

## Supplementary data

**Table S1** *In silico* evaluation results for the primers used in this study

\*The  $T_A$  (annealing temperature) was calculated using the NEB online tool.

\*\*The Coverage was estimated using the SILVA TestProbe tool with the sSU-NR database version 123 and refers to

Primer name	Sequence 5' – 3'	$T_A^*$	Coverage of domain [%]**			Reference
			Bacteria	Archaea	Eukarya	
515F	GTGCCAGCMGCCGCGGTAA	52	88	56	0	Caporaso et al. (2011)
806R	GGACTACHVGGGTWTCTAAT					
341F	CCTACGGGAGGCAGCAG	67	82	0	0	Watanabe et al. (2001)
534R	ATTACCGCGGCTGCTGGCA					
Arch394F	GYGCASCAGKCGMGAAW	56	0	75	0	Takai et al. (2000)
Arch806R	GGACTACVSGGGTATCTAAT					

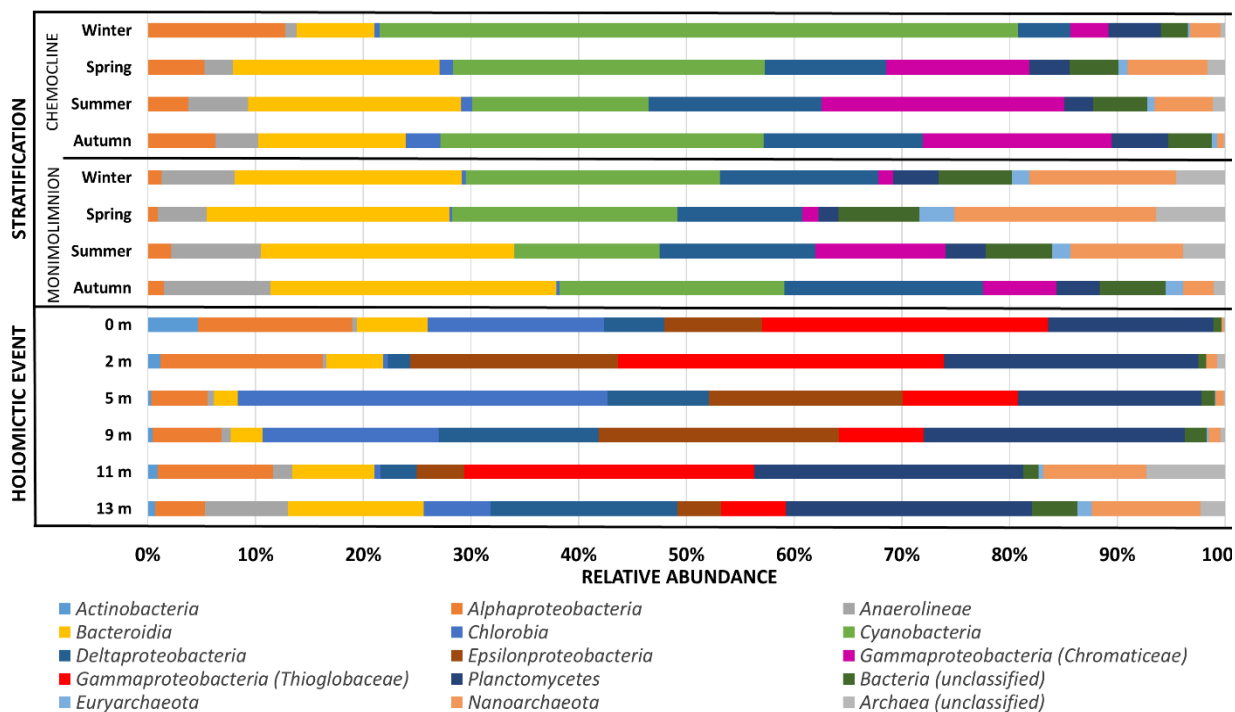
the percentage of potentially covered taxa.

**Table S2** Physico-chemical parameters of temperature, salinity, dissolved oxygen (DO), particulated (POC) and dissolved (DOC) organic carbon, sulfide ( $H_2S$ ) and elemental sulfur ( $S^0$ ) during the holomictic conditions in 1997 (obtained from Ciglencečki et al. 2005 and Bura-Nakić et al. 2009) and 2011 (obtained from Marguš et al. 2015 and Ciglencečki et al. 2015).

	Depth [m]	Temperature [°C]	Salinity [psu]	DO [mg l <sup>-1</sup> ]	POC [mg l <sup>-1</sup> ]	DOC [mg l <sup>-1</sup> ]	H <sub>2</sub> S [mM]	S <sup>0</sup> [μM]
October 1997	0	22.5	36.0	0	ND	2.23	ND	1.60
	2	22.0	36.0	0	ND	2.26	ND	0.80
	5	22.0	36.0	0	ND	2.23	ND	6.00
	7	22.0	36.0	0	ND	2.14	ND	ND
	8	22.0	36.0	0	ND	2.84	7.20	2.80
	9	22.0	36.0	0	ND	2.03	7.00	3.00
	10	22.0	37.0	0	ND	2.41	18.00	3.50
	11	22.0	37.0	0	ND	2.23	3.00	3.00
	12	22.0	37.0	0	ND	2.05	2.40	2.60
	13	22.0	37.0	0	ND	2.17	13.00	2.00
October 2011	0	21.2	33.5	0.86	0.654	2.141	1.60	0.03
	2	21.4	33.3	0.11	0.703	1.976	1.30	0.20
	5	21.5	33.2	0.06	0.980	2.071	0	0.22
	7	21.5	33.2	0.05	0.791	2.050	0	0.36
	8	21.5	33.2	0.04	0.664	2.017	0	0.14
	9	21.5	33.2	0.04	0.731	2.097	0	0.32
	10	21.5	33.2	0.03	0.686	2.205	0	0.07
	11	21.5	33.2	0.03	0.676	2.137	0.30	0.25
	12	21.4	33.2	0.03	0.780	2.176	0	0.17
	13	19.9	33.2	0.02	0.633	2.052	0.11	0.09

ND – not determined

**Fig. S1** Taxonomic structure of bacterial and archaeal assemblages in the euxinic water layers (chemocline and monimolimnion) obtained during the stratification in 2015 (Čanković et al. 2019) and during the holomictic event in 2016 (this study). Results are based on DNA 16S rRNA gene sequences by the same methodology.



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