Table X. Bacteria classified to genus level present throughout Organic Lake water column November 2008

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| --- | --- | --- | --- | --- |
| Phylum | Class | Genera (% rank ab) | Physiology (C auto/hetero, N nitrate reduction/aa, S DMS/DMSP) | References |
| Bacteroidetes | Flavobacteria | *Psychroflexus*  *Brumimicrobium*  *Lewinella*  E6ac02  Vc2.1\_bac22  *Owenweeksia*  *Cyclobacterium*  Sb-1  *Marivirga*  *Stenothermobacter*  Ns11-12\_marine\_gp  *Persicivirga*  Wchb1-69 | 2) strict heterotrophic aerobes, ox+cat+, degrade algal ulvan (polysaccharides)  3) facultative anaerobe, fermentative metabolism |  |
|  | Cytophagia |  |  |  |
| Proteobacteria | Sphingobacteria | *Lewinella*  *Balneola*  *Gracilimonas*  *Hymenobacter*  *Flexibacter* | 1) strict aerobe, ox-,cat+, reduce nitrate? |  |
| Gammaproteobacteria | *Marinobacter* (64)  *Saccharospirillim* (9)  *Halomonas* (4.4)  *Psychromonas* (2.3)  *Glaciecola* (0.8)  *Pseudomonas* (0.3)  *Thiomicrospira* (0.3)  *Thermomonas* (0.2)  Bps-ck174 (0.1)  *Leucothrix* (0.1)  *Modicisalibacter* (0.1)  *Thiorhodovibrio* (0.1)  *Pseudospirillum* (0.1) | 1) Nitrate or DMSO reducing, Can also oxidise iron. |  |
| Alphaproteobacteria | *Roseovarius* (76)  *Loktanella* (5.7)  *Albimonas* (1.5)  TK34 (0.5)  *Phaeobacter* (0.5)  *Sphingomonas* (0.2)  *Octadecabacter* (0.2)  Db1-14 (0.2)  *Sulfitobacter* (0.2)  *Roseibaca* (0.2) | 1) Heterotrophic but can produce bacteriochlorophyll A, autotroph? | (1.Labrenz 1999) |
| Deltaproteobacteria | *Desulfotignum* (38)  *Desulfopila* (20)  *Peredibacter* (8.5)  *Bacteriovorax* (8.5)  *Desulfosalsimonas* (4.4)  *Desulfobacterium* (3.9)  *Desulfuromonas* (3.9) |  |  |
| Epsilonproteobacteria | *Sulfurimonas* (75.5)  *Sulfurospirillum* (8.1)  *Arcobacter* (7.0)  Br36 (6.4) |  |  |
|  | Actinobacteria | *Klugiella*-like (Microbacteriaceae) *Cryobacterium*-like |  |  |
|  | candidate division RF3 |  |  |  |