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	**GR**
1.2 Species code	**1386**
1.3 Species scientific name	**Buxbaumia viridis**
1.4 Alternative species scientific name	
1.5 Common name (in national language)	

2. Maps

2.1 Sensitive species	Yes
2.2 Year or period	2015
2.3 Distribution map	Yes
2.4 Distribution map Method used	Based mainly on extrapolation from a limited amount of data
2.5 Additional maps	Yes

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

Mediterranean (MED)

4.2 Sources of information

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).

5. Range

5.1 Surface area: 600

5.2 Short-term trend Period: 2007-2018

5.3 Short-term trend Direction: Stable (0)

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	Approximately equal to (≈)
	c) Unknown	
	d) 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.
5.11 Change and reason for change in surface area of range	No change	
	The change is mainly due to:	
5.12 Additional information		

6. Population

6.1 Year or period	2015	
6.2 Population size (in reporting unit)	a) Unit	number of map 1x1 km grid cells (grids1x1)
	b) Minimum	
	c) Maximum	
	d) Best single value	565
6.3 Type of estimate	Best estimate	
6.4 Additional population size (using population unit other than reporting unit)	a) Unit	number of individuals (i)
	b) Minimum	100
	c) Maximum	200
	d) Best single value	
6.5 Type of estimate	Best estimate	
6.6 Population size Method used	Based mainly on extrapolation from a limited amount of data	
6.7 Short-term trend Period	2007-2018	
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	Insufficient or no data available	
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	
6.14 Long-term trend Method used		

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6.15 Favourable reference population (using the unit in 6.2 or 6.4)	a) Population size b) Operator c) Unknown d) Method	 Approximately equal to (≈) 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.
6.16 Change and reason for change in population size	No change The change is mainly due to:	
6.17 Additional information	The population size in 6.2.d has been calculated in GIS using spatial information from the distribution data (10x10 km or smaller grids if additional data were available). Following the conversion of the available data in 1x1 km grid unit, marine or terrestrial grid cells have been deleted and thus excluded from the calculation, depending on the biogeographical region where the species occurs (MED or MMED, respectively).	

7. Habitat for the species

7.1 Sufficiency of area and quality of occupied habitat	a) Are area and quality of occupied habitat sufficient (for long-term survival)?	No
	b) Is there a sufficiently large area of unoccupied habitat of suitable quality (for long-term survival)?	Unknown
7.2 Sufficiency of area and quality of occupied habitat Method used	Complete survey or a statistically robust estimate	
7.3 Short-term trend Period	2007-2018	
7.4 Short-term trend Direction	Unknown (x)	
7.5 Short-term trend Method used	Insufficient or no data available	
7.6 Long-term trend Period		
7.7 Long-term trend Direction		
7.8 Long-term trend Method used		
7.9 Additional information	The surface area of the habitat is estimated at 15 km2 and its quality is bad. 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.	

8. Main pressures and threats

8.1 Characterisation of pressures/threats

Pressure	Ranking
Clear-cutting, removal of all trees (B09)	H
Other human intrusions and disturbance not mentioned above (H08)	H
Other forestry activities, excluding those relating to agro-forestry (B29)	H
Removal of dead and dying trees, including debris (B07)	H

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Threat	Ranking
Clear-cutting, removal of all trees (B09)	H
Other human intrusions and disturbance not mentioned above (H08)	H
Other forestry activities, excluding those relating to agro-forestry (B29)	H
Removal of dead and dying trees, including debris (B07)	H

8.2 Sources of information	PRESSURES: Based exclusively or to a larger extent on real data from sites/occurrences or other data sources. THREATS: Based on expert opinion.
8.3 Additional information	

9. Conservation measures

9.1 Status of measures	a) Are measures needed?	Yes
	b) Indicate the status of measures	Measures needed but cannot be identified
9.2 Main purpose of the measures taken		
9.3 Location of the measures taken		
9.4 Response to the measures		
9.5 List of main conservation measures		

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9.6 Additional information

10. Future prospects

10.1 Future prospects of parameters	a) Range	Good
	b) Population	Unknown
	c) Habitat of the species	Unknown
10.2 Additional information		

11. Conclusions

11.1. Range	Favourable (FV)
11.2. Population	Unknown (XX)
11.3. Habitat for the species	Unfavourable - Bad (U2)
11.4. Future prospects	Unknown (XX)
11.5 Overall assessment of Conservation Status	Unfavourable - Bad (U2)
11.6 Overall trend in Conservation Status	Unknown (x)

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11.7 Change and reasons for change in conservation status and conservation status trend	a) Overall assessment of conservation status No change The change is mainly due to: b) Overall trend in conservation status No change The change is mainly due to:
11.8 Additional information	

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)	a) Unit	number of map 1x1 km grid cells (grids1x1)
	b) Minimum	
	c) Maximum	
	d) Best single value	414
12.2 Type of estimate	Best estimate	
12.3 Population size inside the network Method used	Based mainly on extrapolation from a limited amount of data	
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	Insufficient or no data available	
12.6 Additional information	The change in 12.1 (in comparison to the previous report) is mainly due to the recent update of the Greek Natura 2000 Database (extended areas of current Natura 2000 sites and newly proposed SCIs) and also (in cases of absent data or mandatory population unit 1x1 grid) to a different approach/method used for the calculation of the population size in GIS.	

13. Complementary information

13.1 Justification of % thresholds for trends	
13.2 Trans-boundary assessment	
13.3 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 regurarly

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 threre 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 6.2. The minimum population reported (100 individuals) corresponds to population counts on Mt Voras in 2010. A rough estimation of the maximum 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.