WATER HABITATS OF THE BRAČ ISLAND

S. Mekinić[1], D. Vladović[2], G. Piasevoli[1], J. Boban[2], N. Ževrnja[2]

[1]Public Institution for the Management of Protected Areas in the County of Split and Dalmatia – „Sea and karst", Prilaz braće Kaliterna 10, 21000 Split, Croatia
(E-mail: smgata@yahoo.com, gvido.piasevoli@dalmatian-nature.hr)

[2]Natural History Museum and Zoo, Kolombatovićevo šetalište 2, 21000 Split, Croatia
(E-mail: dalibor@prirodoslovni.hr, josip@ prirodoslovni.hr, nediljko@prirodoslovni.hr)

Introduction

The island of Brač is a middle Dalmatian island (Crkvenčić et al., 1974). It is 36 km long and 12 km wide, and, with an area of 395 km², third largest Adriatic island (Rubić, 1952). At the same time it is the highest island in the Adriatic, with the elevation of 778 m above the sea level (Vidova gora mountain). The island of Brač is made of limestone, so there are no water courses on its surface. Therefore inhabitants of Brač used to build cisterns-watering places for livestock from ancient times. After the water supply system was built these cisterns/watering-places were neglected and transformed into larger or smaller ponds and some of them run dry temporarily. According to the literature data, there are 20 pools (large reservoirs) on this island, 200 cisterns dug out in living stone and troughs (smaller basins), 40 water supplies (drinking water basins) and some 1800 to 2000 cisterns (Bulić, 1954).

Materials and methods

A research of flora of water habitats of the island of Brač was carried out during 2014 and 2015 and simultaneously herpetophauna and existence/non-existence of allochthonous species were researched too. Total of 12 days of field work was carried out and the research was conducted in all weather conditions, except during heavy precipitations (strong rain and snow) and during extremely cold weather. Identification of species was performed using field guide books for determination (Domac, 1994, Arnold and Burton, 2002) and based on years of experience of field work in the Croatian coastal area. Geographic coordinates (GPS device), elevation (GPS device), exposition, date, weather conditions (because of recorded species) and remark were recorded for each water habitat. The collected data were processed by the computer programme Arc Info GIS 9.2.

Picture 1. Water habitats on island Brač

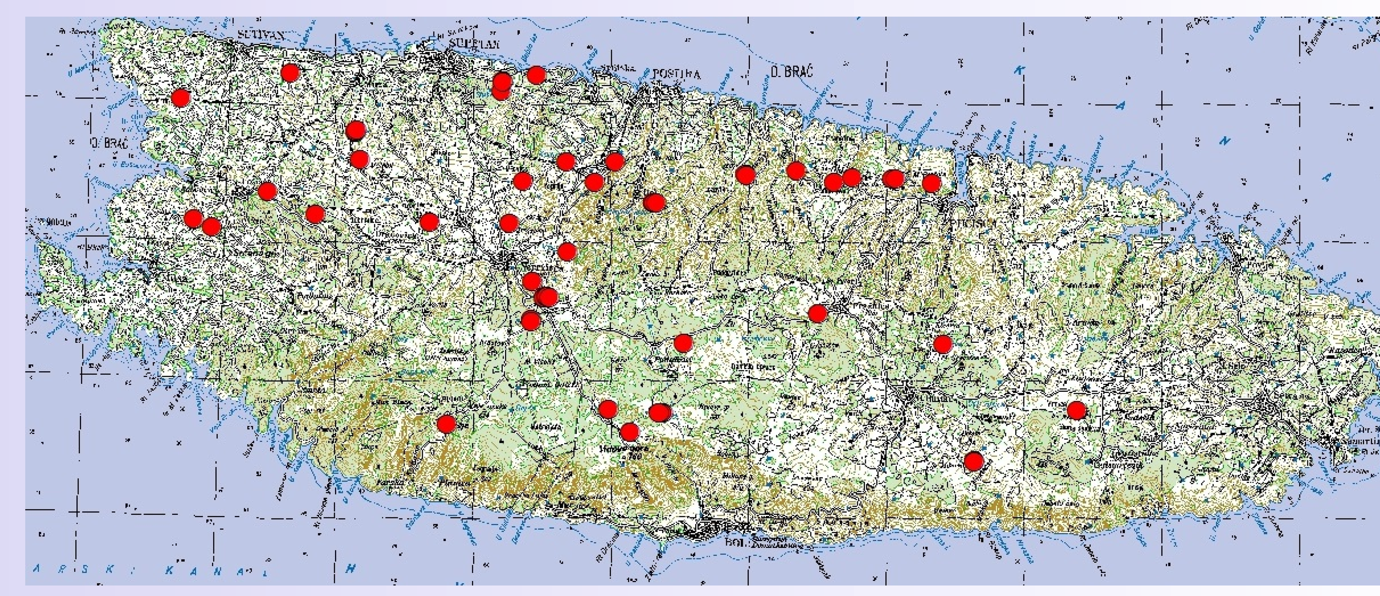

Table 1.

Name	Settlement	Latitude N	Longitude E	Elevation (Z/m)	Exposure
«Miran humac» pool	Bobovišća	43º20'20.0"	16º28'16.1"	197	Z
Smrćje	Bobovišća	43º20'26.8"	16º27'51.6"	173	Z
Stevinjak 1	Dol	43º20'52.4"	16º37'42.4"	131	Z
Stevinjak 2	Dol	43º20'50.6"	16º37'43.7"	133	Z
Stevinjak 3	Dol	43º20'50.4"	16º37'44.5"	139	Z
Stevinjak 4	Dol	43º20'50.1"	16º37'48.2"	157	Z
Poganica	Donji Humac	43º20'26.9"	16º32'38.8"	257	JZ
Glogovica	Gornji Humac	43º18'39.7"	16º43'42.8"	391	SI
«Gvido'pools 1» pool	Gornji Humac	43º16'52.4"	16º44'42.8"	386	J
«Gvido's pools 2» pool	Gornji Humac	43º16'51.3"	16º44'43.2"	386	J
D. Pisk	Ložišća	43º20'52.2"	16º29'09.6"	89	Z
G. Pisk	Ložišća	43º20'34.1"	16º30'28.7"	235	J
Milovica	Milovica	43º21'08.5"	16º34'55.5"	365	SI
«Vršovica» pool	Mirca	43º21'26.3"	16º31'25.4"	281	SZ
Prihode 1	Mirca	43º21'51.9"	16º31'18.0"	183	SI
Prihode 2	Mirca	43º21'52.7"	16º31'18.8"	170	SI
Prihode 3	Mirca	43º21'53.5"	16º31'19.8"	162	SI
Cura	Nerežišća	43º19'32.5"	16º34'52.6"	472	Z
Dunaj 1	Nerežišća	43º19'17.8"	16º35'07.8"	500	Z
Dunaj 2	Nerežišća	43º19'18.5"	16º35'09.9"	504	Z
Dunaj 3	Nerežišća	43º19'18.8"	16º35'12.2"	510	Z
Dunaj 4	Nerežišća	43º19'17.5"	16º35'14.2"	519	Z
«Šćipon dolac» pool	Nerežišća	43º18'38.9"	16º38'25.8"	521	JI
Nakla smaller	Nerežišća	43º18'58.7"	16º35'08.6"	546	S
Nakla larger	Nerežišća	43º18'57.1"	16º35'09.3"	550	S
Vrpovje	Nerežišća	43º20'12.8"	16º35'55.2"	364	SI
Pool	Nerežišća (crossroads of Donji Humac)	43º20'26.6"	16º34'21.4"	316	J
Pool	Obršje	43º17'18.7"	16º33'22.6"	461	J
Pool	Pražnica	43º19'07.2"	16º41'00.1"	370	S
Bliznice 1	Pučišća	43º21'14.0"	16º42'34.3"	163	J
Bliznice 2	Pučišća	43º21'13.9"	16º42'38.1"	163	J
«Dubrave» pool	Pučišća	43º21'10.5"	16º41'18.8"	161	J
«Dučac» pool	Pučišća	43º21'22.8"	16º40'47.8"	158	SI
«Kamenica» pool	Pučišća	43º21'17.0"	16º42'00.7"	124	J
«M. Bračuta» pool	Pučišća	43º21'10.7"	16º43'25.1"	133	SI
«Oklad 1» pool	Pučišća	43º21'18.6"	16º39'42.5"	185	SI
«Oklad 2» pool	Pučišća	43º21'17.6"	16º39'43.9"	188	SI
«Vrnica» pool	Selca	43º17'39.7"	16º46'36.4"	324	J
«Babin laz cove» pool	Splitska	43º22'46.3"	16º34'53.1"	5	S
Stubal	Supetar	43º22'31.3"	16º34'09.1"	75	S
Trolokve 1	Supetar	43º22'40.8"	16º34'10.4"	45	S
Trolokve 2	Supetar	43º22'39.7"	16º34'09.8"	50	S
«Krtine pod Golo br.» pool	Sutivan	43º20'20.9"	16º27'33.0"	70	J
«Tatinja» pool	Sutivan	43º22'46.4"	16º29'54.3"	63	S
Kostirda	Škrip	43º21'26.8"	16º35'50.5"	259	S
Lokva 1 Pool 1	Škrip	43º21'08.4"	16º36'27.8"	290	S
Pool 2	Škrip	43º21'27.8"	16º36'54.5"	246	SI
Cistern	Vidova gora	43º17'12.9"	16º37'02.2"	723	Z
Korita	Vidova gora	43º17'33.1"	16º36'33.0"	683	SI
Trolokve 1	Vidova gora	43º17'31.6"	16º37'43.3"	678	S
Trolokve 2	Vidova gora	43º17'31.3"	16º37'40.6"	680	S
Trolokve 3	Vidova gora	43º17'31.6"	16º37'37.4"	685	S

Results and discussion

52 water habitats were located and processed during the research (Picture 1., Table 1.). Total of 18 new taxa of vascular plants were noted for the Brač island flora (*Potamogeton crispus, Potamogeton natans, Zannichelia palustris, Eleocharis palustris, Juncus bufonius, Juncus compressus, Juncus acutiflorus, Ranunculus aquatilis, Ranunculus chius, Lythrum hyssopifolia, Ornithogalum gussonei, Valerianella coronata, Allium pallens ssp. tenuiflorum, Crepis sancta, Fumana ericifolia, Tragopogon balcanicus, Sedum caespitosum, Medicago doliata*). Amphibians were recorded in 27 water habitats (*Bufo viridis* and *Pelophylax ridibundus*), and alien species in 22 water bodies (*Gambusia holbrooki* and *Carassius auratus*) (Table 2.). Finding of *Pelophylax ridibundus* is the first record of this species for the island of Brač – June 19 2015., Stevinjak 1, 2, 3 and 4 pools. Out of 13 reptile species recorded so far for the island of Brač, following were recorded in 52 processed water habitats: *Dalmatolacerta oxycephala, Lacerta trilineata, Podarcis melisellensis, Natrix natrix, Malpolon insignitus* and *Zamenis longissimus* (Table 3.). This two-year research is just a beginning, ie it was a pilot project of the complete research of water habitats of the Brač island, which are very numerous, according to the literature data. Also this two-year research confirmed the assertion of Bulić (1954) that numerous water habitats of Brač island were neglected after the construction of water supply. For example, water habitat in the Babin laz cove (Picture 3.) is completely dry and overgrown by vegetation nowadays, and one out of two pools on the route of the road Nerežišća – Supetar was destroyed by the construction of the road. This research also showed that, except introduced alien species, mechanical waste is also a great danger in water habitats (Picture 4.).

Table 3.

Name	Settlement	*Dalmatolacerta oxycephala*	*Lacerta trilineata*	*Podarcis melisellensis*	*Natrix natrix*	*Malpolon insignitus*	*Zamenis longissimus*
Smrćje	Bobovišća						*
Stevinjak 1	Dol				*		
Prihode 3	Mirca	*					
Nakla smaller	Nerežišća			*			
Pool	Nerežišća (crossroads of Donji Humac)				*		
Bliznice 2	Pučišća			*			
Stubal	Supetar	*	*	*			
Trolokve 1	Supetar			*			
Trolokve 2	Supetar	*					
«Tatinja» pool	Sutivan			*			
Kostirda	Škrip			*			
Korita	Vidova gora	*		*		*	*
Trolokve 1	Vidova gora			*	*		
Trolokve 2	Vidova gora			*	*		

Picture 3. Water habitat in the Babin laz cove

Picture 2. Potamogenton natans from cisterns/watering-places Supetar 3

Table 2.

[illegible]	Settlement	[illegible]	*Pelophylax ridibundus*	*Gambusia holbrooki*	*Carassius auratus*
«Miran humac» pool	Bobovišća	*			
Stevinjak 1	Dol		*		*
Stevinjak 2	Dol		*		*
Stevinjak 3	Dol		*		*
Stevinjak 4	Dol		*		*
«Gvido'pools 1» pool	Gornji Humac			*	
«Gvido'pools 2» pool	Gornji Humac	*		*	
D. Pisk	Ložišća			*	
G. Pisk	Ložišća	*			*
«Vršovica» pool	Mirca	*			
Prihode 2	Mirca			*	*
Prihode 3	Mirca			*	*
Dunaj 1	Nerežišća				*
Dunaj 2	Nerežišća				*
Dunaj 3	Nerežišća				*
Dunaj 4	Nerežišća	*			*
Nakla larger	Nerežišća	*			
Vrpovje	Nerežišća	*			
Pool	Nerežišća (crossroads of Donji Humac)	*		*	*
Pool	Obršje	*			
Pool	Pražnica			*	*
Bliznice 1	Pučišća	*			
Bliznice 2	Pučišća	*			
«Dubrave» pool	Pučišća	*			
«Dučac» pool	Pučišća	*			
«M. Bračuta» pool	Pučišća	*			
«Oklad 1» pool	Pučišća	*			
«Oklad 2» pool	Pučišća	*			
Stubal	Supetar	*		*	*
Trolokve 1	Supetar			*	*
«Krtine pod Golo br.» pool	Sutivan			*	*
Kostirda	Škrip	*			
Pool 2	Škrip				*
Cistern	Vidova gora	*			
Korita	Vidova gora	*			
Trolokve 1	Vidova gora	*			*
Trolokve 2	Vidova gora	*			*
Trolokve 3	Vidova gora	*			

Picture 6. Stone trough on Korita

Picture 4. Carassius auratus stuck and died in aluminium packaging, packs of sweets

Picture 5. Water habitat STEVINJAK 1, example of drinking water basin

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