

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

0.1 Member State	GR
0.2.1 Species code	1386
0.2.2 Species name	<b>Buxbaumia viridis</b>
0.2.3 Alternative species scientific name	N/A
0.2.4 Common name	N/A

## 1. National Level

### 1.1 Maps

1.1.1 Distribution Map	Yes
1.1.1a Sensitive species	Yes
1.1.2 Method used - map	Estimate based on partial data with some extrapolation and/or modelling (2)
1.1.3 Year or period	2008-2012
1.1.4 Additional map	No
1.1.5 Range map	Yes

## 2. Biogeographical Or Marine Level

### 2.1 Biogeographical Region

#### Mediterranean (MED)

### 2.2 Published sources

Papp, B., Erzberger, P. and Tsakiri, E. 2011. Contributions to the bryophyte flora of Voras (Nidže) Mts (Greece and the Former Yugoslav Republic of Macedonia). *Studia botanica hungarica* 42:51-76.

Geissler, P. 1977. Zur Moos- und Flechtenflora Nordgriechenlands. *Bauhinia* 6(1):189-213.

Tsakiri, E., Papp, B. and Blockeel T. 2009. *Buxbaumia viridis* (Moug. Ex lam. & DC) Brid. Ex Moug. & Nestl. Endangered (EN), In: The Red Data Book of rare and threatened plants of Greece, vol 1 (A-D), D. Phitos, T. Constantinidis & G. Kamari (Eds), pp. 166-168, Hellenic Botanical Society, ISBN 9789609407113, Patras, Greece (in Greek).

### 2.3 Range

2.3.1 Surface area - Range (km <sup>2</sup> )	600
2.3.2 Method - Range surface area	Estimate based on partial data with some extrapolation and/or modelling (2)
2.3.3 Short-term trend period	2002-2012
2.3.4 Short-term trend direction	stable (0)
2.3.5 Short-term trend magnitude	min max
2.3.6 Long-term trend period	
2.3.7 Long-term trend direction	N/A
2.3.8 Long-term trend magnitude	min max
2.3.9 Favourable reference range	area (km <sup>2</sup> ) operator approximately equal to (≈) unkown No method The Favourable Reference Range is based on the species' historical and current distribution. Its presence has been verified in 4 cells, while its presence is also considered certain by expert's opinion in 2 more cells.
2.3.10 Reason for change	Improved knowledge/more accurate dataUse of different method

### 2.4 Population

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2.4.1 Population size (individuals or agreed exception)	Unit	number of individuals (i)		
	min	100	max	200
2.4.2 Population size (other than individuals)	Unit	N/A		
	min		max	
2.4.3 Additional information	Definition of locality Conversion method Problems			
2.4.4 Year or period	2010			
2.4.5 Method – population size	Estimate based on partial data with some extrapolation and/or modelling (2)			
2.4.6 Short-term trend period				
2.4.7 Short term trend direction	unknown (x)			
2.4.8 Short-term trend magnitude	min		max	confidence interval
2.4.9 Short-term trend method	Absent data (0)			
2.4.10 Long-term trend period				
2.4.11 Long term trend direction	N/A			
2.4.12 Long-term trend magnitude	min		max	confidence interval
2.4.13 Long-term trend method	N/A			
2.4.14 Favourable reference population	number			
	operator	approximately equal to (≈)		
	unknown	No		
	method	The Favourable reference population is defined as larger than the size of the three populations on Mt Voras, the size of which has been estimated.		
2.4.15 Reason for change	Improved knowledge/more accurate data			

## 2.5 Habitat for the Species

2.5.1 Surface area - Habitat (km <sup>2</sup> )	15
2.5.2 Year or period	2012
2.5.3 Method used - habitat	Complete survey/Complete survey or a statistically robust estimate (3)
2.5.4 a) Quality of habitat	Bad
2.5.4 b) Quality of habitat - method	The habitat of the species is apparently undisturbed in two of the areas it was found. However in one of the surveyed areas the habitat was heavily disturbed.
2.5.5 Short term trend period	2001-2012
2.5.6 Short term trend direction	unknown (x)
2.5.7 Long-term trend period	
2.5.8 Long term trend direction	N/A
2.5.9 Area of suitable habitat (km <sup>2</sup> )	0
2.5.10 Reason for change	Improved knowledge/more accurate data Use of different method

## 2.6 Main Pressures

Pressure	ranking	pollution qualifier(s)
forestry clearance (B02.02)	high importance (H)	N/A
removal of dead and dying trees (B02.04)	high importance (H)	N/A
Other human intrusions and disturbances (G05)	high importance (H)	N/A
Forestry activities not referred to above (B07)	high importance (H)	N/A

2.6.1 Method used – pressures based exclusively or to a larger extent on real data from sites/occurrences or other

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## 2.7 Main Threats

Threat	ranking	pollution qualifier(s)
forestry clearance (B02.02)	high importance (H)	N/A
removal of dead and dying trees (B02.04)	high importance (H)	N/A
Forestry activities not referred to above (B07)	high importance (H)	N/A
Other human intrusions and disturbances (G05)	high importance (H)	N/A

2.7.1 Method used – threats expert opinion (1)

## 2.8 Complementary Information

### 2.8.1 Justification of % thresholds for trends

### 2.8.2 Other relevant Information

Three localities were known on Mt Voras where *Buxbaumia viridis* was found a few years ago (2010). At two of these areas, conditions, environmental and general habitat conditions were excellent and favourable for the species growth. There were also enough old logs (cut and fallen trees), under sufficient levels of decomposition, offering suitable substrate for the species' growth. On most of the logs there were also bryophyte species known to grow together with *Buxbaumia* since they have similar growth needs (e.g. *Herzogiella seligeri*, etc). But, *Buxbaumia viridis* was not found in either locality in 2014. There had been no available data on *Buxbaumia* from the area of Mt Voras before 2010. In addition, information on the biological requirements for the species to complete its life cycle is restricted. It is not known whether the species appears regularly every year and completes its cycle (something that can be verified in the field only when it forms capsules), or which are the parameters (if any) that affect this procedure. Thus, failing to find it at these two localities, in 2014, does not imply its disappearance from the area. The species could have been there, growing on the logs but with no developed capsules, without which it is impossible to be recognised. Only further and detailed research can provide more information. At the third place on Mt Voras, a new forestry road destroyed most of the old habitat; the surrounding area was also searched in 2014, but *Buxbaumia viridis* was not found.

Also one more fact should be noted: the species is threatened by the removal of the fallen trees. During the sampling on Mt Voras, individuals were seen removing parts of fallen trees. The wood was used at a nearby recreation/camping area as fire fuel. It was noticed that there had been efforts to remove even the bases of the trees, which are normally left after organized cuttings from the Forestry Service. Without the fallen trees (or the tree bases after logging) being left in place to decompose, the highly specialized substrate, necessary for the growth of *Buxbaumia viridis*, disappears.

Additionally to the research for *Buxbaumia viridis* on Mt Voras, research was also conducted at the nearby Mt Tzena and Mt Paiko in 2014. It's the first time that these mountains are being searched for *Buxbaumia viridis*. During this first attempt, a number of sites were found with suitable habitats and conditions similar to those needed for the growth of *Buxbaumia viridis*. At these sites, the bryophytes species which are usually found growing together with *Buxbaumia* and have similar growth needs (e.g. *Herzogiella seligeri*, etc) were also found on the decomposing logs. Despite the above, *Buxbaumia viridis* was not found this time on Mt Tzena and Mt Paiko; no capsules were detected. Further search is necessary.

Note on 2.4.1. The minimum population reported (100 individuals) corresponds to population counts on Mt Voras in 2010. A rough estimation of the maximum

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population on Mt Voras is 150 individuals. A rough estimation of the maximum population at the remaining two localities on Mt Varnous and Mt Rodopi (Elatia) is 50 individuals. Thus, the maximum population reported is 200 individuals.

## 2.8.3 Trans-boundary assessment

## 2.9 Conclusions (assessment of conservation status at end of reporting period)

2.9.1 Range	assessment Favourable (FV) qualifiers N/A
2.9.2. Population	assessment Unknown (XX) qualifiers N/A
2.9.3. Habitat	assessment Bad (U2) qualifiers declining (-)
2.9.4. Future prospects	assessment Unknown (XX) qualifiers N/A
2.9.5 Overall assessment of Conservation Status	Bad (U2)
2.9.5 Overall trend in Conservation Status	unknown (x)

## 3. Natura 2000 coverage and conservation measures - Annex II species

### 3.1 Population

3.1.1 Population Size	Unit number of individuals (i) min 100 max 200
3.1.2 Method used	Estimate based on partial data with some extrapolation and/or modelling (2)
3.1.3 Trend of population size within	N/A

### 3.2 Conversation Measures

3.2.1 Measure	3.2.2 Type	3.2.3 Ranking	3.2.4 Location	3.2.5 Broad Evaluation
Establish protected areas/sites (6.1)	Legal One-off	high importance (H)	Inside	Enhance Long term
Legal protection of habitats and species (6.3)	Legal	high importance (H)	Inside	Long term
Regulation/ Management of hunting and taking (7.1)	Legal	high importance (H)	Inside	Long term