

## E5.2c Macaronesian thermophile woodland fringe

### Summary

This habitat comprises perennial herbaceous communities of the warm half-shade of woodland fringes and clearings of Macaronesian laurel-forests in the Canary Islands, Azores and Madeira. It is found as micro-sites in or along humid woodland edges, receiving a larger amount of radiation compared to the typical forest conditions, but in a similar way dependent on forest litterfall causing somewhat mesotrophic conditions. The habitat is threatened by disturbance and degradation of the woodland environment and, though the extent has remained stable over the last decades on the Canary Islands and even increased in quantity in the Portuguese islands, more than a third of the habitat has suffered a moderate decrease in quality over the last 50 years. The conservation of the laurel forest itself is also essential for this habitat, which once destroyed or severely damaged needs a long time to recover.

### Synthesis

Because of the relatively small range combined with historical and continuing decline in quality, the habitat has been assigned to the category Near Threatened. The calculation of trend in quality was based only on Portuguese data, from where a reduction in quality of 35% of the area with moderate severity has been reported.

Overall Category & Criteria			
EU 28		EU 28+	
Red List Category	Red List Criteria	Red List Category	Red List Criteria
Near Threatened	B2, C/D1	Near Threatened	B2, C/D1

### Sub-habitat types that may require further examination

Subtypes have been described for Madeira, the Canary Islands and the Azores respectively, but it is not expected that any of these three subtypes is more threatened than the type as a whole.

### Habitat Type

#### Code and name

E5.2c Macaronesian thermophile woodland fringe



*Geranium palmatum* community, Madeira, Portugal (Photo: Jorge Capelo).



*Ranunculus cortusifolius* subsp. *major* dominated fringe on Madeira, Portugal (Photo: Sandra Mesquita).

## Habitat description

Perennial herbaceous communities, humus-prone although not nitrophile, of thermophile half-shade, mesophytic natural hedges and clearings of macaronesian laurel-forests [G2.3]. This habitat type is found on forest micro-sites receiving a greater amount of radiation, compared to those typical of forest conditions, but still being dependent on forest litterfall defining somewhat mesotrophic conditions. The communities often have a heterogeneous physiognomy dominated by large-flowered herbs or forbs unlike deep-shade forest understory strata. The absence of grazing pressure and nitrogen inputs from large herbivores is also mandatory for its persistence. Although it shares some floristic elements with continental Europe forest-fringe communities (E5.2a & b): e.g. *Agrimonia eupatoria*, *Brachypodium sylvaticum*, *Origanum virens*, *Carex divulsa*, *Lathyrus sylvestris*, *Clinopodium vulgare*, *Carex muricata* subsp. *lamprocarpa*, etc., this type exhibits a great wealth of macaronesian neoendemics. According to each archipelago's endemicity character, three variants can be respectively set for Madeira, the Azores and Canary Islands. That of the Azores (*Pericallion malvifoliae*) is the most floristically deviant from that shared by Madeira and the Canaries (*Ranunculo cortusifolii-Geranium canariensis*). Azorean variant is enriched from catenal contact with Azorean endemic grasslands [E1.F: *Topido azoricae-Holcetea rigidi* vegetation class]. Apart from being typical of laurel forest fringes, Canarian versions of the habitat may be also found in lower altitude subhumid canarian pinewoods [G3.8] and Madeiran versions may be found in altitude tree-heath forests [G2.7]. Catenal contacts are those with forest understory, shady fern-moss communities [*Polypodium serrati*, *Polypodietaea*] and macaronesian heath woody fringes [*Andryalo-Ericetalia arboreae* or *Frangulo-Lauretalia azoricae*].

Indicators of good quality:

Maximal coenotic saturation of communities in relation to local endemic taxa would be a criterion of habitat quality. Thus, versions of habitat having higher syntaxa elements alone [at order and class levels] are considered basal (pioneer) or disturbed versions with less conservation value. Also, as disturbance is set, invasion of the biotope by shrubs, tree-saplings or shady nitrogen-prone vegetation [*Geranio purpureae-Cardaminetalia hirsutae*, *Chenopodietaea*] lessens the value of the habitat. The habitat type is a fragile one and depends on the critical maintenance of integrity of forest conditions for protection and organic matter, including clearing persistence.

Characteristic species:

Vascular plants:

Madeira: *Dactylorhiza foliosa*, *Geranium palmatum*, *Pericallis aurita*, *Ranunculus cortusifolius* subsp. *major*, *Rumex maderensis*, *Teucrium francoi*, *Viola paradoxa*.

Azores: *Ammi seubertianum*, *Ammi trifoliatum*, *Angelica lignescens*, *Chaerophyllum azoricum*, *Lactuca watsoniana*, *Pericallis malvifolia*, *Ranunculus cortusifolius* subsp. *cortusifolius*.

Canary Islands: *Geranium canariense*, *Myosotis latifolia*, *Pericallis appendiculata*, *Pericallis cruenta*, *Pericallis echinata*, *Pericallis tussilaginis*, *Pimpinella dendrotragium*, *Ranunculus cortusifolius*, *Scrophularia smithii*.

## Classification

EUNIS:

E5.2 Thermophile woodland fringes

EuroVegChecklist (alliances):

*Ranunculo cortusifolii-Geranium canariensis* Rivas-Mart. et al. 1993

*Pericallion malvifoliae* F. Prieto et al. in F. Prieto et al. 2012

Annex 1:

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Emerald:

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MAES-2:

Woodland and forest

IUCN:

1.4 Temperate forest

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

Yes

Regions

Macaronesian

Justification

This habitat is restricted to the Macaronesian region. Its diagnostic species are endemic of Macaronesian islands, and the habitat is linked to another typical Macaronesian vegetation type, the laurel forest.

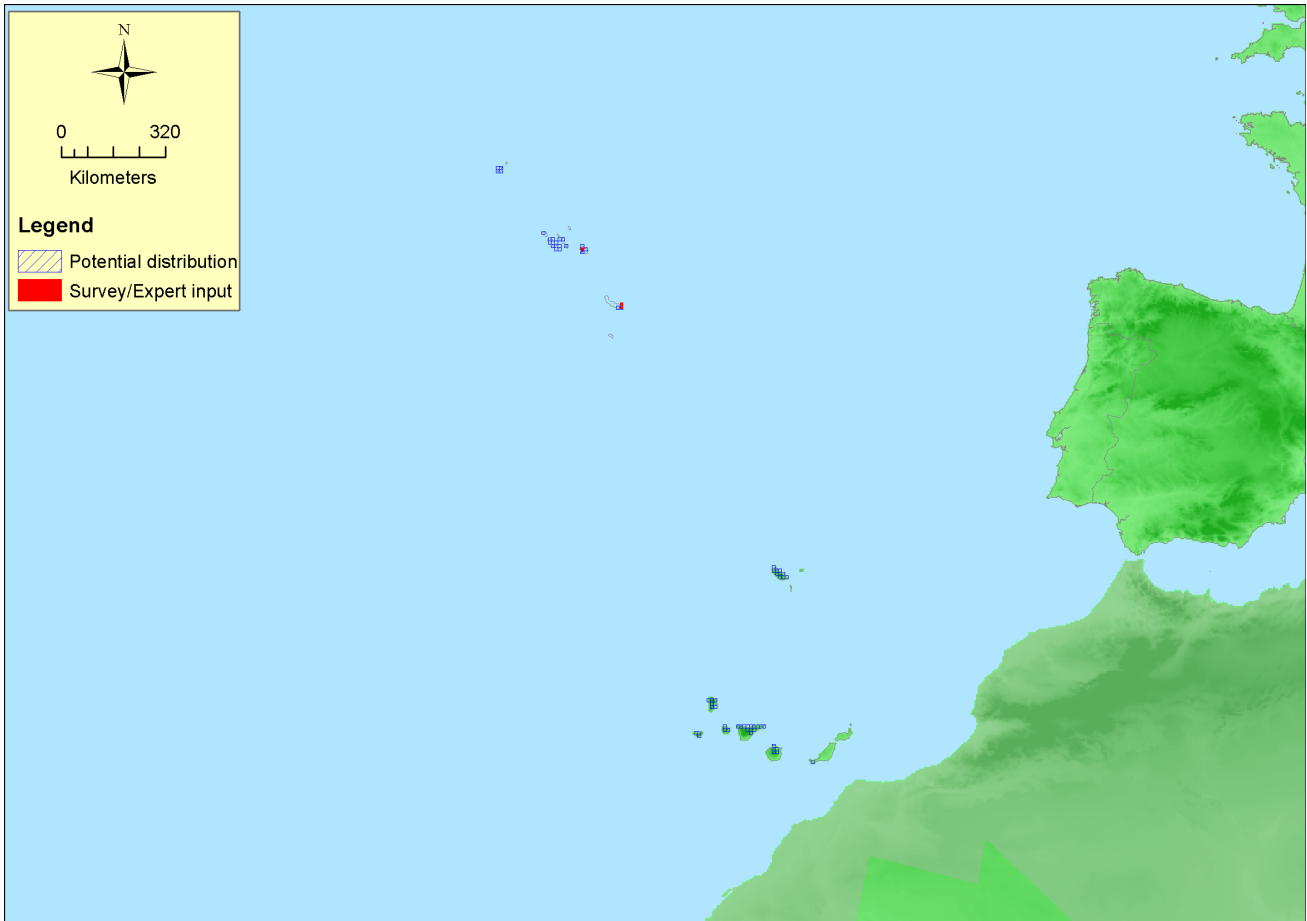
**Geographic occurrence and trends**

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>Portugal</i>	Madeira: Present Portugal Azores: Present	61 Km <sup>2</sup>	Increasing	Decreasing
<i>Spain</i>	Canary Islands: Present	Unknown Km <sup>2</sup>	Stable	Unknown

**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>	584500 Km <sup>2</sup>	69	61 Km <sup>2</sup>	
<i>EU 28+</i>	584500 Km <sup>2</sup>	69	61 Km <sup>2</sup>	

**Distribution map**



Very few locations of this habitat have been mapped (from literature), and therefore mainly the potential distribution is given based on occurrence of Laurel forest. Data sources: Art17, LIT.

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

100%. The habitat only exists in Madeira, Canary islands and Azores, so the distribution is restricted to the EU28.

### Trends in quantity

Only Portugal has reported data on the current area of the habitat, so only data from Portugal have been used for the calculation of trends in quantity. In Portuguese islands, the surface of this habitat has increased over the last 50 year from 55 to 61 km<sup>2</sup> (an increase of 11%). Spain has reported a stable trend, but no quantitative data on area. Assuming that the habitat is similarly extended in the Canary islands as in Madeira and the Azores, the average trend is about +5%. No historical trend data exists, nor any information on future trends.

- Average current trend in quantity (extent)  
EU 28: Increasing  
EU 28+: Increasing
- Does the habitat type have a small natural range following regression?

No

#### *Justification*

The range is relatively large, from the Canary Islands to the Azores. Besides, the habitat has not undergone an important decline over the last 50 years.

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

Yes

#### *Justification*

The habitat is restricted to the Canary islands, Madeira and Azores, and in these islands it only exists in small patches on the edge of humid forests (the laurel forests and moist pine forests).

## **Trends in quality**

More than a third of the area of the habitat has been subjected to moderate degradation over the last decades. The trends over larger historical periods are not known, neither the future trends. Recent degradation is related mainly to disturbance. The calculated extent of degradation in EU28 (and EU28+) is 35% with 50% severity of degradation.

- Average current trend in quality

EU 28: Decreasing

EU 28+: Decreasing

## **Pressures and threats**

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Any kind of disturbance threatens this fragile habitat, which depends on the maintenance of the integrity of forest conditions, like shade, organic matter from litterfall, and the amount of radiation. Possible disturbances include grazing pressure and nitrogen inputs from large herbivores, and intensive trampling by tourists.

### **List of pressures and threats**

#### **Agriculture**

Grazing

Intensive grazing

#### **Sylviculture, forestry**

Artificial planting on open ground (non-native trees)

#### **Transportation and service corridors**

Roads, paths and railroads

#### **Human intrusions and disturbances**

Outdoor sports and leisure activities, recreational activities

Walking, horseriding and non-motorised vehicles

## **Conservation and management**

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The conservation of the forest is essential for this habitat, as well as limiting nitrogen input in the touristic paths that cross these forests. Grazing should also be limited and conifer planting (e.g. *Cryptomeria japonica*) avoided.

### **List of conservation and management needs**

#### **Measures related to forests and wooded habitats**

Restoring/Improving forest habitats

#### **Measures related to spatial planning**

Establish protected areas/sites

Legal protection of habitats and species

Manage landscape features

## Conservation status

The habitat does not correspond to any Annex 1 type.

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

The removal of the forest causes a severe damage in the habitat, which will only be able to recover if the forest ecosystems is reconstructed again.

## Effort required

50+ years	200+ years
Through intervention	Naturally

## Red List Assessment

### Criterion A: Reduction in quantity

Criterion A	A1	A2a	A2b	A3
EU 28	+5% %	Unknown %	Unknown %	Unknown %
EU 28+	+5% %	Unknown %	Unknown %	Unknown %

The values for A1 were calculated from the territorial data provided for Portugal and Spain. There is no information on longer historical trends neither in future trends.

### Criterion B: Restricted geographic distribution

Criterion B	B1				B2				B3
	EOO	a	b	c	AOO	a	b	c	
EU 28	>50000 Km <sup>2</sup>	Yes	No	No	>50	Yes	No	No	No
EU 28+	>50000 Km <sup>2</sup>	Yes	No	No	>50	Yes	No	No	No

No precise data on EOO and AOO is available as there is little data on this type. However, the distribution of Laurel forests provides an estimate of the distribution of this habitat, and based on that the EOO is much larger than 50000 km<sup>2</sup>, but the AOO is likely to be only slightly larger than 50. Combined with a negative trend in quality, criterion B2 is assessed as Near Threatened.

### 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	35 %	50 %	Unknown %	Unknown %	Unknown %	Unknown %
EU 28+	35 %	50 %	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 overall extent and severity of degradation are the values reported from Portugal only, as no quantitative data is known from the Canary Islands. The values lead to the assessment Near Threatened for criterion C/D1. The changes in quality are both abiotic and biotic, so C/D1 has not been split into C1 and 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	NT	LC	NT	DD	DD	DD	DD	DD	DD	DD	DD	DD
EU28+	LC	DD	DD	DD	LC	NT	LC	NT	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
Near Threatened	B2, C/D1	Near Threatened	B2, C/D1

### 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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### Reviewers

J. Janssen

### Date of assessment

19/10/2015

**Date of review**

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**References**

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