**Table S1:**

| **Clones** | **Blast match** | **Length** | **% ID** | **MM** | **Gaps** |
| --- | --- | --- | --- | --- | --- |
|  2-G3\_1 | gb|AY620265.1|Uncultured cercozoan | 270 | 96.67 | 7 | 2 |
|  | gb|EU567217.1|Uncultured cercozoan | 257 | 85.21 | 17 | 21 |
|  | gb|EF025033.1|Uncultured eukaryote | 144 | 95.83 | 6 | 0 |
|  | emb|FN690718.1| Uncultured Chlorophyta | 146 | 95.21 | 5 | 2 |
|  | gb|EF025011.1| Uncultured eukaryote | 146 | 95.21 | 5 | 2 |
| 2-G3\_10 | gb|DQ409123.1|Uncultured picoplankton | 261 | 99.62 | 1 | 0 |
|  | gb|FJ765385.1| Uncultured freshwater eukaryote | 261 | 99.23 | 2 | 0 |
|  | gb|AY251288.1|Dinophyceae  | 261 | 99.23 | 2 | 0 |
|  | gb|JF826341.1| Uncultured marine alveolate | 261 | 98.85 | 2 | 1 |
|  | emb|FN690253.1| Uncultured alveolate | 261 | 98.85 | 2 | 1 |
| 2-G3\_2 | gb|EU143989.1| Uncultured fungus | 261 | 99.62 | 1 | 0 |
|  | gb|FJ410578.1| Uncultured fungus | 262 | 92.37 | 18 | 2 |
|  | gb|FJ410572.1| Uncultured fungus | 262 | 92.37 | 18 | 2 |
|  | gb|GU067982.1| Uncultured fungus | 262 | 91.98 | 19 | 2 |
|  | gb|AY916724.1| Marasmius  | 268 | 86.57 | 17 | 19 |
| 2-G3\_3 | gb|FJ914495.1| Uncultured marine dinoflagellate | 260 | 94.62 | 14 | 0 |
|  | gb|FJ914474.1| Uncultured marine dinoflagellate | 260 | 94.62 | 14 | 0 |
|  | gb|EU780651.1| Ornithocercus magnificus | 260 | 94.62 | 14 | 0 |
|  | gb|EU780649.1| Ornithocercus magnificus | 260 | 94.62 | 14 | 0 |
|  | gb|EU780647.1| Ornithocercus quadratus | 260 | 94.62 | 14 | 0 |
| 2-G3\_4 | gb|FJ914495.1| Uncultured marine dinoflagellate | 260 | 95.00 | 13 | 0 |
|  | gb|FJ914474.1| Uncultured marine dinoflagellate | 260 | 95.00 | 13 | 0 |
|  | gb|EU780651.1| Ornithocercus magnificus | 260 | 95.00 | 13 | 0 |
|  | gb|EU780649.1| Ornithocercus magnificus | 260 | 95.00 | 13 | 0 |
|  | gb|EU780647.1| Ornithocercus quadratus | 260 | 95.00 | 13 | 0 |
| 2-G3\_5 | gb|FJ410512.1| Uncultured alveolate | 256 | 94.92 | 9 | 4 |
|  | gb|FJ410549.1| Uncultured alveolate | 256 | 94.53 | 10 | 4 |
|  | gb|DQ244038.1| Uncultured alveolate | 255 | 94.51 | 12 | 2 |
|  | gb|FJ410742.1| Uncultured alveolate | 255 | 94.12 | 13 | 2 |
|  | gb|FJ410727.1| Uncultured alveolate | 255 | 94.12 | 13 | 2 |
| 2-G3\_7 | gb|FJ410512.1| Uncultured alveolate  | 256 | 94.53 | 10 | 4 |
|  | gb|FJ410549.1| Uncultured alveolate | 256 | 94.14 | 11 | 4 |
|  | gb|DQ244038.1| Uncultured alveolate | 255 | 94.12 | 13 | 2 |
|  | gb|FJ410742.1| Uncultured alveolate | 255 | 93.73 | 14 | 2 |
|  | gb|FJ410727.1| Uncultured alveolate | 255 | 93.73 | 14 | 2 |
| 2-G3\_8 | gb|GQ330636.1| Uncultured Coccidia | 204 | 93.63 | 11 | 2 |
|  | gb|AF372780.1| Uncultured alveolate | 149 | 97.99 | 3 | 0 |
|  | gb|JF826385.1| Uncultured marine alveolate | 146 | 95.89 | 6 | 0 |
|  | gb|JF826379.1| Uncultured marine alveolate | 146 | 95.89 | 6 | 0 |
|  | emb|AJ271766.1| Symbiodinium | 145 | 95.86 | 6 | 0 |
| 2-G4\_1 | gb|EF526764.1| Uncultured marine eukaryote | 154 | 98.70 | 2 | 0 |
|  | gb|DQ837534.1| Gymnodinium dorsalisulcum | 154 | 98.70 | 2 | 0 |
|  | gb|DQ322643.1| Crypthecodinium | 153 | 98.69 | 2 | 0 |
|  | gb|EU780625.1| Uncultured eukaryote | 165 | 96.36 | 5 | 1 |
|  | gb|AY664986.1| Uncultured eukaryote | 164 | 96.34 | 6 | 0 |
| 2-G4\_10 | gb|AY220559.1| Chlamydomonas monadina | 250 | 99.20 | 2 | 0 |
|  | gb|AF517096.1| Chloromonas subdivisa | 250 | 98.00 | 5 | 0 |
|  | gb|U57694.1| Chlamydomonas monadina | 250 | 97.20 | 7 | 0 |
|  | emb|FN690717.1| Uncultured Chlorophyta | 250 | 97.20 | 7 | 0 |
|  | dbj|AB001374.1| Chlamydomonas | 250 | 97.20 | 7 | 0 |
| 2-G4\_2 | gb|DQ898738.1| Sistotrema oblongisporum | 261 | 99.23 | 2 | 0 |
|  | gb|DQ898719.1| Sistotrema oblongisporum | 261 | 99.23 | 2 | 0 |
|  | gb|AY757263.1| Sistotrema oblongisporum | 261 | 99.23 | 2 | 0 |
|  | gb|DQ898715.1| Sistotrema brinkmannii | 261 | 98.85 | 3 | 0 |
|  | gb|DQ898712.1| Sistotrema brinkmannii | 261 | 98.47 | 4 | 0 |
| 2-G4\_3 | gb|EU143989.1| Uncultured fungus | 254 | 90.94 | 20 | 3 |
|  | gb|FJ410578.1| Uncultured fungus | 258 | 90.31 | 22 | 3 |
|  | gb|FJ410572.1| Uncultured fungus | 258 | 90.31 | 22 | 3 |
|  | gb|GU067982.1| Uncultured fungus | 258 | 89.92 | 23 | 3 |
|  | gb|AY885046.1| Uncultured eukaryote | 151 | 96.03 | 5 | 1 |
| 2-G4\_4 | gb|FJ410512.1| Uncultured alveolate | 256 | 95.70 | 7 | 4 |
|  | gb|FJ410549.1| Uncultured alveolate | 256 | 95.31 | 8 | 4 |
|  | gb|FJ410742.1| Uncultured alveolate | 255 | 94.90 | 11 | 2 |
|  | gb|FJ410727.1| Uncultured alveolate | 255 | 94.90 | 11 | 2 |
|  | gb|FJ410785.1| Uncultured alveolate | 255 | 94.51 | 12 | 2 |
| 2-G4\_5 | gb|FJ410512.1| Uncultured alveolate | 256 | 95.31 | 8 | 4 |
|  | gb|FJ410549.1| Uncultured alveolate | 256 | 94.92 | 9 | 4 |
|  | gb|DQ244038.1| Uncultured alveolate | 255 | 94.90 | 11 | 2 |
|  | gb|FJ410742.1| Uncultured alveolate | 255 | 94.51 | 12 | 2 |
|  | gb|FJ410727.1| Uncultured alveolate | 255 | 94.51 | 12 | 2 |
| 2-G4\_6 | gb|FJ410512.1| Uncultured alveolate | 256 | 95.31 | 8 | 4 |
|  | gb|FJ410549.1| Uncultured alveolate | 256 | 94.92 | 9 | 4 |
|  | gb|FJ410742.1| Uncultured alveolate | 255 | 94.51 | 12 | 2 |
|  | gb|FJ410727.1| Uncultured alveolate | 255 | 94.51 | 12 | 2 |
|  | gb|FJ410785.1| Uncultured alveolate | 255 | 94.12 | 13 | 2 |
| 2-G4\_7 | gb|JF826386.1| Uncultured marine alveolate | 253 | 95.65 | 9 | 2 |
|  | gb|FJ914416.1| Uncultured marine dinoflagellate | 252 | 95.63 | 11 | 0 |
|  | gb|AY664930.1| Uncultured eukaryote | 257 | 94.94 | 12 | 1 |
|  | dbj|AB120003.1| Gyrodinium rubrum | 257 | 94.94 | 12 | 1 |
|  | gb|JF730800.1| Uncultured eukaryote | 252 | 95.24 | 12 | 0 |
| 2-G4\_8 | gb|FJ410512.1| Uncultured alveolate | 256 | 95.31 | 8 | 4 |
|  | gb|FJ410549.1| Uncultured alveolate | 256 | 94.92 | 9 | 4 |
|  | gb|FJ410742.1| Uncultured alveolate | 255 | 94.51 | 12 | 2 |
|  | gb|FJ410727.1| Uncultured alveolate | 255 | 94.51 | 12 | 2 |
|  | gb|FJ410785.1| Uncultured alveolate | 255 | 94.12 | 13 | 2 |
| 2-G4\_9 | gb|FJ410512.1| Uncultured alveolate | 256 | 95.31 | 8 | 4 |
|  | gb|FJ410549.1| Uncultured alveolate | 256 | 94.92 | 9 | 4 |
|  | gb|DQ244038.1| Uncultured alveolate | 255 | 94.90 | 11 | 2 |
|  | gb|FJ410742.1| Uncultured alveolate | 255 | 94.51 | 12 | 2 |
|  | gb|FJ410727.1| Uncultured alveolate | 255 | 94.51 | 12 | 2 |
| 1-G8\_10 | gb|HM487049.1| Uncultured fungus | 251 | 100.00 | 0 | 0 |
|  | gb|HM486994.1| Uncultured fungus | 251 | 100.00 | 0 | 0 |
|  | gb|HM486993.1| Uncultured fungus | 251 | 100.00 | 0 | 0 |
|  | gb|HM486989.1| Uncultured fungus | 251 | 100.00 | 0 | 0 |
|  | gb|FJ490225.1| Uncultured eukaryote | 251 | 99.60 | 1 | 0 |
| 1-G8\_2 | gb|GU292343.1| Ettlia texensis | 259 | 100.00 | 0 | 0 |
|  | dbj|AB055800.1| Coelastrella saipanensis | 259 | 100.00 | 0 | 0 |
|  | gb|GQ375093.1| Coelastrum astroideum | 259 | 99.61 | 1 | 0 |
|  | dbj|AB488562.1| Graesiella emersonii | 259 | 99.61 | 1 | 0 |
|  | gb|EF024611.1| Uncultured Scenedesmaceae | 259 | 99.61 | 1 | 0 |
| 1-G8\_3 | gb|HM487049.1| Uncultured fungus | 251 | 99.60 | 1 | 0 |
|  | gb|HM486994.1| Uncultured fungus | 251 | 99.60 | 1 | 0 |
|  | gb|HM486993.1| Uncultured fungus | 251 | 99.60 | 1 | 0 |
|  | gb|HM486989.1| Uncultured fungus | 251 | 99.60 | 1 | 0 |
|  | gb|FJ490225.1| Uncultured eukaryote | 251 | 99.20 | 2 | 0 |
| 1-G8\_4 | gb|FJ687268.2| Uncultured fungus | 251 | 99.60 | 1 | 0 |
|  | gb|AY835696.2| Uncultured eukaryote | 251 | 99.20 | 2 | 0 |
|  | gb|HM487048.1| Uncultured fungus | 251 | 98.80 | 3 | 0 |
|  | gb|HM486995.1| Uncultured fungus | 251 | 98.80 | 3 | 0 |
|  | gb|DQ510705.1| Uncultured fungus | 252 | 98.81 | 2 | 1 |
| 1-G8\_5 | gb|FJ490225.1| Uncultured eukaryote | 251 | 98.80 | 3 | 0 |
|  | gb|HM487049.1| Uncultured fungus | 251 | 98.41 | 4 | 0 |
|  | gb|HM486994.1| Uncultured fungus | 251 | 98.41 | 4 | 0 |
|  | gb|HM486993.1| Uncultured fungus | 251 | 98.41 | 4 | 0 |
|  | gb|HM486992.1| Uncultured fungus | 251 | 98.41 | 4 | 0 |
| 1-G8\_6 | gb|EU709197.1| Uncultured cercozoan | 270 | 98.89 | 2 | 1 |
|  | gb|EU709188.1| Uncultured cercozoan | 270 | 97.41 | 6 | 1 |
|  | gb|EU709199.1| Uncultured cercozoan | 270 | 97.04 | 7 | 1 |
|  | gb|EU709196.1| Uncultured cercozoan | 270 | 97.04 | 7 | 1 |
|  | gb|EU709193.1| Uncultured cercozoan | 271 | 96.68 | 6 | 3 |
| 1-G8\_8 | gb|HQ832429.1| Pachylepyrium | 262 | 96.56 | 8 | 1 |
|  | gb|DQ851584.1| Psilocybe stuntzii | 262 | 96.56 | 8 | 1 |
|  | gb|AY969186.1| Uncultured basidiomycete | 262 | 96.56 | 8 | 1 |
|  | gb|DQ113916.1| Flammula alnicola | 262 | 96.56 | 8 | 1 |
|  | gb|HQ827184.1| Galerina  | 262 | 96.18 | 9 | 1 |
| 1-G8\_9 | gb|EF586117.1| Uncultured eukaryote | 251 | 92.83 | 8 | 10 |
|  | gb|FJ687268.2| Uncultured fungus | 255 | 90.98 | 9 | 14 |
|  | gb|HM487048.1| Uncultured fungus | 255 | 90.59 | 10 | 14 |
|  | gb|HM486995.1| Uncultured fungus | 255 | 90.59 | 10 | 14 |
|  | gb|DQ510705.1| Uncultured fungus | 256 | 90.62 | 9 | 15 |
| 1-G9\_1 | emb|AJ781311.1| Chlamydomonas noctigama | 260 | 100.00 | 0 | 0 |
|  | gb|AF008241.1| Chlamydomonas noctigama | 260 | 100.00 | 0 | 0 |
|  | gb|AF008238.1| Chlamydomonas noctigama | 260 | 100.00 | 0 | 0 |
|  | gb|AF008239.1| Chlamydomonas noctigama | 260 | 99.23 | 2 | 0 |
|  | gb|AF008242.1| Chlamydomonas noctigama | 260 | 99.23 | 2 | 0 |
| 1-G9\_10 | gb|FJ490225.1| Uncultured eukaryote | 251 | 98.80 | 3 | 0 |
|  | gb|HM487049.1| Uncultured fungus | 251 | 98.41 | 4 | 0 |
|  | gb|HM486994.1| Uncultured fungus | 251 | 98.41 | 4 | 0 |
|  | gb|HM486993.1| Uncultured fungus | 251 | 98.41 | 4 | 0 |
|  | gb|HM486992.1| Uncultured fungus | 251 | 98.41 | 4 | 0 |
| 1-G9\_2 | gb|AY916573.1| Uncultured eukaryote | 244 | 96.72 | 6 | 2 |
|  | gb|FJ490225.1| Uncultured eukaryote | 233 | 97.85 | 5 | 0 |
|  | gb|HM487049.1| Uncultured fungus | 233 | 97.42 | 6 | 0 |
|  | gb|HM486994.1| Uncultured fungus | 233 | 97.42 | 6 | 0 |
|  | gb|HM486993.1| Uncultured fungus | 233 | 97.42 | 6 | 0 |
| 1-G9\_3 | gb|FJ490225.1| Uncultured eukaryote | 251 | 98.80 | 3 | 0 |
|  | gb|HM487049.1| Uncultured fungus | 251 | 98.41 | 4 | 0 |
|  | gb|HM486994.1| Uncultured fungus | 251 | 98.41 | 4 | 0 |
|  | gb|HM486993.1| Uncultured fungus | 251 | 98.41 | 4 | 0 |
|  | gb|HM486992.1| Uncultured fungus | 251 | 98.41 | 4 | 0 |
| 1-G9\_4 | gb|GU292343.1| Ettlia texensis | 259 | 100.00 | 0 | 0 |
|  | dbj|AB055800.1| Coelastrella saipanensis | 259 | 100.00 | 0 | 0 |
|  | gb|GQ375093.1| Coelastrum astroideum | 259 | 99.61 | 1 | 0 |
|  | dbj|AB488562.1| Graesiella emersonii | 259 | 99.61 | 1 | 0 |
|  | gb|EF024611.1| Uncultured Scenedesmaceae | 259 | 99.61 | 1 | 0 |
| 1-G9\_5 | gb|EU709197.1| Uncultured cercozoan | 270 | 98.89 | 2 | 1 |
|  | gb|EU709188.1| Uncultured cercozoan | 270 | 97.41 | 6 | 1 |
|  | gb|EU709199.1| Uncultured cercozoan | 270 | 97.04 | 7 | 1 |
|  | gb|EU709196.1| Uncultured cercozoan | 270 | 97.04 | 7 | 1 |
|  | gb|EU709193.1| Uncultured cercozoan | 271 | 96.68 | 6 | 3 |
| 1-G9\_6 | gb|FJ490225.1| Uncultured eukaryote | 251 | 98.80 | 3 | 0 |
|  | gb|HM487049.1| Uncultured fungus | 251 | 98.41 | 4 | 0 |
|  | gb|HM486994.1| Uncultured fungus | 251 | 98.41 | 4 | 0 |
|  | gb|HM486993.1| Uncultured fungus | 251 | 98.41 | 4 | 0 |
|  | gb|HM486992.1| Uncultured fungus | 251 | 98.41 | 4 | 0 |
| 1-G9\_7 | gb|HM487049.1| Uncultured fungus | 251 | 100.00 | 0 | 0 |
|  | gb|HM486994.1| Uncultured fungus | 251 | 100.00 | 0 | 0 |
|  | gb|HM486993.1| Uncultured fungus | 251 | 100.00 | 0 | 0 |
|  | gb|HM486989.1| Uncultured fungus | 251 | 100.00 | 0 | 0 |
|  | gb|FJ490225.1| Uncultured eukaryote | 251 | 99.60 | 1 | 0 |
| 1-G9\_8 | dbj|AB616675.1| Cercozoa  | 252 | 92.86 | 14 | 4 |
|  | gb|FJ790711.1| Cercomonas  | 252 | 92.86 | 14 | 4 |
|  | gb|AY496048.1| Neocercomonas jutlandica | 252 | 92.86 | 14 | 4 |
|  | gb|FJ790755.1| Uncultured cercomonad | 225 | 94.67 | 12 | 0 |
|  | gb|FJ790710.1| Cercomonas celer | 252 | 91.27 | 18 | 4 |
| 1-G9\_9 | gb|EF586117.1| Uncultured eukaryote | 251 | 92.83 | 8 | 10 |
|  | gb|FJ687268.2| Uncultured fungus | 255 | 90.98 | 9 | 14 |
|  | gb|HM487048.1| Uncultured fungus | 255 | 90.59 | 10 | 14 |
|  | gb|HM486995.1| Uncultured fungus | 255 | 90.59 | 10 | 14 |
|  | gb|DQ510705.1| Uncultured fungus | 256 | 90.62 | 9 | 15 |