



Drepanocladus vernicosus

Annex	II
Priority	No
Species group	Non-vascular plants
Regions	Alpine, Atlantic, Boreal, Continental, Mediterranean

Drepanocladus vernicosus (syn *Hamatocaulis vernicosus*) is a medium-sized pleurocarpous wetland moss (in recent most floras named *Hamatocaulis vernicosus*). It is a species which is widely distributed across Europe. It is usually found on open, spring-influenced fens, shores of lakes and watercourses. The habitat is mineral-rich, but the calcium levels are usually not very high. Threats include changes in the use of wetlands and changes in the groundwater influencing these.

D. vernicosus is reported from 23 member states and redlisted in 16 of these.

D. vernicosus is a species where sporophytes are very rare and this is true for all member states. Specialised vegetative propagules are unknown, thus asexual reproduction must be the means of propagation and dispersal through gametophytic fragmentation.

There are two clades within this species from DNA sequence analysis. The first clade included specimens from Southern Sweden, Denmark, Austria, Switzerland, Northern Italy, Central Spain, Britain, Russia and Peru, while the second clade was found in specimens from northern Sweden, USA, Poland, Southern Sweden, Denmark, Switzerland and Austria. No difference in morphology was discernible between the two clades. It is not known to which clade the Irish populations belong.

There is now quite a large amount of information available on the distribution of *D. vernicosus* in individual European countries: Czech Republic: declined somewhat and as of 2012, *D. vernicosus* has been recorded at 54 localities in the Czech Republic, while its occurrence was not verified at 75. France: several localities in the east and south, but has apparently disappeared from many other areas, particularly the west of the country. There have been a decline in the past century due to degradation of wetlands and changes in agricultural practice (e.g. abandonment of wet meadows) including intensification. Germany: a range map shows *D. vernicosus* occurring in eastern and southern Germany, but not in the west (2006). Spain: known from five localities, two in Avila, one in Madrid and two in Zamora, all other specimens having been misidentified (Heras & Infante, 2000). Here, the species is decreasing "because of excessive cattle rearing As a result of grazing and constant mechanical disturbance by the cattle, these areas become drained and eutrophicated, while the vegetation is gradually transformed into pasture". United Kingdom: as of 2006, it was present in 13 10 km² squares in Scotland, 6 in England and 30 in Wales, where it is locally frequent (2007). However it has declined substantially in some areas (notably northern and southern England), and is almost certainly extinct in East Anglia.

It is assessed as "Unfavourable Inadequate" from Alpine, Atlantic, Boreal and Mediterranean region and "Unfavourable Bad" from Continental region. The trend is negative in Alpine, Continental and Mediterranean region and stable in Atlantic and Boreal region.

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The main threats are drainage of wetlands, abandonment of grazing and mowing in wet meadows and nitrogen deposition.

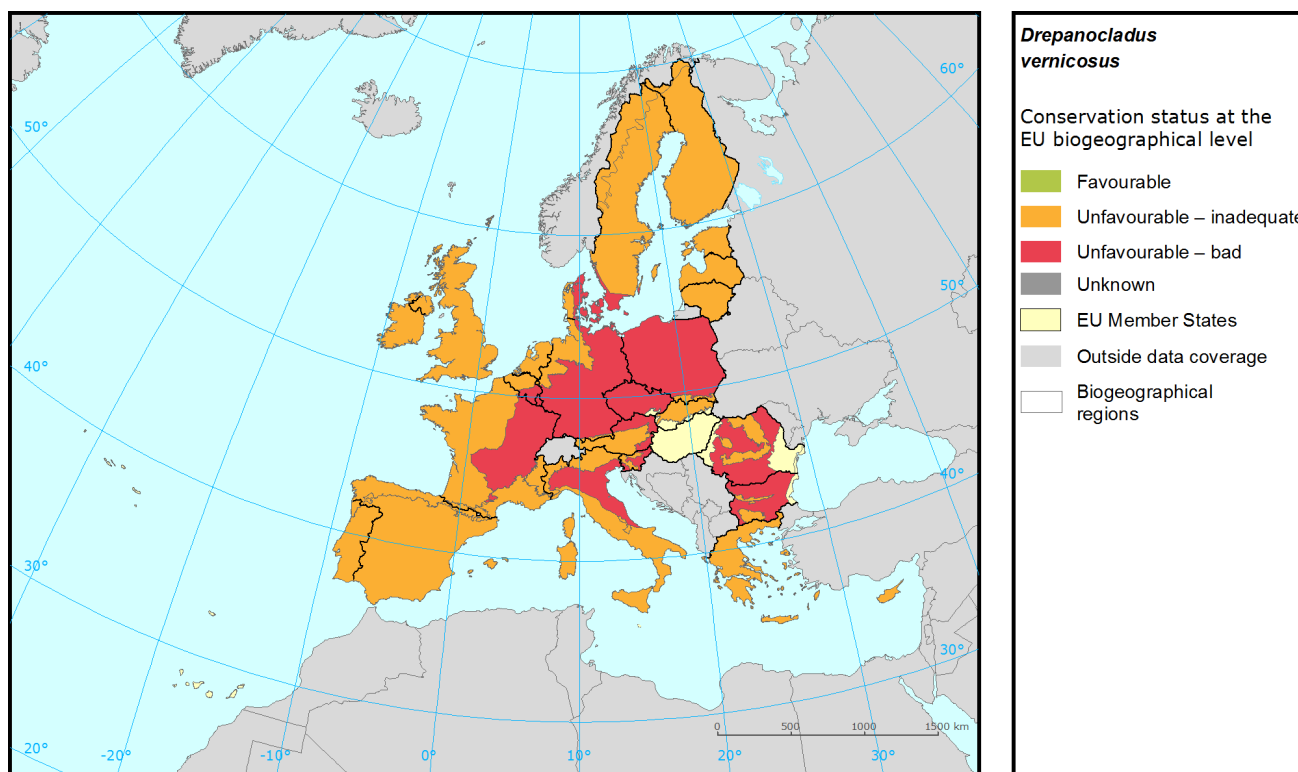
Changes in overall conservation status between 2001-06 and 2007-12 report are mostly caused by different methodical approach and better data rather than real change in conservation status in Alpine, Atlantic and Mediterranean region. No changes in overall conservation status between 2001-06 and 2007-12 reports in Boreal and Continental region.

Better data is required from France, Germany, Italy, Slovenia and Spain.

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Assessment of conservation status at the European biogeographical level



Region	Conservation status (CS) of parameters				Current CS	Trend in CS	% in region	Previous CS	Reason for change
	Range	Population	Habitat	Future prospects					
ALP	U1	U1	U1	U1	U1	-	24	XX	Not genuine
ATL	U1	U1	FV	FV	U1	=	9	FV	Not genuine
BOR	FV	FV	U1	U1	U1	=	48	U1	
CON	U2	U2	U1	U1	U2	-	19	U2	
MED	FV	U1	U1	U1	U1	-	0.64	XX	Not genuine

See the endnote for more informationⁱ

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





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Assessment of conservation status at the Member State level



Drepanocladus vernicosus

Distribution and conservation status at the Member State level

- | | |
|---|--|
|  Favourable |  EU Member States |
|  Unfavourable – inadequate |  Outside data coverage |
|  Unfavourable – bad |  Biogeographical region |
|  Unknown | |

The map shows both Conservation Status and distribution using a 10 km x 10 km grid. Conservation status is assessed at biogeographical level. Therefore the representation in each grid cell is only illustrative.

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MS	Region	Conservation status of parameters				Current CS	Trend in CS	% in region	Previous CS	Reason for change
		Range	Population	Habitat	Future prospects					
AT	ALP	U1	U1	U1	U1	=	23.4	U2		
BG	ALP	FV	FV	FV	U1	=	38.3			
DE	ALP	XX	XX	XX	XX		1.0	U1	Changed method	
ES	ALP	U2	U2	XX	XX	-		XX	Changed method	
FI	ALP	FV	FV	FV	FV		3.1	XX	Better data	
FR	ALP	XX	U1	XX	XX	x	4.7	U2	Better data	
IT	ALP	XX	XX	XX	XX		3.1	U1	Changed method	
PL	ALP	U1	U2	U2	U2	=	1.4	U1	Genuine	
RO	ALP	FV	FV	FV	FV		4.4			
SE	ALP	FV	FV	FV	FV		10.5	FV		
SI	ALP	FV	XX	U1	U1	-	2.4	U1		
SK	ALP	U1	U1	U1	U1	=	7.8	XX	Better data	
BE	ATL	U2	U2	U2	U2	=	0.9	U2		
DE	ATL	U2	U2	U2	U2	-	0.9			
DK	ATL	U1	U2	U2	U2	x	3.7	U2	Better data	
ES	ATL	FV	XX	U1	U1	=	1.9			
IE	ATL	FV	FV	FV	FV		10.3	FV		
NL	ATL	U2	U2	FV	U2	+	2.8	U2	Genuine	
UK	ATL	FV	FV	FV	FV		79.4	FV		
EE	BOR	FV	FV	FV	FV		5.2	FV		
FI	BOR	FV	FV	U1	U1	=	28.7	U1		
LT	BOR	FV	U1	U1	XX	=	5.8	U1		
LV	BOR	U1	U1	FV	FV	=	11.5	FV	Better data	
SE	BOR	FV	FV	FV	FV		48.8	U2	Better data	
AT	CON	U2	U2	U1	U1	x	2.9	U2		
BE	CON	U2	U2	U2	U2	-	0.8	XX		
BG	CON	FV	FV	FV	U1	=	21.5			
CZ	CON	U1	U1	U1	U1	-	16.5	U1	Changed method	
DE	CON	U2	U2	U1	U1	-	15.7	U2	Genuine	
DK	CON	U1	U2	U2	U2	x	4.5	U2	Better data	
FR	CON	U1	U1	U1	XX	x	21.5	U2	Changed method	
IT	CON	XX	XX	XX	XX		0.4	U1	Changed method	
PL	CON	FV	U1	U1	U1	=	14.0	FV	Changed method	
SE	CON	U2	U2	U2	U2	-	1.7	U2-		

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MS	Region	Conservation status of parameters				Current CS	Trend in CS	% in region	Previous CS	Reason for change
		Range	Population	Habitat	Future prospects					
SI	CON	FV	U2	U2	U2	-	0.4	U2		
ES	MED	FV	U1	U1	U1	=	100.0	XX	Changed method	

Knowing that not all changes in conservation status between the reporting periods were genuine, Member States were asked to give the reasons for changes in conservation status. Bulgaria and Romania only joined the EU in 2007 and Greece did not report for 2007-12 so no reason is given for change for these countries. Greek data shown above is from 2001-06.

Main pressures and threats reported by Member States

Member States were asked to report the 20 most important threats and pressures using an agreed hierarchical list which can be found on the [Article 17 Reference Portal](#). Pressures are activities which are currently having an impact on the species and threats are activities expected to have an impact in the near future. Pressures and threats were ranked in three classes 'high, medium and low importance'; the tables below only show threats and pressures classed as 'high', for some species there were less than ten threats or pressures reported as highly important.

Ten most frequently reported 'highly important' pressures

Code	Activity	Frequency
J02	Changes in water bodies conditions	27
K02	Vegetation succession/Biocenotic evolution	22
A03	Mowing or cutting grasslands	8
A04	Grazing by livestock	8
H01	Pollution to surface waters	8
H04	Air pollution, air-borne pollutants	8
K01	Abiotic natural processes	4
K04	Interspecific floral relations	4
A02	Modification of cultivation practices	2
G01	Outdoor sports, leisure and recreational activities	2

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Ten most frequently reported 'highly important' threats

Code	Activity	Frequency
J02	Changes in water bodies conditions	24
K02	Vegetation succession/Biocenotic evolution	22
A04	Grazing by livestock	10
K01	Abiotic natural processes	10
A03	Mowing or cutting grasslands	8
H01	Pollution to surface waters	8
H04	Air pollution, air-borne pollutants	8
K04	Interspecific floral relations	4
A08	Fertilisation in agriculture	2
B01	Afforestation	2

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Proportion of population covered by the Natura 2000 network

For species listed in the Annex II of the Directive Member States were asked to report the population size within the Natura 2000 network. The percentage of species population covered by the network was estimated by comparing the population size within the network and the total population size in the biogeographical/marine region.

Percentage of coverage by Natura 2000 sites in biogeographical/marine region

	ALP	ATL	BOR	CON	MED
AT	33			0	
BE		100		100	
BG	100			100	
CZ				84	
DE	x	100		92	
DK		25		71	
EE			100		
ES		x			25
FI	100		100		
FR	23			0	
IE		100			
IT	x			x	
LT			71		
LV			55		
NL		100			
PL	55			50	
RO	100				
SE	27		18	27	
SI	0			0	
SK	100				
UK		35			

See the endnotes for more informationⁱⁱ

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Most frequently reported conservation measures

For species listed in the Annex II of the Directive Member States were asked to report up to 20 conservation measures being implemented for this species using an agreed list which can be found on the Article 17 Reference Portal. Member States were further requested to highlight up to five most important ('highly important') measures; the table below only shows measures classed as 'high', for many species there were less than ten measures reported as highly important.

Ten most frequently reported 'highly important' conservation measures

Code	Measure	Frequency
6.1	Establish protected areas/sites	22
6.3	Legal protection of habitats and species	22
2.1	Maintaining grasslands and other open habitats	18
4.2	Restoring/improving the hydrological regime	13
6.4	Manage landscape features	4
7.4	Specific single species or species group management measures	4
9.1	Regulating/Management exploitation of natural resources on land	4
2.0	Other agriculture-related measures	2
4.0	Other wetland-related measures	2
4.1	Restoring/improving water quality	2

This information is derived from the Member State national reports submitted to the European Commission under Article 17 of the Habitats Directive in 2013 and covering the period 2007-2012. More detailed information, including the MS reports, is available at:

<http://bd.eionet.europa.eu/article17/reports2012/species/summary/?group=Non-vascular+plants&period=3&subject=Drepanocladus+vernicosus>

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i Assessment of conservation status at the European biogeographical level: Current Conservation Status (Current CS) shows the status for the reporting period 2007-2012, Previous Conservation Status (Previous CS) for the reporting period 2000-2006. Reason for change in conservation status between the reporting periods indicates whether the changes in the status were genuine or not genuine. Previous Conservation Status was not assessed for Steppic, Black Sea and Marine Black Sea regions. For these regions the Previous status is therefore considered as 'unknown'. The percentage of the species population occurring within the biogeographical/marine region (% in region) is calculated based on the area of GIS distribution.

ii Percentage of coverage by Natura 2000 sites in biogeographical/marine region: In some cases the population size within the Natura 2000 network has been estimated using a different methodology to the estimate of overall population size and this can lead to percentage covers greater than 100%. In such case the value has been given as 100% and highlighted with an asterisk (*). The value 'x' indicates that the Member State has not reported the species population and/or the coverage by Natura 2000. No information is available for Greece. The values are only provided for regions, in which the occurrence of the species has been reported by the Member States.