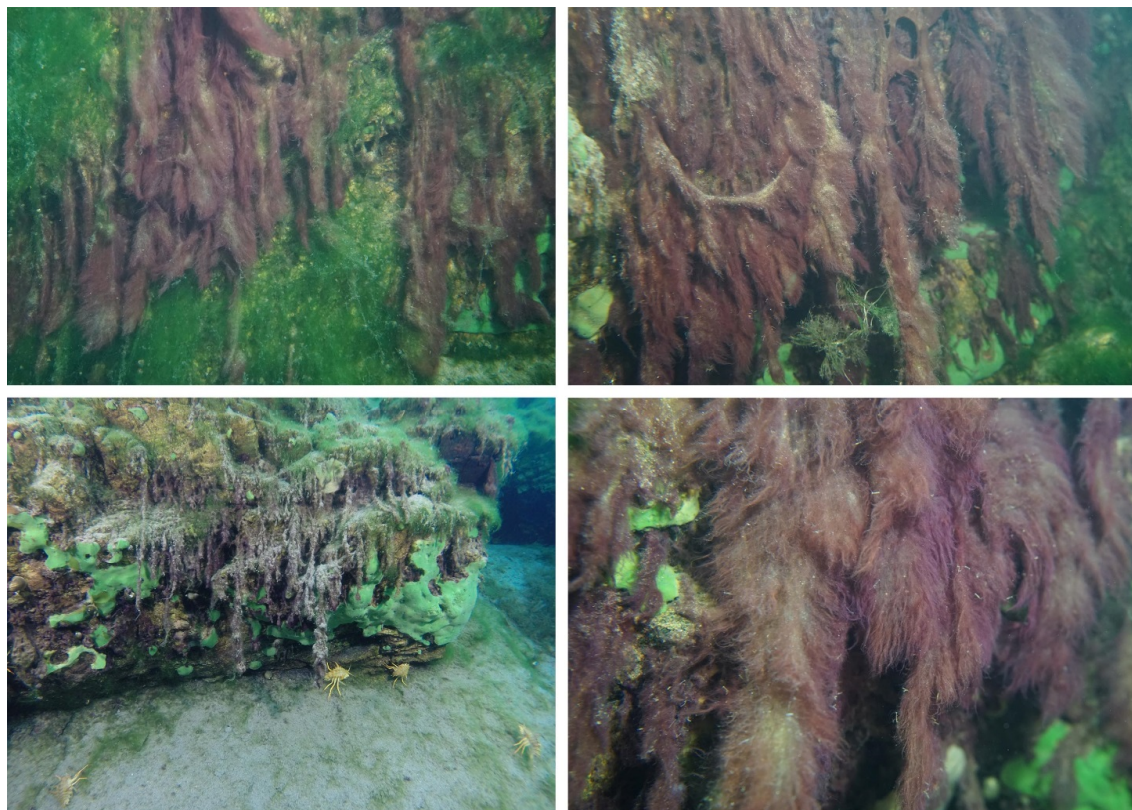


***Limnofasciculus baicalensis* gen. et sp. nov. (Coleofasciculaceae, Coleofasciculales): A new genus of cyanobacteria isolated from sponge fouling in Lake Baikal, Russia**



**Figure S1.** Morphology of thalli of the cyanobacterium *Limnofasciculus baicalensis* gen. et sp. nov. in Lake Baikal, near the Listvyanka settlement. Mats with squirrel-tail outgrowths on rocks and encrusting sponges.

**Table S3.** Biosynthetic gene clusters in *Limnofasciculus baicalensis* genome and the related cyanobacteria of the family Coleofasciculaceae (antiSMASH results).

| Biosynthetic class | Compound                                 | Number of gene clusters |    |   |    |    |   |
|--------------------|------------------------------------------|-------------------------|----|---|----|----|---|
|                    |                                          | L*                      | Cc | S | Mp | Mb | C |
| NRPS               | anabaenopeptin 908, 915                  | -                       | -  | 1 | -  | 1  | - |
|                    | cyanochelin A                            | -                       | -  | - | 1  | -  | - |
|                    | desmamide A-C                            | -                       | -  | - | 1  | -  | - |
|                    | enediyene                                | 1                       | -  | - | -  | -  | - |
|                    | hexose-palythine-serine/hexose-shinorine | -                       | 1  | 1 | -  | -  | - |
|                    | kolossin                                 | -                       | 1  | - | -  | -  | - |
|                    | microcystin                              | -                       | -  | - | 1  | -  | - |
|                    | micropeptin K139                         | -                       | -  | 1 | -  | -  | 1 |
|                    | nostophycin                              | -                       | -  | - | 1  | -  | - |
|                    | octapeptin C4                            | -                       | -  | - | -  | -  | 1 |
|                    | rhizomide A, B, C                        | 1                       | -  | - | 1  | -  | - |
|                    | scytocyclamide A, B, C, B3, A2, B2       | -                       | -  | - | -  | 1  | - |
|                    | vatiamide A-F                            | -                       | 1  | - | 2  | 2  | 1 |

|               |                                                                           |           |           |           |           |           |           |
|---------------|---------------------------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| Type I<br>PKS | varlaxin 1046A, 1022A                                                     | 1         | -         | -         | -         | -         | -         |
|               | vioprolide A-D                                                            | -         | 1         | -         | -         | -         | -         |
|               | unknown                                                                   | 1         | 2         | 1         | 3         | 4         | 6         |
|               | Curacin A                                                                 | -         | -         | -         | -         | -         | 1         |
|               | 1-heptadecene                                                             | 1         | -         | -         | 1         | 1         | 1         |
|               | heterocyst glycolipids                                                    | -         | -         | 1         | -         | -         | -         |
|               | nostoclode N1, N2                                                         | -         | -         | 1         | -         | -         | -         |
| RiPPs         | puwainaphycin A, B, C, D                                                  | -         | -         | -         | 1         | 1         | -         |
|               | unknown                                                                   | 1         | -         | -         | -         | -         | -         |
|               | apratoxin A                                                               | -         | -         | -         | -         | 2         | -         |
|               | avilamycin A, C                                                           | -         | -         | -         | -         | -         | 1         |
|               | cyanobactin (microcyclamide/piricyclamide)                                | 1         | 1         | -         | 1         | -         | 1         |
|               | Class II lanthipeptides like mutacin II (U40620)                          | -         | 1         | 1         | 1         | -         | -         |
|               | Glycosylated lanthipeptide/linaridin hybrids like MT210103                | -         | 1         | -         | 1         | -         | -         |
|               | Linear azol(in)e-containing peptide                                       | 2         | 1         | 2         | -         | 1         | 1         |
|               | microviridin                                                              | -         | -         | 1         | 1         | 1         | 1         |
|               | muscoride A, B                                                            | -         | -         | 1         | -         | 1         | -         |
|               | mycosporine-like amino acids (MAAs)                                       | -         | -         | -         | 2         | -         | -         |
|               | PcpA                                                                      | -         | -         | -         | 1         | -         | -         |
|               | saxitoxin/neosaxitoxin/decarbamoysaxitoxin/gonyautoxin3/<br>gonyautoxin 2 | -         | -         | -         | 1         | -         | -         |
|               | unknown                                                                   | 2         | -         | 4         | 3         | 5         | -         |
| Terpene       | geosmin                                                                   | 1         | -         | -         | -         | -         | -         |
|               | resorcinol                                                                | -         | -         | -         | -         | -         | 1         |
|               | unknown                                                                   | 1         | 1         | 1         | 4         | 2         | 3         |
| Hybrid        | anachelin                                                                 | -         | -         | 1         | 1         | -         | 1         |
|               | anatoxin-a/homoanatoxin-a                                                 | -         | -         | 1         | -         | -         | 1         |
|               | barbamide                                                                 | -         | -         | -         | 1         | -         | -         |
|               | fischerazole A, B, C                                                      | -         | -         | -         | -         | 1         | -         |
|               | hectochlorin                                                              | -         | -         | -         | -         | 1         | -         |
|               | hapalosin                                                                 | -         | -         | -         | 1         | -         | 1         |
|               | jamaicamide A-C                                                           | -         | -         | -         | 1         | -         | -         |
|               | luminaolide                                                               | -         | -         | 1         | -         | -         | -         |
|               | minutissamide A, C, D                                                     | -         | 1         | -         | -         | -         | -         |
|               | nostopeptolide A2                                                         | -         | -         | 1         | -         | -         | 1         |
|               | quartromicin A1                                                           | -         | -         | -         | -         | -         | 1         |
|               | tiacumicin B                                                              | -         | -         | -         | -         | 1         | -         |
|               | unknown                                                                   | -         | -         | 1         | 1         | 3         | -         |
| Other         | ladderane                                                                 | -         | -         | -         | 1         | -         | -         |
|               | homoserine lactone                                                        | -         | -         | -         | 1         | 1         | -         |
| <b>Total</b>  |                                                                           | <b>13</b> | <b>12</b> | <b>21</b> | <b>34</b> | <b>29</b> | <b>24</b> |

\* L – *Limnofasciculus baicalensis* gen. et sp. nov. BBK-W-15, Cc – *Coleofasciculus chthonoplastes* PCC 7420, S – *Symploca* sp. SIO3G5, Mp – *Moorena producens* 3L, Mb – *Moorena bouillonii* PNG5-198, C – *Caldora* sp. SIO3E6.