



Reports from field sampling

According to the BIOLAWEB project plan sampling macrophytes, phytoplankton, and diatoms for morphological and molecular analysis were conducted in spring, summer, and autumn 2023 (Table 1). Besides biological samples, samples for water chemistry were collected as well. Samples were taken from 3 lakes in Serbia (Pečena Slatina, Plava Banja, Savsko Lake) according to the project plan and one additional lake (Markovačko Lake) aiming to increase the data set for comparison between two approaches – morphology vs eDNA methods. To increase the number of new diatom sequences incorporated into the reference barcoding library, 7 brackish lakes (Velika Rusanda, Mala Rusanda, Peskara, Okanj bara, Slano Kopovo, Slatina, Velika Slatina) were sampled once (spring).

Spring sampling 2023

Spring sampling was conducted in April 2023 (Table 1). Macrophytes, phytoplankton, and diatoms samples, as well as samples for water chemistry, were collected at the same time from 4 lakes (Pečena Slatina, Plava Banja, Savsko Lake and Markovačko Lake). On each lake, macrophytes and phytoplankton samples were taken from 4 localities while diatom samples were collected from 3 localities. From 7 additional brackish lakes, only diatom samples were collected, from one locality per lake except for the Okanj bara where there were three localities.

In total, 23 samples for water chemistry were collected.

Number of samples per group of organisms:

Macrophyte - 15 macrophyte wet samples, 23 macrophyte dry samples for morphological analysis, and 16 eDNA samples for molecular analyses were collected.

Phytoplankton - 16 phytoplankton samples for quantitative/qualitative analysis and 16 samples for metabarcoding analysis were collected.

Diatoms - 36 diatom samples for morphological analysis and 36 samples for metabarcoding analysis were collected.

Summer sampling 2023

Summer sampling was conducted in July and August 2023 (Table 1). Macrophytes, phytoplankton, and diatoms samples, as well as samples for water chemistry, were collected at the same time from 4 lakes (Pečena Slatina, Plava Banja, Savsko Lake and Markovačko Lake). On each lake, macrophytes and phytoplankton samples were taken from 4 localities while diatom samples were collected from 3 localities.

In total, 16 samples for water chemistry were collected.

Number of samples per group of organisms:

Macrophyte - 31 macrophyte wet samples, 47 macrophyte dry samples for morphological analysis, and 16 eDNA samples for molecular analyses were collected.

Phytoplankton - 16 phytoplankton samples for quantitative/qualitative analysis and 16 samples for metabarcoding analysis were collected.





Diatoms - 18 diatom samples for morphological analysis and 18 samples for metabarcoding analysis were collected.

Autumn sampling 2023

Autumn sampling was conducted in October and November 2023 (Table 1). Macrophytes, phytoplankton, and diatoms samples, as well as samples for water chemistry, were collected at the same time from 4 lakes (Pečena Slatina, Plava Banja, Savsko Lake and Markovačko Lake). On each lake, macrophytes and phytoplankton samples were taken from 4 localities while diatom samples were collected from 3 localities.

In total, 16 samples for water chemistry were collected.

Number of samples per group of organisms:

Macrophyte - 13 macrophyte wet samples, 20 macrophyte dry samples for morphological analysis, and 16 eDNA samples for molecular analyses were collected.

Phytoplankton - 16 phytoplankton samples for quantitative/qualitative analysis and 16 samples for metabarcoding analysis were collected.

Diatoms - 18 diatom samples for morphological analysis and 18 samples for metabarcoding analysis were collected.

Summary

During the BIOLAWEB sampling period in total,

- 59 macrophyte wet samples, 90 macrophyte dry samples for morphological analysis and 48 eDNA samples for molecular analyses were collected;
- 48 phytoplankton samples for quantitative/qualitative analysis, and 48 samples for metabarcoding analysis were collected;
- 72 diatom samples for morphological analysis and 72 samples for metabarcoding analysis were collected;
- 48 water samples were collected.



Table 1. Information on conducted macrophytes, phytoplankton, and diatoms sampling per localities.

Lake	Localities	Coordinates	Date(s) of sampling	Group of organisms
Pečena Slatina	PS1	N45° 4'49.68" E20°29'1.58"	20.04.2023; 11.07.2023; 01.11.2023	M; P; D
	PS2	N 45° 4'59.60" E 20°29'24.10"		
	PS3	N44°46'41.81" E 20°22'22.39"		
	PSCP	N45° 4'57.86" E20°29'28.55"		
Plava Banja	PB1	N45°48'10.40" E20°26'54.80"	24.04.2023; 06.07.2023; 30.10.2023	M; P; D
	PB2	N45°48'9.07" E 20°27'4.80"		
	PB3	N45°48'17.00" E 20°27'1.00"		
	PBCP	N45°48'11.67" E 20°27'2.18"		
Savsko Lake	SL1	N44°47'13.25" E20°24'39.89"	18.04.2023; 04.07.2023; 23.10.2023	M; P; D
	SL2	N44°47'1.46" E 20°23'37.23"		
	SL3	N44°46'41.03" E 20°22'23.66"		
	SLCP	N44°47'5.03" E20°23'35.54"		
Markovačko Lake	ML1	N44°23'20.14" E20°39'31.54"	26.04.2023; 22.08.2023; 25.10.2023	M; P; D
	ML2	N44°23'25.97" E20°39'16.36"		
	ML3	N44°23'18.39" E20°39'8.23"		
	MLCP	N44°23'23.14" E20°39'16.75"		
Velika Rusanda	VR	N45°31'33.42" E20°18'10.50"	10.4.2023	D
Mala Rusanda	MR	N45°30'52.68" E20°18'23.10"		
Peskara	P	N45°31'06.8" E20°17'55.4"		
Okanj bara	OB1	N45°27'36.6" E20°17'11.7"		
	OB2	N45°27'45.7" E20°17'32.8"		
	OB3	N45°27'54" E20°17'58.32"		
Slano Kopovo	SK	N45°37'42.54" E20°12'10.08"	12.4.2023	D
Slatina	S	N45°04'24.052" E20°27'26.586"		
Velika Slatina	VS	N45°03'10.09" E20°29'36.13"		

M – macrophytes; P – phytoplankton; D – diatoms.