# Bombina variegata

Taxonomic Authority: (Linnaeus, 1758) Synonyms: Region: 10

# Common Names:Kumak GorskiPYellow-Bellied ToadEZheltobryukhaya ZherlyankaRululone dal ventre gialloItFamily:Bombinatoridae

Polish English Russian Italian

Order: Anura Notes on taxonomy:

## **General Information**

#### Biome

Terrestrial

# Freshwater

Marine

#### Geographic Range of species:

This species is distributed over much of central and southern Europe. It is generally present from central France through southern Germany and northern and western Switzerland, much of Italy, the Balkan region and the Carpathian Mountains. Isolated populations are present in northwestern Italy, Sicily (Italy) and Hungary, and its range in northwestern France is now severely fragmented. It is probably extinct in Belgium and some populations have been lost in the south of France. The presence of isolated populations in southwestern France (Medoc and Landes) requires confirmation. It has been introduced to the United Kingdom, but it is not known if the species is still present and is not mapped here. The species has an altitudinal range of 100 - 2,100m asl.

#### **Conservation Measures:**

The species is listed on Appendix II of the Berne Convention and on Annexes II and IV of the EU Natural Habitats Directive. It is protected by national legislation over much of its range and is present in many protected areas. Reintroductions of the species may be needed in parts of the range. There is a need to monitor population changes in this species, especially in the hybrid zone between B. variegata and B. bombina.

#### Species population information:

The species has experienced some local extinctions and population declines (e.g., southern Switzerland, northwestern and southern France). However, over parts of its range such as the Carpathian Mountains, Poland and Slovenia, it is still common in suitable habitat.

Habitat and Ecology Information:

It can be found in coniferous, deciduous and mixed forests, bushlands and meadows, floodplains and grasslands. At low elevations this species lives in deciduous forests, at higher altitudes it is more often found in coniferous forests and highland glades. The species uses many types of wetland, including lakes, ponds, swamps, rivers, stream pools, springs (including mineral and thermal springs), puddles, reservoirs, gravel pits, ditches and even water filled wheel ruts. The breeding habitats are typically unshaded temporary pools within, or close to, woodland. The species can tolerate slight water pollution, and has been recorded at very high densities in areas of cleared woodland in the Carpathian Mountains.

#### Threats:

Populations of this species may be locally threatened by the loss of suitable habitat to urbanisation, road construction, industry (including oil extraction and transportation) and discharge of pollutants into wetlands. Additionally, it is reported that it is collected as bait by fishermen in certain regions and that it is occasionally collected in large numbers for both the pet trade and scientific use. The impact of collection on this species needs further research. At a global scale, the species appears not to be significantly threatened.

Country Distribution	Native - Presence Confirmed	Native - Presence Possible	Extinct	Reintroduced	Introduced	Vagrant
Albania	$\checkmark$					
Austria	$\checkmark$					
Belgium			$\checkmark$			
Bosnia and Herzegovina	$\checkmark$					
Bulgaria	$\checkmark$					
Croatia	$\checkmark$					
Czech Republic	$\checkmark$					
France	$\checkmark$					
Germany	$\checkmark$					
Greece	$\checkmark$					
Hungary	$\checkmark$					
Italy	$\checkmark$					
Liechtenstein	$\checkmark$					
Luxembourg	$\checkmark$					
Macedonia, the former Yugoslav Republ	$\checkmark$					
Poland	$\checkmark$					
Romania	$\checkmark$					
Slovakia	$\checkmark$					
Slovenia	$\checkmark$					
Switzerland	$\checkmark$					
Ukraine	$\checkmark$					

	Native -	Native -			
Serbia and Montenegro	$\checkmark$				
United Kingdom				$\checkmark$	

Presence Confirmed

Presence Possible

Extinct Reintroduced Introduced

# **FAO Marine Habitats**

## Major Lakes

# Major Rivers

Upper Level Habitat Preferences	Score	Lower Level Habitat Preferences	Score
1.4 Forest - Temperate	1	Broadleaf Forest	1
3.4 Shrubland - Temperate	1	Conifer Forest	2
4.4 Grassland - Temperate	1	Coniferous Forest	2
5.1 Wetlands (inland) - Permanent Rivers/Streams/Creeks (includes waterfalls)	1	Cool Broadleaf Forest Cool Crops and Towns	1 2
5.2 Wetlands (inland) - Seasonal/Intermittent/Irregular Rivers/Streams/Creeks	2	Deciduous Broadleaf Wood	1
5.4 Wetlands (inland) - Bogs, Marshes, Swamps, Fens, Pea	tlands 1	Grass Crops	1
5.7 Wetlands (inland) - Permanent Freshwater Marshes/Poc (under 8ha)	ols 1	Marsh Wetland Mire, Bog, Fen	1 2
5.8 Wetlands (inland) - Seasonal/Intermittent Freshwater Marshes/Pools (under 8ha)	1	Urban	1
5.9 Wetlands (inland) - Freshwater Springs and Oases	1		
5.12 Wetlands (inland) - Geothermal Wetlands	2		
5.13 Wetlands (inland) - Permanent Inland Deltas	1		
11.1 Artificial/Terrestrial - Arable Land	2		
11.2 Artificial/Terrestrial - Pastureland	1		
11.5 Artificial/Terrestrial - Urban Areas	2		
12.2 Artificial/Aquatic - Ponds (below 8ha)	1		
12.5 Artificial/Aquatic - Excavations (open)	1		
12.8 Artificial/Aquatic - Seasonally Flooded Agricultural Land	2		
12.9 Artificial/Aquatic - Canals and Drainage Channels, Ditch	es 1		

## Major threats

Major threats			Conservation Measures					
Code	Description of threat	Past F	Present F	uture	Code	Conservation measures	In place 1	Veeded
1	Habitat Loss/Degradation (human induced)		$\checkmark$	$\checkmark$	1	Policy-based actions	$\checkmark$	
1.1	Agriculture		$\checkmark$	$\checkmark$	1.2	Legislation	$\checkmark$	
1.1.1	Crops	$\checkmark$	$\checkmark$	✓	1.2.1	Development	$\checkmark$	
1.1.1.3	Agro-industry farming	✓	$\checkmark$	✓	1.2.1.1	International level	$\checkmark$	
1.1.4	Livestock	✓	$\checkmark$	✓	1.2.1.2	2 National level	$\checkmark$	
1.1.4.3	Agro-industry	✓	$\checkmark$	✓	1.2.2	Implementation	$\checkmark$	
1.3	Extraction	$\checkmark$	$\checkmark$	✓	1.2.2.1	International level	$\checkmark$	
1.3.1	Mining	$\checkmark$			1.2.2.2	2 National level	$\checkmark$	
1.3.3	Wood	$\checkmark$	$\checkmark$	✓	2	Communication and Education		$\checkmark$
1.3.3.3	Clear-cutting	$\checkmark$	$\checkmark$	$\checkmark$	2.2	Awareness		$\checkmark$
1.4	Infrastructure development	$\checkmark$	$\checkmark$	✓	3	Research actions		$\checkmark$
1.4.1	Industry	$\checkmark$	$\checkmark$	$\checkmark$	3.1	Taxonomy		$\checkmark$
1.4.2	Human settlement	$\checkmark$	$\checkmark$	$\checkmark$	3.2	Population numbers and range		$\checkmark$
6	Pollution (affecting habitat and/or species)	$\checkmark$	$\checkmark$	✓	3.3	Biology and Ecology		$\checkmark$
6.3	Water pollution	$\checkmark$	$\checkmark$	$\checkmark$	3.4	Habitat status		$\checkmark$
6.3.1	Agriculture	$\checkmark$	$\checkmark$	$\checkmark$	3.5	Threats		$\checkmark$
6.3.3	Commercial/Industrial	$\checkmark$	$\checkmark$	$\checkmark$	3.6	Uses and harvest levels		$\checkmark$
					3.8	Conservation measures		$\checkmark$
					3.9	Trends/Monitoring		$\checkmark$
					4	Habitat and site-based actions	$\checkmark$	$\checkmark$
					4.1	Maintenance/Conservation	$\checkmark$	$\checkmark$
							_	

4.4

Protected areas

4.4.2 Establishment

			4.4.3	Manager	ment		$\checkmark$	$\checkmark$
			5	Species-	based act	ions		$\checkmark$
			5.1	Re-introc				
			5.3	Sustaina		ant		
			5.3.1 5.3.2		managemen anagemen			
			0.0.2	inddo ind	anagomon			
Utilisation of Species						•		
Purpose/Type of Use 13. Pets/display animals, horticulture 14. Research	Sub	osistence	National V V		ational	Other purpose:		
Primary forms removed from the wild 1. Whole animal/plant	100% ✔	>75%	51-75%	26-50%	<b>&lt;25%</b>	Other forms removed fro	m the wild	d:
Source of specimens in commercial trade Wild	100% ✓	>75%	51-75%	26-50%	<25%	Other source of specime	ns:	
Trend in wild offtake/harvest in relation to to		opulation r	numbers over		e years:	Unknown		
Trend in offtake/harvest produced through de CITES: Not listed	-	•			•	Unknown		
Red Listing								
Red List Assessment: Least Concern (LC) Red List Criteria:				ossibly Ex	ktinct			
pre	esumed la		tion, and bec			tolerance of a broad range of be declining fast enough to		
Current Population Trend: Unknown			Date o	f Assess	ment:	12/17/2004		
Assessor(s): Sergius Kuzmin, Mathieu Deno	el, Brando	on Anthony	, Franco And	lreone, Be	enedikt Sc	chmidt, Agnieszka Ogrodowo	zyk, Maria	a Ogiels
Notes on Red listing:								
Szczerbak, N.N. and Szczerban, M.I., 1980, , , 2 Carpathians], , , , Naukova Dumka, Kiev , 1995, , , Amphibian Populations in the Commo Pikulik, M.M., , , Pensoft, Moscow Puky, M. et al., 2003, , , Preliminary herpetologia	nwealth o	f Independ	ent States: C	urrent Sta	atus and D	Declines, Kuzmin, S.L. Dodd		
Arnold, E.N., 2003, , , Reptiles and amphibians	of Europe	, , , 288,  Pr	inceton Univ	ersity Pre	SS,			
Vogrin, M., 2002, Amphibians, , Nature in munic	ipality Kid	ricevo, Vog	grin, M., , 99-	106, Mun	icipality Ki	idricevo,		
Puky, M., 2000, A kétéltűek védelme Magyarors vertebrate species), Faragó, S., , 143-158, Nyug Kuzmin, S.L., 1995, , , Die Amphibien Russland	gat-Magya	rországi Eg	gyetem Erdői	mérnöki K	ar, Sopro	n	Conservatio	on of
Dely, G., 1967, , , Kétéltűek-Amphibia: Magyaro	rszág Álla	itvilága, Fa	unae Hungar	iae, , , , Á	kadémiai	Kiadó, Budapest		
Mlynarski, M., 1966, Plazy I Gady Polski, Pansto	wowe Zak	lady Wydav	wnictw Szkol	nych, Wa	rszawa, , ,	, 75, , ,		
Smit, G., 1998, DAPTF-Netherlands Report, Fro	gLog, , , 2	28, , ,						
Kuzmin, S.L., 1999, , , The Amphibians of the Fe	ormer Sov	viet Union, ,	, , Pensoft,	Sofia-Mos	scow			
Kushniruk, V.A., 1966, Bombina variegata in the Lvov						·	ini, , , 171-	·173, ,
Arnold, H.R., 1995, Atlas of amphibians and rep								
Grossenbacher, K., 1994, Rote Liste der gefähre 33-34, BUWAL (Bundesamt für Umwelt, Wald un Kalezic, M. and Dzukic, G., 2001, Amphibian sta	nd Landso	chaft), Bern			-		eiz, BUW	AL, ,
Kuzmin, S.L., 1996, Threatened amphibians in t				-		-	4-30	
, 1997, , , Atlas of Amphibians and Reptiles in E						-		
Naturelle, Paris Barandun, J. and Reyer, HU., 1997, Reproduc						-		, , 18,
143-154, , Kuzmin, S.L. and Scerbanj, M.I., 1996, Distribut Union, Naturschutrzreport, Verbreitung, Okologi Vogrin, N., 1997, The Status of Amphibians in S	e und Sch	utz der Ge	lbbauchunke				ormer Sov	/iet
Barandun, J., Reyer, HU. and Anholt, B., 1997 355, ,				ia variega	ita: aspect	ts of life history, Amphibia-R	eptilia, , , 1	18, 347-
Fromhage, L., Vences, M. and Veith, M., 2004, Phylogenetics and Evolution, , , 31(1), 308-322,		ternative vi	cariance sce	narios in '	Western M	/lediterranean discoglossid fi	rogs, Mole	cular

Buschmann, H., 2002, Fecundity of yellow-bellied toads Bombina variegata under free- range conditions: an indication of risk-spreading strategy, Amphibia-Reptilia, , , 23, 362-369, ,

Grossenbacher, K., 1988, Verbreitungsatlas der Amphibien der Schweiz, Documenta faunistica helvetiae, , , 7, 1-207, ,

Joly, P., 1992, The amphibian fauna of the French Upper-Rhône floodplain. The Lavours marsh and Jons sector, Alytes, , , 10(4), 117-129, ,

Bannikov, A.G., Darevsky, I.S., Ishchenko, V.G., Rustamov, A.K. and Szczerbak, N.N., 1977, , , Opredelitel Zemnovodnykh i Presmykayushchikhsya Fauny SSSR [Guide to Amphibians and Reptiles of the USSR Fauna], , , , Prosvechshenie, Moscow