complete set of

characteristic plants. There are no relevant changes in the environmental conditions, like any significant disturbance, that would reduce species number or relevant structural changes.

- Average current trend in quality

EU 28: Stable

EU 28+: Stable

Pressures and threats

Low intensity pressures could be expected from visitors, trekking and other mountain activities activities. Punctual presence of alien species has been reported. As it is a protected area these activities are under control. Climate change may lead to altitudinal range shifts that may eventually reduce the area of the habitat.

List of pressures and threats

Human intrusions and disturbances

Outdoor sports and leisure activities, recreational activities

Circuit, track

Interpretative centres

Trampling, overuse

Invasive, other problematic species and genes

Invasive non-native species

Geological events, natural catastrophes

Collapse of terrain, landslide

Climate change

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

Droughts and less precipitations

Conservation and management

Keeping local, regional, national and EU conservation regulations as well as keeping the actual protected areas will guarantee habitat type persistence.

List of conservation and management needs

Measures related to spatial planning

Establish protected areas/sites

Legal protection of habitats and species

Conservation status

Annex 1:

4090: MAC FV

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

The habitat type is permanent vegetation and probably does not depend on successional processes to establish. Colonization by seed from nearby sites containing the component species will be sufficient if disturbances disappear.

Effort required

| |
|-----------|
| 20 years |
| Naturally |

Red List Assessment

Criterion A: Reduction in quantity

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

There is no evidence that the habitat area has significantly reduced or increased over the last 50 years.

Criterion B: Restricted geographic distribution

| Criterion B | B1 | | | | B2 | | | | B3 |
|-------------|----------------------|----|----|---------|-----|---------|---------|---------|---------|
| | EOO | a | b | c | AOO | a | b | c | |
| EU 28 | 6600 Km ² | No | No | unknown | 18 | Unknown | Unknown | unknown | unknown |
| EU 28+ | 6600 Km ² | No | No | unknown | 18 | Unknown | Unknown | unknown | unknown |

The AOO and EOO are very small, and therefore any threat would immediately lead to an assessment of Endangered (EN). However, presently no threats are known. It has to be monitored what the effects of climate change will be for this habitat, as it may lead to negative trends in the near future.

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 % | 0 % | unknown % | unknown % | unknown % | unknown % |
| EU 28+ | 0 % | 0 % | unknown % | unknown % | unknown % | unknown % |

| Criterion C | C1 | | C2 | | C3 | |
|-------------|-----------------|-------------------|-----------------|-------------------|-----------------|-------------------|
| | Extent affected | Relative severity | Extent affected | Relative severity | Extent affected | Relative severity |
| EU 28 | 0 % | 0 % | unknown % | unknown % | unknown % | unknown % |
| EU 28+ | 0 % | 0 % | 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% |

No or very small negative trends in quality have been reported for this habitat, leading to the conclusion Least Concern.

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)

Assessors

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Contributors

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