

Supplementary Figures for the Manuscript:

A Long-Read Sequencing Approach to High-Resolution Profiling of Bacterioplankton Diversity in a Shallow Freshwater Lake

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Supplementary Figures

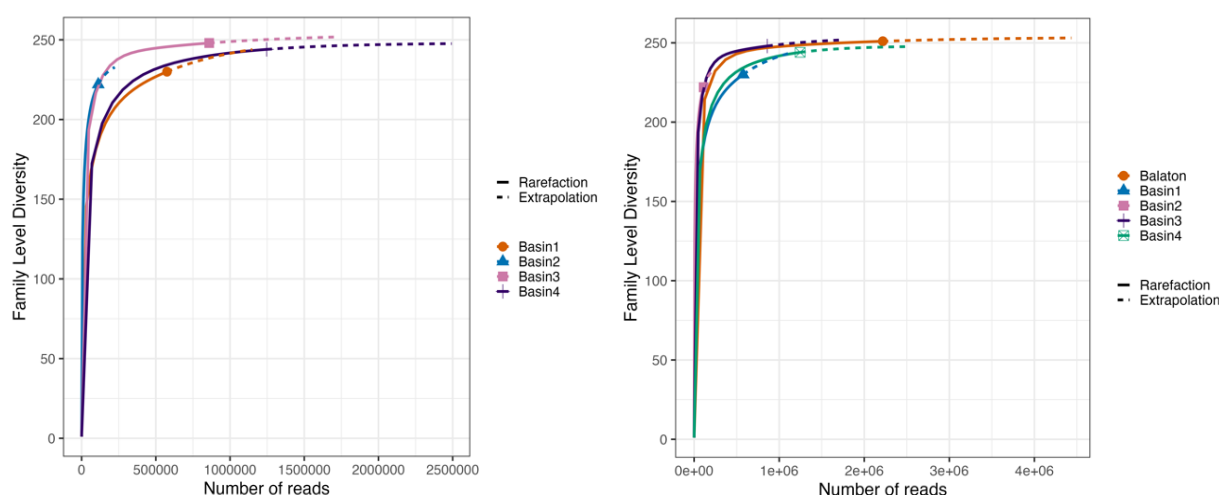


Figure S1. Rarefaction curves estimate the family-level richness of each basin when dropping families with a maximum of 5 reads per family.

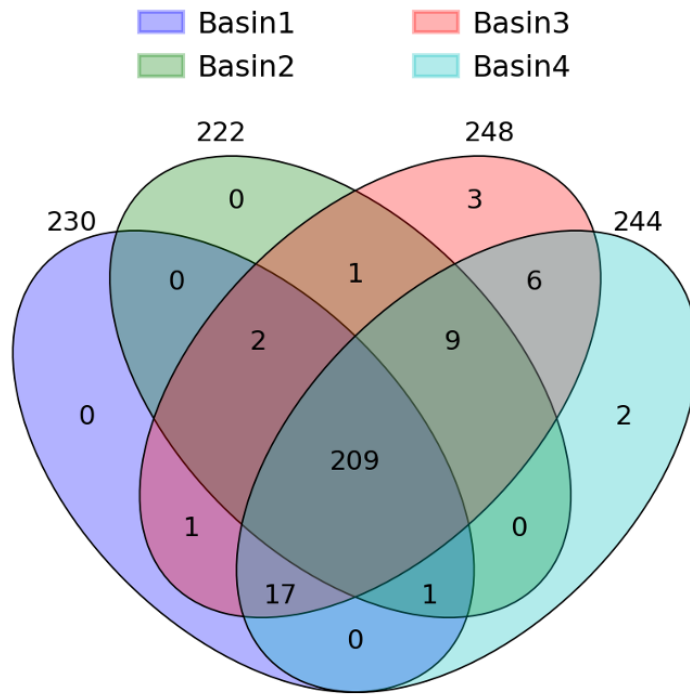


Figure S2. Explanation of Venn Diagram Intersections from Figure 4: A Venn diagram illustrating the numbers of shared and unique microbial families among 4 basins of Lake Balaton.

Description of the Overlaps:

Basin3: 3, ['Desulfurobacteriaceae', 'Hafniaceae', 'Parvularculaceae']

Basin4: 2, ['Bernardetiaceae', 'Rubritaleaceae']

Basin1 and Basin3: 1, ['Caedimonadaceae']

Basin2 and Basin3: 1, ['Silvanigrellaceae']

Basin3 and Basin4: 6, ['Chroococcidiopsidaceae', 'Dermacoccaceae', 'Endozoicomonadaceae', 'Halanaerobiaceae', 'Persicobacteraceae', 'Thiotrichaceae']

Basin1 and Basin2 and Basin3: 2, ['Desulfomicrobiaceae', 'Spirulinaceae']

Basin1 and Basin2 and Basin4: 1, ['Francisellaceae']

Basin1 and Basin3 and Basin4: 17, ['Aerococcaceae', 'Borreliaceae', 'Colwelliaceae', 'Entomoplasmataceae', 'Gracilibacteraceae', 'Granulosicoccaceae', 'Idiomarinaceae', 'Lentisphaeraceae', 'Listeriaceae', 'Morganellaceae', 'Paludibacteraceae', 'Patulibacteraceae', 'Porticoccaceae', 'Pseudoalteromonadaceae', 'Rikenellaceae', 'Ruminococcaceae', 'Thermoactinomycetaceae']

Basin2 and Basin3 and Basin4: 9, ['Caldilineaceae', 'Desulfarculaceae', 'Fastidiosibacteraceae', 'Iamiaceae', 'Leptotrichiaceae', 'Microcoleaceae', 'Sutterellaceae', 'Syntrophobacteraceae', 'Tissierellaceae']

Basin1 and Basin2 and Basin3 and Basin4: 209, ['Acaryochloridaceae', 'Acetobacteraceae', 'Acidiferrobacteraceae', 'Acidimicrobiaceae', 'Acidithiobacillaceae', 'Acidobacteriaceae', 'Actinomycetaceae', 'Aeromonadaceae', 'Alcaligenaceae', 'Alcanivoracaceae', 'Alicyclobacillaceae', 'Alteromonadaceae', 'Anaerolineaceae', 'Anaplasmataceae', 'Archangiaceae', 'Atopobiaceae', 'Aurantimonadaceae', 'Azonexaceae', 'Bacillaceae', 'Bacteriovoracaceae', 'Bacteroidaceae']

'Balneolaceae', 'Bartonellaceae', 'Bdellovibrionaceae', 'Beijerinckiaceae', 'Bifidobacteriaceae',
 'Blastocatellaceae', 'Bogoriellaceae', 'Bradyrhizobiaceae', 'Brevibacteriaceae', 'Brucellaceae',
 'Bryobacteraceae', 'Burkholderiaceae', 'Campylobacteraceae', 'Cardiobacteriaceae', 'Carnobacteriaceae',
 'Catenulisporaceae', 'Caulobacteraceae', 'Cellulomonadaceae', 'Cellvibrionaceae', 'Chelatococcaceae',
 'Chitinophagaceae', 'Chromatiaceae', 'Chromobacteriaceae', 'Clostridiaceae', 'Clostridiales Family',
 'Cohaesibacteraceae', 'Comamonadaceae', 'Conexibacteraceae', 'Corynebacteriaceae', 'Coxiellaceae',
 'Crocinitomicaceae', 'Cryomorphaceae', 'Cryptosporangiaceae', 'Cyclobacteriaceae', 'Cytophagaceae',
 'Deinococcaceae', 'Demequinaceae', 'Dermabacteraceae', 'Dermatophilaceae', 'Dermocarpellaceae',
 'Desulfobacteraceae', 'Desulfobulbaceae', 'Desulfohalobiaceae', 'Desulfovibrionaceae',
 'Desulfurellaceae', 'Desulfuromonadaceae', 'Dietziaceae', 'Ectothiorhodospiraceae', 'Eggerthellaceae',
 'Enterobacteriaceae', 'Enterococcaceae', 'Erwiniaceae', 'Erysipelotrichaceae', 'Erythrobacteraceae',
 'Eubacteriaceae', 'Fibrobacteraceae', 'Flammeovirgaceae', 'Flavobacteriaceae', 'Frankiaceae',
 'Fusobacteriaceae', 'Gallionellaceae', 'Gemmataceae', 'Gemmatisimonadaceae', 'Geobacteraceae',
 'Geodermatophilaceae', 'Gordoniaceae', 'Hahellaceae', 'Haliaceae', 'Haliscomenobacteraceae',
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 'Tsukamurellaceae', 'Veillonellaceae', 'Verrucomicrobiaceae', 'Vibrionaceae', 'Woeseiaceae',
 'Xanthobacteraceae', 'Xanthomonadaceae', 'Yersiniaceae', 'Zoogloeaceae']

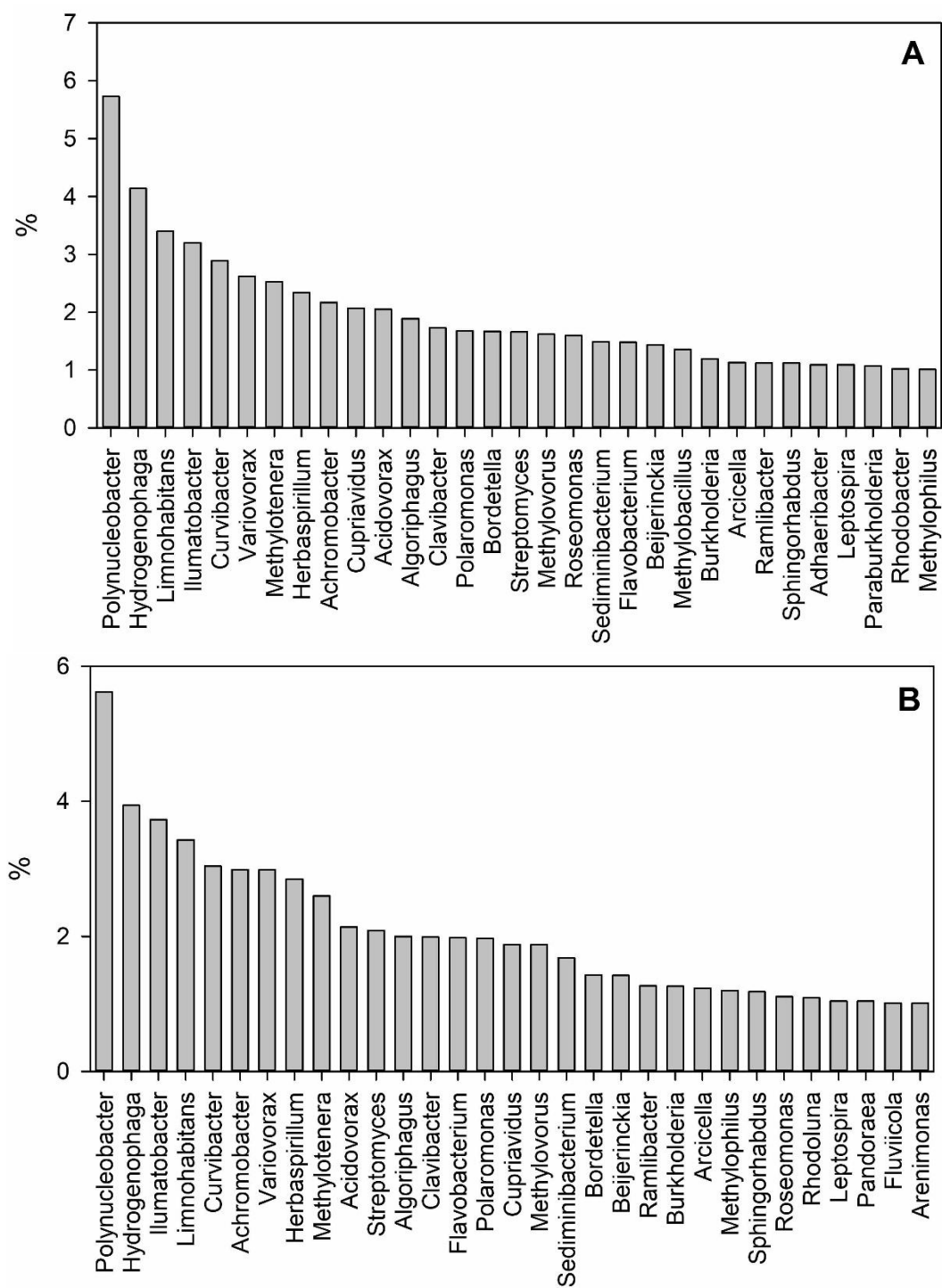


Figure S3. Basin 1. A – average, B – littoral zone. Distribution of bacterioplankton families in the basins of Lake Balaton

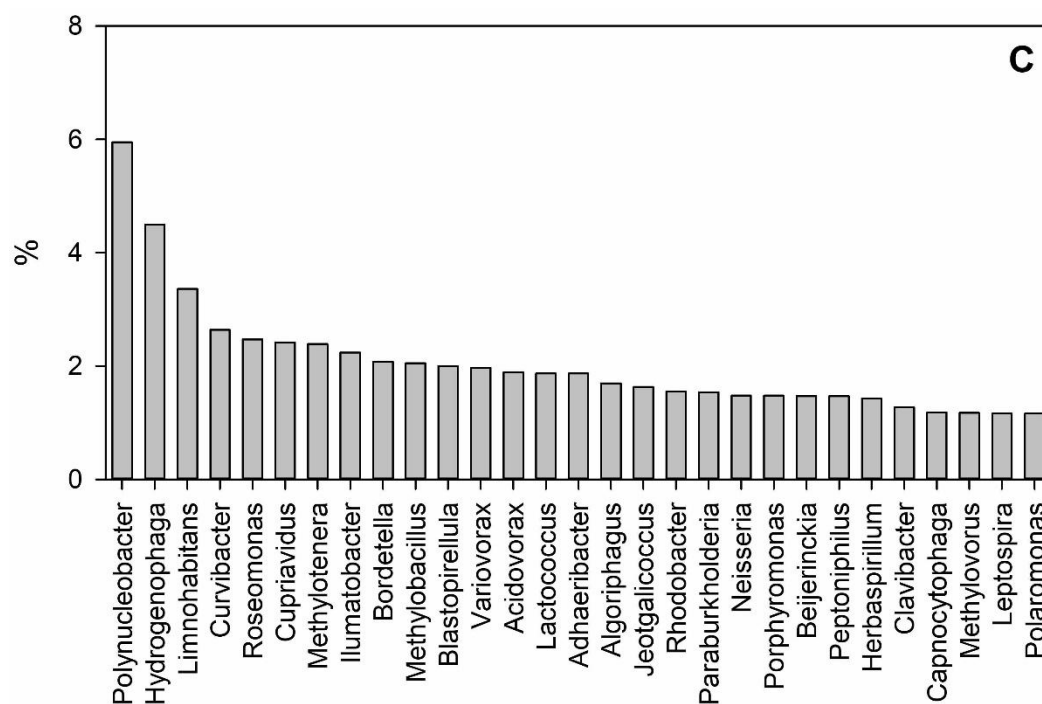


Figure S3. Basin 1. C – pelagic zone. Distribution of bacterioplankton families in the basins of Lake Balaton

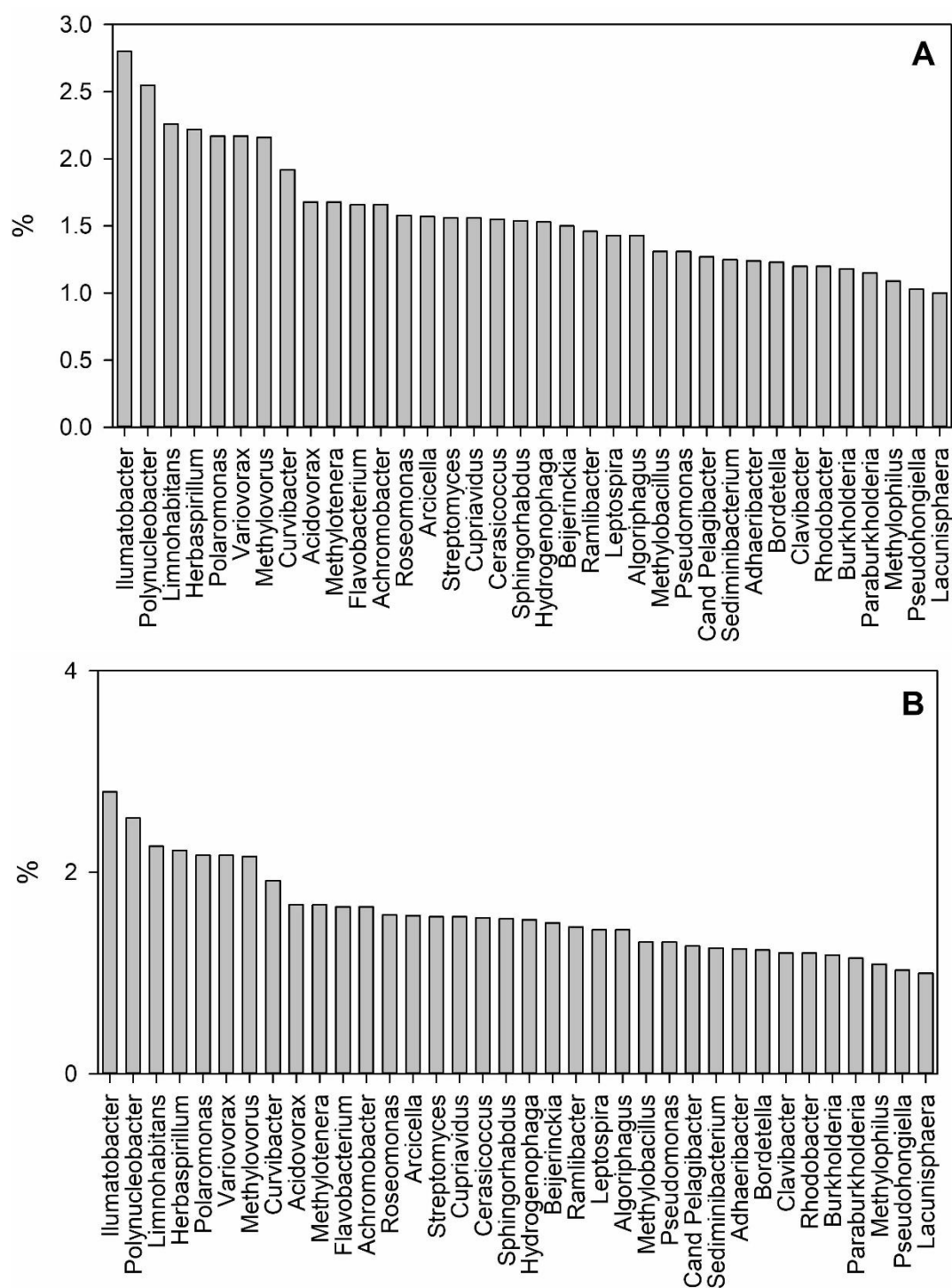


Figure S4. Basin 4. A – average, B – littoral zone. Distribution of bacterioplankton families in the basins of Lake Balaton.

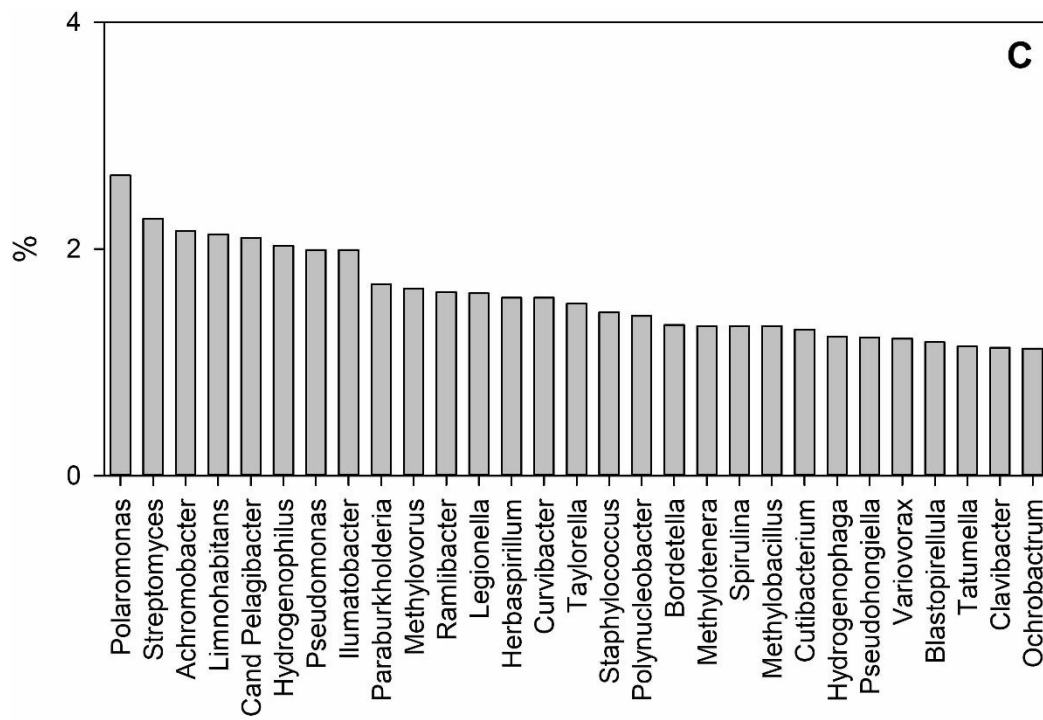


Figure S4. Basin 4. C – pelagic zone. Distribution of bacterioplankton families in the basins of Lake Balaton

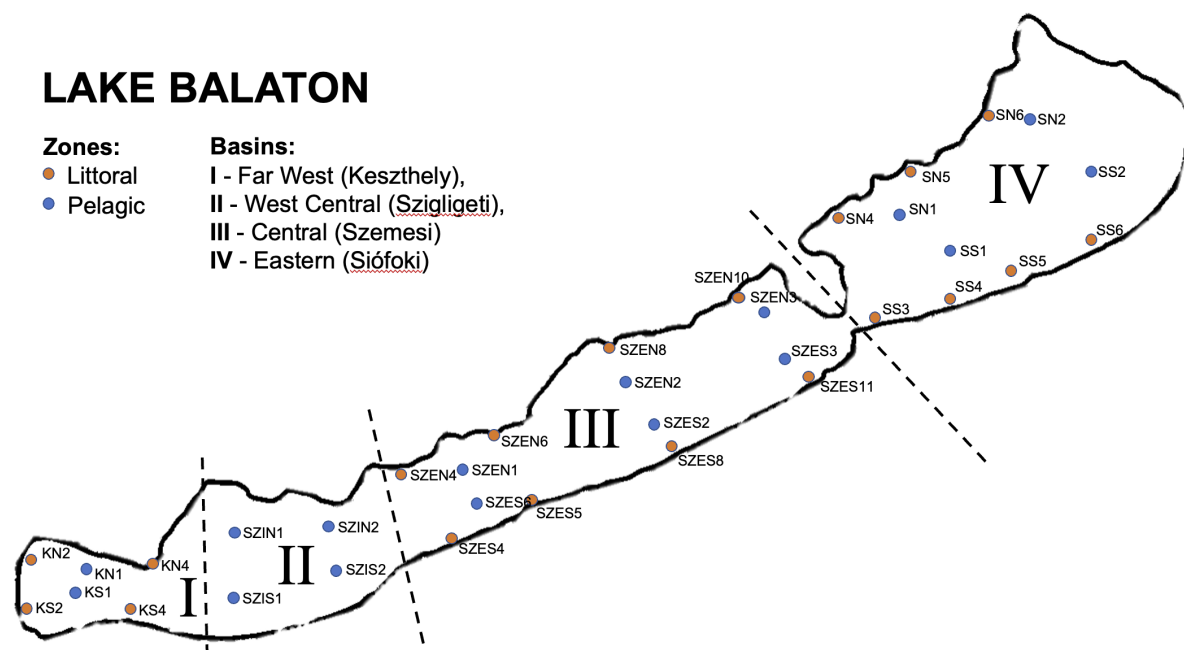


Figure S5. Schematic representation of the sampling sites for sequence-based water testing in Lake Balaton and Kis-Balaton Water Protection System. The samples within Lake Balaton have been divided into four basins: I - Far West (Keszthely), II - West Central (Szigligeti), III - Central (Szemesi), and IV - Eastern (Siófoki), and two zones: pelagic (blue circles) and littoral (orange circles). The exact coordinates of locations, along with sampling, extraction, and sequencing details, are listed in Table S1.