

**European Community Directive
on the Conservation of Natural Habitats
and of Wild Fauna and Flora
(92/43/EEC)**

**Fourth Report by the United Kingdom
under Article 17**

on the implementation of the Directive
from January 2013 to December 2018

Supporting documentation for the
conservation status assessment for the species:

S1385 - Bruchia moss (*Bruchia vogesiaca*)

ENGLAND

IMPORTANT NOTE - PLEASE READ

- The information in this document is a country-level contribution to the UK Report on the conservation status of this species, submitted to the European Commission as part of the 2019 UK Reporting under Article 17 of the EU Habitats Directive.
- The 2019 Article 17 UK Approach document provides details on how this supporting information was used to produce the UK Report.
- The UK Report on the conservation status of this species is provided in a separate document.
- The reporting fields and options used are aligned to those set out in the European Commission guidance.
- Explanatory notes (where provided) by the country are included at the end. These provide an audit trail of relevant supporting information.
- Some of the reporting fields have been left blank because either: (i) there was insufficient information to complete the field; (ii) completion of the field was not obligatory; (iii) the field was not relevant to this species (section 12 Natura 2000 coverage for Annex II species) and/or (iv) the field was only relevant at UK-level (sections 9 Future prospects and 10 Conclusions).
- For technical reasons, the country-level future trends for Range, Population and Habitat for the species are only available in a separate spreadsheet that contains all the country-level supporting information.
- The country-level reporting information for all habitats and species is also available in spreadsheet format.

Visit the JNCC website, <https://jncc.gov.uk/article17>, for further information on UK Article 17 reporting.

Report on the main results of the surveillance under Article 11 for Annex II, IV and V species (Annex B)

NATIONAL LEVEL

1. General information

1.1 Member State	UK (England information only)
1.2 Species code	1385
1.3 Species scientific name	Bruchia vogesiaca
1.4 Alternative species scientific name	
1.5 Common name (in national language)	Bruchia moss

2. Maps

2.1 Sensitive species	No
2.2 Year or period	2013-2018
2.3 Distribution map	No
2.4 Distribution map Method used	Insufficient or no data available
2.5 Additional maps	No

3. Information related to Annex V Species (Art. 14)

3.1 Is the species taken in the wild/exploited?	No	
3.2 Which of the measures in Art. 14 have been taken?	a) regulations regarding access to property	No
	b) temporary or local prohibition of the taking of specimens in the wild and exploitation	No
	c) regulation of the periods and/or methods of taking specimens	No
	d) application of hunting and fishing rules which take account of the conservation of such populations	No
	e) establishment of a system of licences for taking specimens or of quotas	No
	f) regulation of the purchase, sale, offering for sale, keeping for sale or transport for sale of specimens	No
	g) breeding in captivity of animal species as well as artificial propagation of plant species	No
	h) other measures	No

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3.3 Hunting bag or quantity taken in the wild for Mammals and Acipenseridae (Fish)

a) Unit

b) Statistics/ quantity taken	Provide statistics/quantity per hunting season or per year (where season is not used) over the reporting period					
	Season/ year 1	Season/ year 2	Season/ year 3	Season/ year 4	Season/ year 5	Season/ year 6
Min. (raw, ie. not rounded)						
Max. (raw, ie. not rounded)						
Unknown	No	No	No	No	No	No

3.4. Hunting bag or quantity taken in the wild Method used

3.5. Additional information

BIOGEOGRAPHICAL LEVEL

4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs

Atlantic (ATL)

4.2 Sources of information

British Bryological Society, 2018. Database to the end of 2017.
 Callaghan, D. 2016. Where is *Bruchia vogesiaca*? *Field Bryology* 116, 2-5.
 Callaghan, D. 2015. Survey of *Bruchia vogesiaca* on Bodmin Moor, Cornwall. Report to Natural England.
 Porley, R.D. 2013. *Bruchia vogesiaca* account in England's Rare Mosses and Liverworts, Princeton University Press, Oxfordshire.
 Blockeel, T.L., Bosanquet, S.D.S., Hill, M.O. & Preston, C.D. 2014. *Atlas of British & Irish Bryophytes*. Pisces Publications, Newbury.

5. Range

5.1 Surface area (km²)

0

5.2 Short-term trend Period

2013-2018

5.3 Short-term trend Direction

Unknown (x)

5.4 Short-term trend Magnitude

a) Minimum b) Maximum

5.5 Short-term trend Method used

Based mainly on extrapolation from a limited amount of data

5.6 Long-term trend Period

5.7 Long-term trend Direction

5.8 Long-term trend Magnitude

a) Minimum b) Maximum

5.9 Long-term trend Method used

5.10 Favourable reference range

a) Area (km²)
b) Operator

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	c) Unknown d) Method	x The FRR for this species is Unknown, because there is insufficient information to set an FRR value. For further information see the 2019 Article 17 UK Approach document.
5.11 Change and reason for change in surface area of range	No change The change is mainly due to:	
5.12 Additional information	There is no distribution map or range surface area calculation for this species because the species was not found when it was last surveyed in 2015. This species was only recorded in the UK in 2006 and 2007, when a very small population was observed in the UK. However, the species was not reported on in 2007. This population has now been lost due to natural erosion. Searches in 2009, 2011 and 2015 have not re-located the species (the 2015 survey was a specific project to search for the species). The species is very small and inconspicuous, and it is possible that it still occurs in the UK.	

6. Population

6.1 Year or period	2013-2018	
6.2 Population size (in reporting unit)	a) Unit b) Minimum c) Maximum d) Best single value	number of map 1x1 km grid cells (grids1x1) 0
6.3 Type of estimate	Minimum	
6.4 Additional population size (using population unit other than reporting unit)	a) Unit b) Minimum c) Maximum d) Best single value	
6.5 Type of estimate		
6.6 Population size Method used	Based mainly on extrapolation from a limited amount of data	
6.7 Short-term trend Period	2013-2018	
6.8 Short-term trend Direction	Unknown (x)	
6.9 Short-term trend Magnitude	a) Minimum b) Maximum c) Confidence interval	
6.10 Short-term trend Method used	Based mainly on extrapolation from a limited amount of data	
6.11 Long-term trend Period		
6.12 Long-term trend Direction		
6.13 Long-term trend Magnitude	a) Minimum b) Maximum c) Confidence interval	

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6.14 Long-term trend Method used

6.15 Favourable reference population (using the unit in 6.2 or 6.4)

- a) Population size
- b) Operator
- c) Unknown
- d) Method

x

The FRP for this species is Unknown, because there is insufficient information to set an FRP value. For further information see the 2019 Article 17 UK Approach document.

6.16 Change and reason for change in population size

No change

The change is mainly due to:

6.17 Additional information

This species was only recorded in the UK in 2006 and 2007, when a very small population was observed. This population has now been lost due to natural erosion. Searches in 2009, 2011 and 2015 have not re-located the species (the 2015 survey was a specific project to search for the species). The species is very small and inconspicuous, and it is possible that it still occurs in the UK.

7. Habitat for the species

7.1 Sufficiency of area and quality of occupied habitat

a) Are area and quality of occupied habitat sufficient (to maintain the species at FCS)?

Unknown

b) Is there a sufficiently large area of occupied AND unoccupied habitat of suitable quality (to maintain the species at FCS)?

Yes

7.2 Sufficiency of area and quality of occupied habitat Method used

Based mainly on extrapolation from a limited amount of data

7.3 Short-term trend Period

2013-2018

7.4 Short-term trend Direction

Unknown (x)

7.5 Short-term trend Method used

Based mainly on extrapolation from a limited amount of data

7.6 Long-term trend Period

7.7 Long-term trend Direction

7.8 Long-term trend Method used

7.9 Additional information

8. Main pressures and threats

8.1 Characterisation of pressures/threats

Pressure	Ranking
Extensive grazing or undergrazing by livestock (A10)	M
Agricultural activities generating air pollution (A27)	M
Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices) (L02)	M
Conversion to forest from other land uses, or afforestation (excluding drainage) (B01)	M

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Threat	Ranking
Extensive grazing or undergrazing by livestock (A10)	H
Agricultural activities generating air pollution (A27)	M
Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices) (L02)	M
Conversion to forest from other land uses, or afforestation (excluding drainage) (B01)	M

8.2 Sources of information

8.3 Additional information

9. Conservation measures

9.1 Status of measures

- a) Are measures needed? Yes
- b) Indicate the status of measures Measures identified and taken

9.2 Main purpose of the measures taken

Maintain the current range, population and/or habitat for the species

9.3 Location of the measures taken

Both inside and outside Natura 2000

9.4 Response to the measures

Medium-term results (within the next two reporting periods, 2019-2030)

9.5 List of main conservation measures

Maintain existing extensive agricultural practices and agricultural landscape features (CA03)

9.6 Additional information

The preferred habitat for *Bruchia vogesiaca* is cattle-poached ground on wet peaty soil. Both the site where the moss was found in 2006 and 2007, and much of the surrounding area is a Site of Special Scientific Interest (SSSI), which provides protection for the habitats necessary for species' survival. Grazing management information is included within the Favourable Condition tables for Bodmin Moor, North SSSI.

10. Future prospects

10.1 Future prospects of parameters

- a) Range Unknown
- b) Population Unknown
- c) Habitat of the species Unknown

10.2 Additional information

Future trend of Range is Unknown; Future trend of Population is Unknown; and Future trend of Habitat for the species is Overall stable. For further information on how future trends inform the Future Prospects conclusion see the 2019 Article 17 UK Approach document.

11. Conclusions

11.1. Range

Unknown (XX)

11.2. Population

Unknown (XX)

11.3. Habitat for the species

Favourable (FV)

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11.4. Future prospects	Unknown (XX)
11.5 Overall assessment of Conservation Status	Unknown (XX)
11.6 Overall trend in Conservation Status	
11.7 Change and reasons for change in conservation status and conservation status trend	<p>a) Overall assessment of conservation status</p> <p>No change</p> <p>The change is mainly due to:</p> <p>b) Overall trend in conservation status</p> <p>No change</p> <p>The change is mainly due to:</p>
11.8 Additional information	<p>Conclusion on Range reached because: (i) the short-term trend direction in Range surface area is unknown; and (ii) the current Range surface area is unknown.</p> <p>Conclusion on Population reached because: (i) the short-term trend direction in Population size is unknown; and (ii) the current Population size is unknown.</p> <p>Conclusion on Habitat for the species reached because: (i) the area of occupied and unoccupied habitat is sufficiently large and (ii) the habitat quality is suitable for the long-term survival of the species; and (iii) the short-term trend in area of habitat is unknown.</p> <p>Conclusion on Future prospects reached because: the Future prospects for Range, Population and Habitat for the species are unknown.</p> <p>Overall assessment of Conservation Status is Unknown because three of the conclusions are Unknown. Overall trend in Conservation Status is based on the combination of the short-term trends for Range – unknown, Population – unknown, and Habitat for the species – unknown.</p> <p>Overall assessment of Conservation Status for this species has not changed since 2013.</p> <p>Overall Trend in Conservation Status for this species has not changed since 2013.</p>

12. Natura 2000 (pSCIs, SCIs and SACs) coverage for Annex II species

12.1 Population size inside the pSCIs, SCIs and SACs network (on the biogeographical/marine level including all sites where the species is present)	<p>a) Unit number of map 1x1 km grid cells (grids1x1)</p> <p>b) Minimum</p> <p>c) Maximum</p> <p>d) Best single value 0</p>
12.2 Type of estimate	Minimum
12.3 Population size inside the network Method used	Based mainly on extrapolation from a limited amount of data

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12.4 Short-term trend of population size within the network Direction

Unknown (x)

12.5 Short-term trend of population size within the network Method used

Based mainly on extrapolation from a limited amount of data

12.6 Additional information

Only recorded in England in 2006 and 2007, when a very small population was observed on an eroding river bank on Bodmin Moor. This population has now been lost due to natural erosion, and despite careful searches in 2009, 2011 and 2015 the species has not been re-found. The moss is however very small and inconspicuous, and it is possible that it still occurs in the Bodmin Moor area.

13. Complementary information

13.1 Justification of % thresholds for trends

13.2 Trans-boundary assessment

13.3 Other relevant Information

Bruchia vogesiaca was not reported on in the UK in 2007. The species was not found at its previous location during a survey in 2011. This is a rare ephemeral shuttle species, spending most of its time as a component of the spore bank, and only occasionally germinating when conditions are appropriate. The species is site faithful, having large long-lived spores that are poorly dispersed.

Explanatory Notes

Species name: *Bruchia vogesiaca* (1385)

Field label	Note
2.1 Sensitive species	<i>Bruchia vogesiaca</i> is an inconspicuous species with no records in England since 2007, and is not threatened by collection.
2.2 Year or Period	2013-2018, but a full survey for the species was carried out in 2015 only, and before that in 2009 and 2011.
2.3 Distribution map	No records in the current reporting period, so map for England blank. The moss has not been seen at its single former English locality on Bodmin Moor where it was last recorded in 2007, despite searches for it in 2009, 2011 and 2015.

Species name: *Bruchia vogesiaca* (1385) Region code: ATL

Field label	Note
5.3 Short term trend; Direction	There are no records in England for the species during the reporting period.
5.11 Change and reason for change in surface area of range	Only recorded in England in 2006 and 2007, when a very small population was observed on an eroding river bank on Bodmin Moor. This population has now been lost due to natural erosion, and despite searches in 2009, 2011 and 2015 the species has not been re-found. The moss is however very small and inconspicuous, and it is possible that it still occurs in the Bodmin Moor area.
6.1 Year or Period	2013-2018, but within this reporting period a survey for the species occurred only in 2015.
6.2 Population size	No records at the site in England since 2007, despite searches in 2009, 2011 and 2015.
6.6 Population size; Method used	Searched for in 2009, 2011 and 2015, but not found during any of these searches.
6.8 Short term trend; Direction	<i>Bruchia vogesiaca</i> has not been recorded in England since 2007, and it is possible that it may be extinct here. However it is not currently possible to be certain regarding this, as it is a very small and inconspicuous species, and it may still occur somewhere in the Bodmin Moor area.
7.1 Sufficiency of area and quality of occupied habitat	<i>Bruchia vogesiaca</i> favours cattle-poached ground on wet peaty soil, and the Bodmin Moor area still contains sufficient area and quality of this type of habitat suitable for the species.
7.2 Sufficiency of area and quality of occupied habitat; Method used	The 2015 survey for the species observed sufficient areas of cattle-poached wet peaty ground suitable for this small moss. Both the site where the moss occurred in 2006 and 2007 and much of the surrounding area is SSSI, which provides protection for the habitats.
9.1 Status of measures	Both the site where <i>Bruchia vogesiaca</i> occurred in 2006 and 2007 and much of the surrounding area is SSSI, which provides protection for the habitats.
9.5 List of main conservation measures	The preferred habitat for <i>Bruchia vogesiaca</i> is cattle-poached ground on wet peaty soil. Both the site where the moss was found in 2006 and 2007, and much of the surrounding area is SSSI, which provides protection for the habitats. Grazing management is included within the Favourable Conservation Tables for Bodmin Moor, North SSSI.

10.1 Future prospects of parameters

Bruchia vogesiaca has not been recorded in England since 2007, and it is possible that it may be extinct here. However it is not currently possible to be certain regarding this, as it is a very small and inconspicuous species, and it may still occur somewhere in the Bodmin Moor area. If the species does still survive in England then there is sufficient suitable habitat for it in the Bodmin Moor area.

12.1 Population size inside the pSCIs, SCIs and SACs network

Bruchia vogesiaca has not been recorded in England since 2007.
