



Article

# Metagenomic sequencing identifies highly diverse assemblages of dinoflagellate cysts in sediments from ships' ballast tanks

Lixia Shang <sup>1,2,3</sup>, Zhangxi Hu <sup>1,2,3</sup>, Yunyan Deng <sup>1,2,3</sup>, Yuyang Liu <sup>1,4</sup>, Xinyu Zhai <sup>1,4</sup>, Zhaoyang Chai <sup>1,2,3</sup>, Xiaohan Liu <sup>1,4</sup>, Zifeng Zhan <sup>5</sup>, Fred C. Dobbs <sup>6</sup> and Ying Zhong Tang <sup>1,2,3,\*</sup>

<sup>1</sup> CAS Key Laboratory of Marine Ecology and Environmental Sciences, Institute of Oceanology, Chinese Academy of Sciences, 266071 Qingdao, China; lxshang@qdio.ac.cn (L.S.); zhu@qdio.ac.cn (Z.H.); yunyandeng@qdio.ac.cn (Y.D.); lyy9303130@163.com (Y. L.); vesuviusmo@hotmail.com (X.Z.); zhaoyangchai@qdio.ac.cn (Z.C.); 15264269301@163.com (X.L.)

<sup>2</sup> Laboratory for Marine Ecology and Environmental Science, Qingdao National Laboratory for Marine Science and Technology, 266071 Qingdao, China

<sup>3</sup> Center for Ocean Mega-Science, Chinese Academy of Sciences, 266071 Qingdao, China; e-mail@e-mail.com

<sup>4</sup> University of Chinese Academy of Sciences, 100049 Beijing, China

<sup>5</sup> Department of Marine Organism Taxonomy and Phylogeny, Institute of Oceanology, Chinese Academy of Sciences, 266071 Qingdao, China; zzhan@qdio.ac.cn (Z.Z.)

<sup>6</sup> Department of Ocean, Earth and Atmospheric Sciences, Old Dominion University, Norfolk, 23529 Virginia, USA; fdobbs@odu.edu (F.C.D.)

\* Correspondence: yingzhong.tang@qdio.ac.cn; Tel.: +86-532-8289-6098 (Y.Z.T.)

## Legends for table and figures

**Table S1.** The 801 operational taxonomic units (OTUs) annotated as dinoflagellates with identity, coverage, and annotation to reference sequences in the NCBI GenBank.

**Table S2.** The 51 operational taxonomic units (OTUs) taxonomically identical to an entity in GenBank but having no species name provided.

**Table S3.** The most abundant taxa (each with reads >0.9% of the total reads).

**Table S4.** The most frequently detected operational taxonomic units (OTUs) (detected in >50% of the samples) among the 801 OTUs annotated as dinoflagellates.

**Table S5.** The most rare taxa among the 801 operational taxonomic units (OTUs) annotated as dinoflagellates (detected with 1 or 2 reads).

**Table S6.** The least frequently detected operational taxonomic units (OTUs) (detected in 1 or 2 samples).

**Table S7.** Numbers of dinoflagellate taxa reported in ships' ballast tanks, including the present study, and the studies' method(s) of identification.

**Table S8.** Dinoflagellate species reported in ballast tank sediments. Species denoted with paleontological names were not included.

**Table S9.** Dinoflagellate species reported in ships' ballast water.

**Figure S1.** Rarefaction curves for all 32 samples showing the sequencing depths.

**Figure S2.** The total number of operational taxonomic units (OTUs) and reads annotated as dinoflagellates in the 32 samples.

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**Table S1.** The 801 operational taxonomic units (OTUs) annotated as dinoflagellates with identity, coverage, and annotation to reference sequences in the NCBI GenBank.

| OTU ID  | OUT length | Gi number | Identity | Align length | coverage | Taxon                                                                                                                                                    |
|---------|------------|-----------|----------|--------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| OTU100  | 485        | AB858353  | 97.32    | 485          | 100      | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biechele<br>riaceae;g__Biecheleria;s__Biecheleria_brevisulcata                       |
| OTU1007 | 331        | EF616462  | 86.41    | 309          | 92       | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__G<br>ymnodiniaceae;g__Cochlodinium;s__Cochlodinium_cf__geminatum                  |
| OTU1010 | 472        | EF616463  | 95.35    | 86           | 18       | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__<br>_norank;s__Unclassified DINO                                               |
| OTU1012 | 478        | AB858353  | 92.48    | 479          | 100      | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biechele<br>riaceae;g__Biecheleria;s__Biecheleria_brevisulcata                       |
| OTU1013 | 489        | AB858353  | 92.86    | 490          | 100      | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biechele<br>riaceae;g__Biecheleria;s__Biecheleria_brevisulcata                       |
| OTU1014 | 435        | EF616464  | 98.68    | 76           | 17       | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__<br>_norank;s__Unclassified DINO                                               |
| OTU1017 | 346        | EF616464  | 98.68    | 76           | 22       | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__<br>_norank;s__Unclassified DINO                                               |
| OTU1019 | 499        | FJ947042  | 83.53    | 510          | 100      | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__W<br>arnowiaceae;g__Warnowia;s__Warnowia_sp__BSL-2009a                            |
| OTU102  | 496        | KJ508360  | 95.77    | 497          | 100      | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Ka<br>reniaceae;g__Karenia;s__Karenia_cristata                                    |
| OTU1034 | 524        | EU048553  | 98.46    | 520          | 99       | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Pfiest<br>eriaaceae;g__unclassified_Pfiesteriaceae;s__Pfiesteriaceae_sp__masanensis |
| OTU1037 | 549        | HQ176320  | 90       | 90           | 35       | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__<br>_norank;s__Unclassified DINO                                               |
| OTU1038 | 549        | AY950447  | 89.33    | 75           | 36       | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__<br>_norank;s__Unclassified DINO                                               |
| OTU1039 | 546        | AY950447  | 89.33    | 75           | 36       | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__<br>_norank;s__Unclassified DINO                                               |
| OTU104  | 248        | KC895475  | 97.14    | 245          | 99       | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biechele<br>riaceae;g__Biecheleria;s__Biecheleria_cincta                             |
| OTU1043 | 432        | EU048553  | 97.92    | 433          | 100      | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Pfiest<br>eriaaceae;g__unclassified_Pfiesteriaceae;s__Pfiesteriaceae_sp__masanensis |
| OTU105  | 251        | AF318248  | 96.41    | 251          | 99       | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__G<br>ymnodiniaceae;g__Gymnodinium;s__unclassified_Gymnodinium                     |
| OTU1051 | 374        | EU048553  | 99.43    | 352          | 94       | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Pfiest<br>eriaaceae;g__unclassified_Pfiesteriaceae;s__Pfiesteriaceae_sp__masanensis |
| OTU1058 | 500        | EU126801  | 77.84    | 528          | 100      | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Borghie<br>llaceae;g__Borghiella;s__Borghiella_dodgei                                |
| OTU1059 | 488        | AY571374  | 84.05    | 489          | 99       | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lop<br>hodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima                      |

|         |     |            |       |     |     |                                                                                                                                  |
|---------|-----|------------|-------|-----|-----|----------------------------------------------------------------------------------------------------------------------------------|
| OTU1061 | 507 | AY571374   | 82.75 | 510 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima |
| OTU1063 | 501 | AY571374   | 81.32 | 514 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima |
| OTU1064 | 512 | JN119844   | 77.15 | 547 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_sp._HCBC88    |
| OTU1066 | 507 | JN119844   | 76.14 | 549 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_sp._HCBC88    |
| OTU1068 | 506 | AY571374.1 | 81    | 506 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_sp.        |
| OTU1069 | 504 | AY571374   | 79.35 | 523 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima |
| OTU1070 | 487 | AY571374   | 76.2  | 500 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima |
| OTU1071 | 513 | JN119844   | 76.35 | 554 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_sp._HCBC88    |
| OTU1072 | 487 | AY571374   | 84.6  | 487 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima |
| OTU1073 | 501 | AY571374   | 83.83 | 507 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima |
| OTU1074 | 512 | JN119844   | 76.17 | 554 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_sp._HCBC88    |
| OTU1075 | 477 | EU126801   | 98.74 | 478 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Borghiellaceae;g__Borghiella;s__Borghiella_dodgei            |
| OTU1076 | 481 | AY571374   | 81.24 | 517 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima |
| OTU1078 | 490 | AY571374   | 81.14 | 493 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima |
| OTU1079 | 486 | AY571374   | 84.39 | 487 | 98  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima |
| OTU1081 | 503 | EU126801   | 75.73 | 515 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Borghiellaceae;g__Borghiella;s__Borghiella_dodgei            |
| OTU1082 | 509 | EU126801   | 79.62 | 520 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Borghiellaceae;g__Borghiella;s__Borghiella_dodgei            |
| OTU1083 | 488 | AY571374   | 83.5  | 491 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima |
| OTU1085 | 507 | EU126801.1 | 80    | 540 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Borghiellaceae;g__Borghiella;s__Borghiella_sp.               |
| OTU1088 | 512 | JN119844   | 75.27 | 558 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_sp._HCBC88    |

|         |     |            |       |     |     |                                                                                                                                     |
|---------|-----|------------|-------|-----|-----|-------------------------------------------------------------------------------------------------------------------------------------|
| OTU1090 | 500 | AY571374   | 82.02 | 534 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima    |
| OTU1091 | 514 | HQ902267   | 76.44 | 556 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_triquetra        |
| OTU1092 | 510 | JN119844   | 76.97 | 547 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_sp._HCBC88       |
| OTU1097 | 487 | EU126801   | 76.76 | 525 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Borghiellaceae;g__Borghiella;s__Borghiella_dodgei               |
| OTU1098 | 476 | AY571374   | 79.18 | 490 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima    |
| OTU1099 | 496 | AY571374   | 77.92 | 530 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima    |
| OTU110  | 413 | KF031312   | 76.43 | 420 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_minima           |
| OTU1101 | 489 | AY571374   | 79.11 | 517 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima    |
| OTU1103 | 485 | AY571374   | 80.67 | 507 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima    |
| OTU1104 | 478 | AY571374   | 81.93 | 487 | 97  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima    |
| OTU1105 | 505 | AY571374   | 81.84 | 523 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima    |
| OTU1110 | 501 | AY571374   | 80.9  | 513 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima    |
| OTU1112 | 494 | AY571374   | 82.34 | 504 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima    |
| OTU1113 | 528 | EU126801.1 | 94    | 91  | 49  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__Unclassified DINO                               |
| OTU1115 | 281 | EU126801   | 96.47 | 283 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Borghiellaceae;g__Borghiella;s__Borghiella_dodgei               |
| OTU1117 | 235 | EF058276   | 83.33 | 234 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_pascheri      |
| OTU1119 | 500 | AY571374   | 82.82 | 489 | 96  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima    |
| OTU1138 | 506 | JN119844   | 82.84 | 507 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_sp._HCBC88       |
| OTU1146 | 522 | HM483396   | 88.7  | 522 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea   |
| OTU1150 | 317 | EU165289   | 97.16 | 317 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thracosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp._CCMP2775 |

|         |     |            |       |     |     |                                                                                                                                         |
|---------|-----|------------|-------|-----|-----|-----------------------------------------------------------------------------------------------------------------------------------------|
| OTU1151 | 261 | EU165289   | 98.43 | 255 | 98  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp._CCMP2775   |
| OTU1158 | 236 | HQ845331   | 94.92 | 236 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_sweeneyae      |
| OTU1161 | 313 | HM483396   | 93.29 | 313 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea     |
| OTU1162 | 501 | KF751924   | 92.48 | 532 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_aff._acuminata |
| OTU1178 | 487 | HQ670228.1 | 98    | 487 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea     |
| OTU1180 | 295 | EU370959   | 96.96 | 296 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea     |
| OTU1182 | 549 | KT804914.1 | 90    | 95  | 18  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__Unclassified DINO                                   |
| OTU1183 | 487 | AY154965   | 74.64 | 414 | 81  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gonyaulacaceae;g__Gonyaulax;s__Gonyaulax-like_sp.                |
| OTU1184 | 544 | KT390028.1 | 95.22 | 544 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Blastodinales;f__norank;g__Blastodinium;s__Blastodinium_sp.                       |
| OTU1188 | 477 | KT390028.1 | 89.1  | 477 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Blastodinales;f__norank;g__Blastodinium;s__Blastodinium_sp.                       |
| OTU1189 | 532 | KT390028.1 | 95.86 | 532 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Blastodinales;f__norank;g__Blastodinium;s__Blastodinium_contortum                 |
| OTU1198 | 526 | KT390028.1 | 95.27 | 486 | 92  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Blastodinales;f__norank;g__Blastodinium;s__Blastodinium_sp.                       |
| OTU12   | 523 | EU126801   | 74.54 | 538 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Borghiellaceae;g__Borghiella;s__Borghiella_sp.                      |
| OTU1201 | 497 | FJ947042   | 86.08 | 510 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Warnowiaceae;g__Warnowia;s__Warnowia_sp._BSL-2009a                |
| OTU1202 | 487 | AF200669   | 79.84 | 501 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Gymnodiniaceae;g__Lepidodinium;s__Lepidodinium_chlorophorum       |
| OTU1308 | 494 | EF469233.1 | 75    | 519 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Kareniaceae;g__Karlodinium-like;s__Karlodinium-like_sp.           |
| OTU1314 | 497 | FR720082   | 81.71 | 514 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Gymnodiniaceae;g__Gyrodiniellum;s__Gyrodiniellum_shiwhaense       |
| OTU1316 | 500 | KP790188   | 91.71 | 422 | 84  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Gymnodiniaceae;g__Gymnodinium;s__Gymnodinium_sp.                  |
| OTU1318 | 533 | KP790233   | 93.58 | 436 | 82  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Brachidiniaceae;g__Torodinium;s__Torodinium_teredo                |
| OTU1319 | 509 | FJ024703   | 98.43 | 509 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Kareniaceae;g__Takayama;s__Takayama_acrotrocha                    |

|         |     |          |       |     |     |                                                                                                                               |
|---------|-----|----------|-------|-----|-----|-------------------------------------------------------------------------------------------------------------------------------|
| OTU1320 | 495 | FJ024703 | 96.38 | 497 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Kareniaceae;g__Takayama;s__Takayama_acrotrocha         |
| OTU1321 | 489 | FJ024705 | 100   | 489 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta      |
| OTU1322 | 497 | FJ024705 | 98.39 | 497 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta      |
| OTU1324 | 501 | FJ024705 | 96.01 | 501 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta      |
| OTU1326 | 497 | AB858353 | 96.39 | 499 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_breviculata |
| OTU1327 | 499 | FJ024705 | 97.6  | 499 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta      |
| OTU1328 | 510 | FJ024705 | 91.73 | 508 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta      |
| OTU1329 | 508 | FJ024705 | 95.44 | 504 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta      |
| OTU1330 | 499 | FJ024705 | 93.99 | 499 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta      |
| OTU1331 | 510 | FJ024705 | 94.07 | 506 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta      |
| OTU1332 | 494 | FJ024705 | 97.57 | 494 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta      |
| OTU1333 | 500 | FJ024705 | 92.22 | 501 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta      |
| OTU1335 | 494 | FJ024705 | 92.12 | 495 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta      |
| OTU1336 | 487 | FJ024705 | 96.71 | 487 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta      |
| OTU1337 | 499 | FJ024705 | 94.19 | 499 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta      |
| OTU1339 | 485 | FJ024705 | 94.02 | 485 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta      |
| OTU1342 | 485 | FJ024705 | 93.81 | 485 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta      |
| OTU1343 | 490 | FJ024705 | 97.56 | 491 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta      |
| OTU1345 | 477 | FJ024705 | 92.75 | 483 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta      |
| OTU1346 | 489 | FJ024705 | 91.85 | 491 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta      |

|         |     |          |       |     |     |                                                                                                                                        |
|---------|-----|----------|-------|-----|-----|----------------------------------------------------------------------------------------------------------------------------------------|
| OTU1347 | 499 | FJ024705 | 92.22 | 501 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biechele<br>riaceae;g__Biecheleria;s__Biecheleria_cincta           |
| OTU1349 | 497 | FJ024705 | 92.6  | 500 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biechele<br>riaceae;g__Biecheleria;s__Biecheleria_cincta           |
| OTU1351 | 485 | FJ024705 | 95.82 | 502 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biechele<br>riaceae;g__Biecheleria;s__Biecheleria_cincta           |
| OTU1353 | 479 | FJ024705 | 93.95 | 479 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biechele<br>riaceae;g__Biecheleria;s__Biecheleria_cincta           |
| OTU1354 | 479 | FJ024705 | 92.9  | 479 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biechele<br>riaceae;g__Biecheleria;s__Biecheleria_cincta           |
| OTU1356 | 493 | FJ024705 | 93.1  | 493 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biechele<br>riaceae;g__Biecheleria;s__Biecheleria_cincta           |
| OTU1357 | 494 | FJ024705 | 93.72 | 494 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biechele<br>riaceae;g__Biecheleria;s__Biecheleria_cincta           |
| OTU1359 | 492 | FJ024705 | 95.53 | 492 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biechele<br>riaceae;g__Biecheleria;s__Biecheleria_cincta           |
| OTU1360 | 491 | FJ024705 | 92.68 | 492 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biechele<br>riaceae;g__Biecheleria;s__Biecheleria_cincta           |
| OTU1361 | 491 | FJ024705 | 90.84 | 491 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biechele<br>riaceae;g__Biecheleria;s__Biecheleria_cincta           |
| OTU1363 | 488 | FJ024705 | 93.24 | 488 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biechele<br>riaceae;g__Biecheleria;s__Biecheleria_cincta           |
| OTU1364 | 486 | FJ024705 | 92.59 | 486 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biechele<br>riaceae;g__Biecheleria;s__Biecheleria_cincta           |
| OTU1365 | 497 | FJ024705 | 91.98 | 499 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biechele<br>riaceae;g__Biecheleria;s__Biecheleria_cincta           |
| OTU1366 | 508 | FJ024705 | 94.44 | 504 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biechele<br>riaceae;g__Biecheleria;s__Biecheleria_cincta           |
| OTU1367 | 488 | FJ024705 | 90.8  | 489 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biechele<br>riaceae;g__Biecheleria;s__Biecheleria_cincta           |
| OTU1369 | 513 | FJ024705 | 84.27 | 515 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biechele<br>riaceae;g__Biecheleria;s__Biecheleria_cincta           |
| OTU1370 | 209 | FJ024706 | 98.06 | 206 | 98  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lop<br>hodiniaceae;g__Woloszynskia;s__Woloszynskia_sp_MB-1       |
| OTU1372 | 229 | FJ024706 | 98.67 | 225 | 98  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lop<br>hodiniaceae;g__Woloszynskia;s__Woloszynskia_sp_MB-1       |
| OTU1400 | 525 | KT390028 | 79    | 525 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Blastodinales;<br>f__Blastodinales;g__Blastodinium-like;s__Blastodinium-like_sp. |
| OTU1401 | 514 | KT390028 | 91.31 | 518 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Blastodinales;<br>f__Blastodinales;g__Blastodinium-like;s__Blastodinium-like_sp. |

|         |     |            |       |     |     |                                                                                                                                        |
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| OTU1402 | 517 | KT390028   | 91.68 | 517 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Blastodinales;<br>f__Blastodinales;g__Blastodinium-like;s__Blastodinium-like_sp. |
| OTU1404 | 528 | KT390028   | 90.53 | 528 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Blastodinales;<br>f__Blastodinales;g__Blastodinium-like;s__Blastodinium-like_sp. |
| OTU1407 | 528 | KT390028   | 89.58 | 528 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Blastodinales;<br>f__Blastodinales;g__Blastodinium-like;s__Blastodinium-like_sp. |
| OTU1409 | 501 | KT390028   | 91.82 | 501 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Blastodinales;<br>f__Blastodinales;g__Blastodinium-like;s__Blastodinium-like_sp. |
| OTU1410 | 531 | KT390028   | 86.96 | 537 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Blastodinales;<br>f__Blastodinales;g__Blastodinium-like;s__Blastodinium-like_sp. |
| OTU1412 | 518 | KT390028   | 84.45 | 521 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Blastodinales;<br>f__Blastodinales;g__Blastodinium-like;s__Blastodinium-like_sp. |
| OTU1413 | 529 | KT390028   | 88.72 | 532 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Blastodinales;<br>f__Blastodinales;g__Blastodinium-like;s__Blastodinium-like_sp. |
| OTU1414 | 521 | KT390028   | 94.63 | 521 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Blastodinales;<br>f__Blastodinales;g__Blastodinium-like;s__Blastodinium-like_sp. |
| OTU1415 | 531 | KT390028   | 90.4  | 531 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Blastodinales;<br>f__Blastodinales;g__Blastodinium-like;s__Blastodinium-like_sp. |
| OTU1417 | 526 | KT390028   | 86.09 | 532 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Blastodinales;<br>f__Blastodinales;g__Blastodinium-like;s__Blastodinium-like_sp. |
| OTU1436 | 478 | EF616465.1 | 87    | 478 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Gy<br>mnodiniaceae;g__Gymnodinium;s__Gymnodinium_impudicum-like  |
| OTU1437 | 486 | FR720082.1 | 95    | 488 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Gy<br>mnodiniaceae;g__Gyrodiniellum;s__Gyrodiniellum_shiwhaense  |
| OTU1438 | 483 | FR720082.1 | 94    | 483 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Gymnodi<br>niaceae;g__Gyrodiniellum;s__Gyrodiniellum_shiwhaense  |
| OTU1439 | 489 | FR720082.1 | 95    | 483 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Gymnodi<br>niaceae;g__Gyrodiniellum;s__Gyrodiniellum_shiwhaense  |
| OTU1440 | 488 | FR720082.1 | 92.21 | 488 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Gymnodi<br>niaceae;g__Gyrodiniellum;s__Gyrodiniellum_shiwhaense  |
| OTU1448 | 530 | FJ160592   | 90.12 | 81  | 33  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__<br>_norank;s__Unclassified DINO                             |
| OTU1449 | 536 | FJ160592   | 90.12 | 81  | 33  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__<br>_norank;s__Unclassified DINO                             |
| OTU1450 | 535 | FJ160592   | 90.12 | 81  | 33  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__<br>_norank;s__Unclassified DINO                             |
| OTU1451 | 552 | FJ160592   | 90.12 | 81  | 32  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__<br>_norank;s__Unclassified DINO                             |
| OTU1453 | 548 | FJ160592   | 90.12 | 81  | 32  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__<br>_norank;s__Unclassified DINO                             |

|         |     |            |       |     |     |                                                                                                                                   |
|---------|-----|------------|-------|-----|-----|-----------------------------------------------------------------------------------------------------------------------------------|
| OTU1454 | 562 | FJ160592   | 90.12 | 81  | 31  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__Unclassified DINO                             |
| OTU1455 | 548 | FJ160592   | 90.12 | 81  | 32  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__Unclassified DINO                             |
| OTU1456 | 540 | FJ160592   | 90.12 | 81  | 33  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__Unclassified DINO                             |
| OTU1457 | 505 | FJ167681   | 97.43 | 505 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Pfiesteriaceae;g__Tyrannodinium;s__Tyrannodinium_berolinense |
| OTU1459 | 505 | FJ167681   | 96.63 | 505 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Pfiesteriaceae;g__Tyrannodinium;s__Tyrannodinium_berolinense |
| OTU1466 | 457 | JQ616825   | 72    | 250 | 56  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Gymnodiniaceae;g__Gymnodinium-like;s__Gymnodinium-like_sp.  |
| OTU1494 | 490 | FJ211386   | 98.98 | 490 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Polykrikaceae;g__Polykrikos;s__Polykrikos_geminatum         |
| OTU1495 | 503 | KT389895.1 | 99    | 503 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Pyrocystales;f__Pyrocystaceae;g__Dissodinium;s__Dissodinium_pseudolunula    |
| OTU1498 | 507 | FJ236464   | 100   | 502 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Glenodiniaceae;g__Peridiniopsis;s__Peridiniopsis_borgei      |
| OTU1511 | 489 | EU707473   | 92.06 | 491 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gonyaulacaceae;g__Alexandrium;s__Alexandrium_minutum       |
| OTU1520 | 484 | FJ939579   | 72.27 | 494 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gonyaulacaceae;g__Gonyaulax;s__Gonyaulax_sp.               |
| OTU1550 | 332 | KJ481814   | 85    | 200 | 60  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;s__Unclassified DINO                                                           |
| OTU1570 | 500 | KP790240   | 98.33 | 419 | 84  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Warnowiaceae;g__Warnowia;s__Warnowia_sp._4_AR-2015          |
| OTU1571 | 497 | FJ947041   | 89.56 | 498 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Warnowiaceae;g__Nematodinium;s__Nematodinium_sp._BSL-2009a  |
| OTU1572 | 492 | FJ947041   | 93.71 | 493 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Warnowiaceae;g__Nematodinium;s__Nematodinium_sp._BSL-2009a  |
| OTU1573 | 407 | FJ947041   | 88.24 | 408 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Warnowiaceae;g__Nematodinium;s__Nematodinium_sp._BSL-2009a  |
| OTU1574 | 353 | FJ947041   | 90.67 | 343 | 97  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Warnowiaceae;g__Nematodinium;s__Nematodinium_sp._BSL-2009a  |
| OTU1576 | 498 | FJ947042   | 89.68 | 504 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Warnowiaceae;g__Warnowia;s__Warnowia_sp._BSL-2009a          |
| OTU1577 | 418 | KP790242   | 98.8  | 418 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Warnowiaceae;g__Warnowia;s__Warnowia_sp._5_AR-2015          |
| OTU1588 | 297 | AB473665   | 97.31 | 297 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Dinophysiales;f__Dinophysaceae;g__Dinophysis;s__Dinophysis_lativelata       |
| OTU1593 | 490 | JQ247713   | 73.1  | 513 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Heter                                                        |

|         |     |            |       |     |     |                                                                                                                                                                               |
|---------|-----|------------|-------|-----|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OTU1594 | 463 | FN357291   | 72.73 | 484 | 99  | ocapsaceae;g__Heterocapsa;s__Heterocapsa_sp.<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Kareniaceae;g__Karlodinium;s__Karlodinium_sp._KAMS0708 |
| OTU1599 | 506 | FJ600087   | 93.48 | 506 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Pfiesteriaceae;g__Pfiesteria;s__Pfiesteria_piscicida                                                    |
| OTU1607 | 503 | FJ600087   | 88.66 | 529 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Pfiesteriaceae;g__Pfiesteria;s__Pfiesteria_piscicida                                                    |
| OTU1612 | 478 | KF751927.1 | 70    | 478 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thracosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp.                                                   |
| OTU1613 | 461 | EF205003   | 83.72 | 86  | 53  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__Unclassified DINO                                                                         |
| OTU1620 | 334 | LC027066   | 82.08 | 106 | 32  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__Unclassified DINO                                                                         |
| OTU1622 | 447 | KJ189480   | 83.5  | 103 | 23  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thracosphaeraceae;g__Scrippsiella-like;s__Scrippsiella-like_sp.                                         |
| OTU1625 | 466 | EU126801.1 | 70    | 466 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Borghiellaceae;g__Borghiella;s__Borghiella_sp.                                                            |
| OTU1626 | 506 | HQ902267   | 80    | 141 | 90  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_sp.                                                       |
| OTU1629 | 458 | KJ433986   | 72.79 | 463 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Pfiesteriaceae;g__Pentaparsodinium;s__Pentaparsodinium_sp._ZL-2014                                      |
| OTU1630 | 496 | LC068842   | 81    | 549 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Biecheleria-like;s__Biecheleria-like_sp.                                             |
| OTU1636 | 494 | FN557541   | 96.76 | 494 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinophyceae;f__norank;g__Stoeckeria;s__Stoeckeria_sp._SSMS0806                                             |
| OTU1639 | 504 | FN557541   | 99.8  | 504 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinophyceae;f__norank;g__Stoeckeria;s__Stoeckeria_sp._SSMS0806                                             |
| OTU1640 | 485 | LK934662   | 92.26 | 478 | 98  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Pfiesteriaceae;g__Aduncodinium;s__Aduncodinium_glandula                                                 |
| OTU1643 | 498 | FN557541   | 96.79 | 498 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinophyceae;f__norank;g__Stoeckeria;s__Stoeckeria_sp._SSMS0806                                             |
| OTU1645 | 489 | FN557541   | 93.05 | 489 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinophyceae;f__norank;g__Stoeckeria;s__Stoeckeria_sp._SSMS0806                                             |
| OTU1676 | 525 | HE611580   | 94.32 | 88  | 55  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Gyrodinium;s__Gyrodinium_sp._HJ-2011                                                 |
| OTU1695 | 507 | LC002848   | 82.09 | 402 | 79  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinophyceae;f__norank;g__norank;s__Unclassified DINO                                                       |
| OTU1775 | 504 | HM483396   | 96.83 | 504 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea                                            |
| OTU1776 | 482 | HM483396   | 92.95 | 482 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thra                                                                                                    |

|         |     |          |       |     |     |                                                                                                                                         |
|---------|-----|----------|-------|-----|-----|-----------------------------------------------------------------------------------------------------------------------------------------|
| OTU1777 | 506 | HM483396 | 96.83 | 505 | 99  | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora |
| OTU1778 | 494 | HM483396 | 95.75 | 494 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora |
| OTU1779 | 503 | HM483396 | 97.01 | 501 | 99  | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora |
| OTU1780 | 499 | HM483396 | 94.39 | 499 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora |
| OTU1781 | 499 | HM483396 | 93.79 | 499 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora |
| OTU1782 | 505 | HM483396 | 97.82 | 505 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora |
| OTU1783 | 526 | KF751926 | 85.33 | 525 | 99  | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora |
| OTU1785 | 527 | HM483396 | 95.98 | 522 | 99  | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp.<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora        |
| OTU1788 | 505 | HM483396 | 96.44 | 505 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora |
| OTU1789 | 513 | HM483396 | 95.13 | 513 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora |
| OTU1790 | 511 | HM483396 | 86.19 | 507 | 98  | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora |
| OTU1792 | 503 | HM483396 | 96.21 | 501 | 99  | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora |
| OTU1794 | 499 | HM483396 | 96.79 | 498 | 99  | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora |
| OTU1795 | 489 | HM483396 | 96.52 | 489 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora |
| OTU1796 | 505 | HM483396 | 95.84 | 505 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora |
| OTU1799 | 503 | HM483396 | 89.66 | 503 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora |
| OTU1800 | 504 | HM483396 | 96.63 | 504 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora |
| OTU1804 | 496 | HM483396 | 94.02 | 502 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora |
| OTU1807 | 496 | HM483396 | 93.15 | 496 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora |
| OTU1811 | 527 | HM483396 | 88.95 | 525 | 99  | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora |

|         |     |          |       |     |     |                                                                                                                                                     |
|---------|-----|----------|-------|-----|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| OTU1821 | 493 | HM483396 | 94.64 | 504 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora             |
| OTU1822 | 497 | HM483396 | 93.37 | 498 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora             |
| OTU1824 | 492 | HM483396 | 88.96 | 498 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora             |
| OTU1826 | 493 | HM483396 | 92.12 | 520 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora             |
| OTU1828 | 490 | HM483396 | 91.8  | 488 | 99  | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora             |
| OTU1832 | 369 | HM483396 | 92.14 | 369 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora             |
| OTU1834 | 377 | HM483396 | 91.8  | 378 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora             |
| OTU1836 | 508 | HM483396 | 88.04 | 510 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora             |
| OTU1842 | 516 | HM483396 | 94.79 | 518 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora             |
| OTU1848 | 500 | HM483396 | 94.19 | 516 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora             |
| OTU185  | 518 | AY245689 | 97.68 | 517 | 99  | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Pfiest            |
| OTU1850 | 486 | HM483396 | 91.56 | 486 | 100 | eriaceae;g__unclassified_Pfiesteriaceae;s__Pfiesteria-like_DINO_Lucy<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora |
| OTU1853 | 494 | EF152961 | 91.5  | 494 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Diplo             |
| OTU1855 | 506 | HM483396 | 93.74 | 527 | 100 | psaliaceae;g__Preperidinium;s__Protoperidinium_cf._steidingerae<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora      |
| OTU186  | 519 | AY245689 | 94.8  | 519 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Pfiest            |
| OTU1864 | 476 | HM483396 | 94.76 | 477 | 100 | eriaceae;g__unclassified_Pfiesteriaceae;s__Pfiesteria-like_DINO_Lucy<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora |
| OTU1866 | 358 | HM483396 | 92.46 | 358 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora             |
| OTU1867 | 489 | HM483396 | 95.71 | 489 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora             |
| OTU1870 | 502 | HM483396 | 95    | 500 | 99  | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora             |
| OTU1871 | 362 | HM483396 | 96.97 | 363 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora             |

|         |     |          |       |     |     |                                                                                                                                                  |
|---------|-----|----------|-------|-----|-----|--------------------------------------------------------------------------------------------------------------------------------------------------|
| OTU1876 | 459 | HM483396 | 95.21 | 459 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thora           |
| OTU1879 | 436 | HM483396 | 89.33 | 431 | 99  | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thora           |
| OTU1884 | 489 | HM483396 | 92.02 | 489 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thora           |
| OTU1886 | 490 | HM483396 | 94.67 | 488 | 99  | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thora           |
| OTU1887 | 475 | HM483396 | 97.05 | 475 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thora           |
| OTU1892 | 511 | HM483396 | 96.69 | 513 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thora           |
| OTU1897 | 498 | HM483396 | 90.56 | 498 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thora           |
| OTU1898 | 480 | HM483396 | 92.97 | 498 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thora           |
| OTU1906 | 395 | HM483396 | 96.23 | 398 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thora           |
| OTU1907 | 500 | HM483396 | 92.83 | 516 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thora           |
| OTU1910 | 505 | HM483396 | 89.5  | 505 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thora           |
| OTU1911 | 507 | KP702719 | 92.31 | 507 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Diplo           |
| OTU1912 | 507 | HM483396 | 95.87 | 508 | 100 | psaliaceae;g__Oblea;s__Oblea_rotunda<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thora                               |
| OTU1913 | 495 | AF260393 | 94.55 | 495 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thora           |
| OTU1915 | 280 | HM483396 | 95.68 | 278 | 99  | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thora           |
| OTU1917 | 496 | HM483396 | 89.31 | 496 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thora           |
| OTU192  | 499 | AY245689 | 94.59 | 499 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Pfiest          |
| OTU1920 | 489 | HM483399 | 89.82 | 491 | 100 | eriaeae;g__unclassified_Pfiesteriaceae;s__Pfiesteria-like_DINO_Lucy<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinoph |
| OTU1921 | 509 | HM483399 | 95.86 | 507 | 99  | yceae;f__norank;g__Duboscquodinium;s__Duboscquodinium_collinii<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinoph      |
| OTU1925 | 492 | HM483399 | 88.66 | 494 | 100 | yceae;f__norank;g__Duboscquodinium;s__Duboscquodinium_collinii<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinoph      |

|         |     |          |       |     |     |                                                                                                                                                   |
|---------|-----|----------|-------|-----|-----|---------------------------------------------------------------------------------------------------------------------------------------------------|
| OTU1926 | 502 | HM483399 | 92.87 | 505 | 100 | yceae;f__norank;g__Duboscquodinium;s__Duboscquodinium_collinii<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinoph       |
| OTU1928 | 502 | HM483399 | 92.54 | 496 | 99  | yceae;f__norank;g__Duboscquodinium;s__Duboscquodinium_collinii<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinoph       |
| OTU1931 | 327 | HM483399 | 83.17 | 315 | 96  | yceae;f__norank;g__Duboscquodinium;s__Duboscquodinium_collinii<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinoph       |
| OTU1932 | 297 | HM483399 | 86.38 | 279 | 94  | yceae;f__norank;g__Duboscquodinium;s__Duboscquodinium_collinii<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinoph       |
| OTU199  | 525 | AY245689 | 96.88 | 32  | 81  | yceae;f__norank;g__Duboscquodinium;s__Duboscquodinium_collinii<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Pfiest     |
| OTU1996 | 482 | EF205002 | 85.9  | 78  | 38  | eriacae;g__unclassified_Pfiesteriaceae;s__Pfiesteria-like_DINO_Lucy<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__ |
| OTU1997 | 474 | EF205002 | 88.24 | 68  | 37  | _norank;s__Unclassified_DINO<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__                                        |
| OTU1998 | 477 | KR362886 | 89.47 | 57  | 36  | _norank;s__Unclassified_DINO<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__                                        |
| OTU2000 | 494 | FR720082 | 80.72 | 498 | 100 | _norank;s__Unclassified_DINO<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__G                                           |
| OTU2002 | 493 | FR720082 | 82.29 | 497 | 100 | ymnodiniaceae;g__Gyrodiniellum;s__Gyrodiniellum_sp.<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__G                    |
| OTU2003 | 499 | AM408889 | 81.37 | 510 | 100 | ymnodiniaceae;g__Gyrodiniellum;s__Gyrodiniellum_sp.<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__G                    |
| OTU2008 | 333 | EF205002 | 92.59 | 108 | 32  | ymnodiniaceae;g__Paragymnodinium;s__Paragymnodinium_sp.<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__             |
| OTU201  | 227 | LK934662 | 91.15 | 226 | 99  | _norank;s__Unclassified_DINO<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Pfiest                                       |
| OTU2013 | 221 | EF205002 | 92.59 | 108 | 49  | eriacae;g__Aduncodinium;s__Aduncodinium_glandula<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Gleno                    |
| OTU2014 | 296 | EF205002 | 92.59 | 108 | 36  | diniaceae;g__Glenodiniopsis;s__Glenodiniopsis_sp.<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Gleno                   |
| OTU2023 | 532 | JX262498 | 77.01 | 548 | 100 | diniaceae;g__Glenodiniopsis;s__Glenodiniopsis_sp.<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Peridi                  |
| OTU2024 | 518 | JN119844 | 76.28 | 548 | 99  | niaceae;g__Pentapharsodinium;s__Pentapharsodinium_sp.<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Heter               |
| OTU2025 | 504 | AF260399 | 80.35 | 514 | 100 | ocapsaceae;g__Heterocapsa;s__Heterocapsa_sp._HCB88<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Heter                  |
| OTU2027 | 484 | JX262498 | 91.74 | 484 | 100 | ocapsaceae;g__Heterocapsa;s__Heterocapsa_sp.<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Peridi                       |
| OTU2028 | 458 | JN119844 | 74    | 500 | 100 | niaceae;g__Pentapharsodinium;s__Pentapharsodinium_dalei<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Heter             |

|         |     |            |       |     |     |                                                                                                                                                                                       |
|---------|-----|------------|-------|-----|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OTU2031 | 282 | JN119844   | 82.17 | 258 | 91  | ocapsaceae;g__Heterocapsa;s__Heterocapsa_sp._HCBC88<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_sp._HCBC88 |
| OTU2032 | 235 | HQ845329   | 86.94 | 222 | 94  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridinaceae;g__Pentapharsodinium;s__Pentapharsodinium_tyrrhenicum                                              |
| OTU2033 | 288 | HQ845329   | 96.89 | 289 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridinaceae;g__Pentapharsodinium;s__Pentapharsodinium_tyrrhenicum                                              |
| OTU2034 | 364 | HQ845328   | 79.94 | 359 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Eusculifera;s__Eusculifera_aff._loeblichii                                                |
| OTU2036 | 495 | KF751926   | 89.05 | 539 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp.                                                          |
| OTU2037 | 379 | HM483396   | 93.8  | 371 | 98  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea                                                   |
| OTU2038 | 505 | AF260399   | 91.18 | 510 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_sp.                                                               |
| OTU2039 | 496 | HQ902267   | 97.98 | 496 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_triquetra                                                         |
| OTU204  | 502 | KJ450986   | 93.21 | 501 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridinaceae;g__Peridinium;s__Peridinium_baicalense                                                             |
| OTU2042 | 512 | HQ902267   | 82.91 | 515 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_triquetra                                                         |
| OTU2044 | 502 | HQ902267   | 82.9  | 503 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_triquetra                                                         |
| OTU2046 | 423 | EU165312   | 88.86 | 431 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_rotundata                                                         |
| OTU2050 | 487 | KJ433986   | 75.51 | 490 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridinaceae;g__Pentapharsodinium;s__Pentapharsodinium_sp._ZL-2014                                              |
| OTU2059 | 416 | JF521637   | 98.56 | 417 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gonyaulacaceae;g__Alexandrium;s__Alexandrium_ostenfeldii                                                       |
| OTU2060 | 466 | JF521638   | 100   | 466 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gonyaulacaceae;g__Alexandrium;s__Alexandrium_pseudogoniaulax                                                   |
| OTU2061 | 481 | JF521638   | 100   | 398 | 83  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gonyaulacaceae;g__Alexandrium;s__Alexandrium_pseudogoniaulax                                                   |
| OTU2062 | 474 | JF521638   | 90.32 | 475 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gonyaulacaceae;g__Alexandrium;s__Alexandrium_pseudogoniaulax                                                   |
| OTU2068 | 502 | JF430394   | 92.63 | 502 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Pfiesteriaceae;g__Chimonodinium;s__Chimonodinium_lomnickii                                                      |
| OTU207  | 488 | KJ670426.1 | 76    | 488 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Karlodiniaceae;g__Karlodinium;s__Karlodinium_sp.                                                               |
| OTU2078 | 515 | JN119844   | 84.17 | 518 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heter                                                                                                           |

|         |     |          |       |     |     |                                                                                                                                                                                                |
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| OTU2079 | 284 | HM483399 | 85.77 | 281 | 99  | ocapsaceae;g__Heterocapsa;s__Heterocapsa_sp._HCBC88<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinophyceae;f__norank;g__Duboscquodinium;s__Duboscquodinium_collinii |
| OTU2083 | 511 | HQ670228 | 96.08 | 510 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thra cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea                                                             |
| OTU2085 | 498 | HQ670228 | 95.38 | 498 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thra cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea                                                             |
| OTU2093 | 497 | HQ670228 | 94.37 | 497 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thra cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea                                                             |
| OTU21   | 481 | AF260389 | 92.53 | 482 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Cer atiaceae;g__Neoceratium;s__Neoceratium_tripos                                                                       |
| OTU210  | 426 | EU165272 | 80.12 | 322 | 75  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Heter ocapsaceae;g__unclassified_Heterocapsaceae;s__Heterocapsaceae-like sp.                                              |
| OTU2109 | 428 | HQ670228 | 96.9  | 420 | 98  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thra cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea                                                             |
| OTU2110 | 436 | HQ670228 | 95.86 | 435 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thra cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea                                                             |
| OTU2149 | 474 | AB871538 | 83.67 | 49  | 19  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__ _norank;s__Unclassified DINO                                                                                        |
| OTU215  | 465 | AY284951 | 98.71 | 465 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Ka reniaceae;g__Takayama;s__Takayama_helix                                                                               |
| OTU2173 | 499 | LC027067 | 74    | 82  | 50  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__ _norank;s__Unclassified DINO                                                                                        |
| OTU2176 | 513 | KJ508390 | 92.42 | 66  | 35  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__ _norank;s__Unclassified DINO                                                                                        |
| OTU2177 | 501 | HQ176320 | 99.6  | 502 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Pfiest eriaceae;g__Chimonodinium;s__Chimonodinium_lomnickii                                                               |
| OTU2181 | 471 | HQ176320 | 86.86 | 472 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Pfiest eriaceae;g__Chimonodinium;s__Chimonodinium_lomnickii                                                               |
| OTU2185 | 497 | FN647674 | 96.45 | 422 | 85  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__G ymnodiniaceae;g__Barrufeta;s__Barrufeta_bravensis                                                                      |
| OTU2188 | 494 | FN647674 | 98.1  | 421 | 85  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__G ymnodiniaceae;g__Barrufeta;s__Barrufeta_bravensis                                                                      |
| OTU2190 | 477 | FN649409 | 91.96 | 112 | 23  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__G ymnodiniaceae;g__norank;s__Unclassified Gymnodinium-like species                                                       |
| OTU2191 | 478 | AF200673 | 91.96 | 112 | 42  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__G ymnodiniaceae;g__norank;s__Unclassified Gymnodinium-like species                                                       |
| OTU2196 | 479 | DQ195375 | 75.21 | 480 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Suessia ceae;g__Pelagodinium;s__Pelagodinium_sp.                                                                           |
| OTU2197 | 479 | JN558107 | 95.6  | 477 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Suessia                                                                                                                    |

|         |     |          |       |     |     |                                                                                                                                                            |
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| OTU2198 | 503 | JN558107 | 73.87 | 509 | 100 | ceae;g_Pelagodinium;s_Pelagodinium_béii<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Suessia<br>ceae;g_Pelagodinium;s_Pelagodinium_sp. |
| OTU2202 | 478 | JN558107 | 96.44 | 478 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Suessia<br>ceae;g_Pelagodinium;s_Pelagodinium_béii                                           |
| OTU2206 | 443 | JN558107 | 94    | 147 | 46  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_norank;f_norank;g_<br>_norank;s_Unclassified DINO                                                         |
| OTU2207 | 489 | JN558110 | 77.92 | 548 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Suessia<br>ceae;g_Polarella;s_Polarella_glacialis                                            |
| OTU2208 | 485 | JN558110 | 83    | 485 | 99  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Suessia<br>ceae;g_Polarella;s_Polarella_sp.                                                  |
| OTU2211 | 481 | JN558110 | 97.51 | 481 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Suessia<br>ceae;g_Polarella;s_Polarella_glacialis                                            |
| OTU2212 | 489 | JN558110 | 79    | 544 | 97  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Suessia<br>ceae;g_Polarella;s_Polarella_sp.                                                  |
| OTU2213 | 469 | JN558110 | 90.04 | 472 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Suessia<br>ceae;g_Polarella;s_Polarella_glacialis                                            |
| OTU2218 | 440 | KF031312 | 77.95 | 449 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Heter<br>ocapsaceae;g_Heterocapsa;s_Heterocapsa_minima                                      |
| OTU2224 | 495 | JN119844 | 80.24 | 506 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Heter<br>ocapsaceae;g_Heterocapsa;s_Heterocapsa_sp_HCBC88                                   |
| OTU225  | 480 | AY154960 | 98.96 | 480 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gonyaulacales;f_Go<br>nyaulacaceae;g_Gonyaulax;s_Gonyaulax_cf_spinifera                                   |
| OTU2258 | 498 | HQ902267 | 71    | 531 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Heter<br>ocapsaceae;g_Heterocapsa;s_Heterocapsa_triquetra                                   |
| OTU226  | 486 | AY154960 | 97.54 | 407 | 83  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gonyaulacales;f_Go<br>nyaulacaceae;g_Gonyaulax;s_Gonyaulax_cf_spinifera                                   |
| OTU2261 | 492 | AF260400 | 81.25 | 496 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Heter<br>ocapsaceae;g_Heterocapsa;s_Heterocapsa_rotundata                                   |
| OTU2263 | 496 | JQ247713 | 81.6  | 500 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Heter<br>ocapsaceae;g_Heterocapsa;s_Heterocapsa_niei                                        |
| OTU2264 | 510 | HQ902267 | 72.46 | 541 | 99  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Heter<br>ocapsaceae;g_Heterocapsa;s_Heterocapsa_triquetra                                   |
| OTU2265 | 493 | JQ247714 | 88.38 | 499 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gonyaulacales;f_Cla<br>dopyxidaceae;g_Peridiniella;s_Peridiniella_sp_NC-2011                              |
| OTU2266 | 515 | HQ902267 | 81.98 | 516 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Heter<br>ocapsaceae;g_Heterocapsa;s_Heterocapsa_triquetra                                   |
| OTU2267 | 516 | JQ247714 | 93.86 | 521 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gonyaulacales;f_Cla<br>dopyxidaceae;g_Peridiniella;s_Peridiniella_sp_NC-2011                              |
| OTU2269 | 497 | JQ247713 | 83    | 500 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Heter                                                                                       |

|         |     |          |       |     |     |                                                                                                                                                                                |
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| OTU227  | 487 | AY154960 | 96.45 | 479 | 98  | ocapsaceae;g__Heterocapsa;s__Heterocapsa_niei<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gonyaulacaceae;g__Gonyaulax;s__Gonyaulax_cf__spinifera |
| OTU2271 | 513 | JQ247714 | 92.65 | 517 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Cladopyxidaceae;g__Peridiniella;s__Peridiniella_sp__NC-2011                                             |
| OTU2277 | 446 | HQ890883 | 98    | 47  | 9   | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__Unclassified DINO                                                                          |
| OTU2279 | 444 | HQ890883 | 98    | 81  | 11  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__Unclassified DINO                                                                          |
| OTU228  | 483 | AY154960 | 97.49 | 478 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gonyaulacaceae;g__Gonyaulax;s__Gonyaulax_cf__spinifera                                                  |
| OTU2280 | 398 | HQ890883 | 98    | 73  | 11  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__Unclassified DINO                                                                          |
| OTU2281 | 319 | HQ176319 | 89.47 | 38  | 37  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__Unclassified DINO                                                                          |
| OTU2305 | 544 | JN606065 | 97.8  | 545 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Syndiniales;f__Eudubosquellidae;g__Euduboscquella;s__Euduboscquella_crenulata                                            |
| OTU2310 | 533 | JN606065 | 98.12 | 533 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Syndiniales;f__Eudubosquellidae;g__Euduboscquella;s__Euduboscquella_crenulata                                            |
| OTU2311 | 425 | JN606065 | 95.67 | 416 | 98  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Syndiniales;f__Eudubosquellidae;g__Euduboscquella;s__Euduboscquella_crenulata                                            |
| OTU2316 | 542 | JN934984 | 96.68 | 542 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Syndiniales;f__Eudubosquellidae;g__Euduboscquella;s__Euduboscquella_sp__ex_Tintinnopsis_sp__1                            |
| OTU2321 | 359 | JN934984 | 94.74 | 361 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Syndiniales;f__Eudubosquellidae;g__Euduboscquella;s__Euduboscquella_sp__ex_Tintinnopsis_sp__1                            |
| OTU2324 | 555 | JN934988 | 98.2  | 556 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Syndiniales;f__Eudubosquellidae;g__Euduboscquella;s__Euduboscquella_cachoni                                              |
| OTU2325 | 561 | JN934988 | 96.8  | 563 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Syndiniales;f__Eudubosquellidae;g__Euduboscquella;s__Euduboscquella_cachoni                                              |
| OTU2326 | 544 | JN934988 | 99.26 | 537 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Syndiniales;f__Eudubosquellidae;g__Euduboscquella;s__Euduboscquella_cachoni                                              |
| OTU2330 | 511 | JN934989 | 73.9  | 521 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Syndiniales;f__Eudubosquellidae;g__Euduboscquella;s__Euduboscquella_sp__ex_Favella_arcuata                               |
| OTU2332 | 498 | JN934989 | 69.26 | 501 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Syndiniales;f__Eudubosquellidae;g__Euduboscquella;s__Euduboscquella_sp__ex_Favella_arcuata                               |
| OTU2340 | 542 | JN934989 | 76.78 | 547 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Syndiniales;f__Eudubosquellidae;g__Euduboscquella;s__Euduboscquella_sp__ex_Favella_arcuata                               |
| OTU2343 | 537 | JN934989 | 76.33 | 545 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Syndiniales;f__Eudubosquellidae;g__Euduboscquella;s__Euduboscquella_sp__ex_Favella_arcuata                               |
| OTU2344 | 540 | JN934994 | 99.63 | 540 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Syndiniales;f__Eudub                                                                                                     |

|         |     |          |       |     |     |                                                                                                                                                                                                                |
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| OTU2345 | 477 | JN934999 | 90.79 | 76  | 27  | osquellidae;g_Euduboscquella;s_Euduboscquella_sp_ex_Tintinnopsis_sp_2<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Syndiniales;f_Eudub<br>osquellidae;g_norank;s_Unclassified Euduboscquellidae species |
| OTU2348 | 503 | FR877580 | 93.47 | 505 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gonyaulacales;f_Am<br>phidomataceae;g_Azadinium;s_Azadinium_cf_poporum_HJ-2011                                                                                |
| OTU2350 | 499 | FR877580 | 96.99 | 499 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gonyaulacales;f_Am<br>phidomataceae;g_Azadinium;s_Azadinium_cf_poporum_HJ-2011                                                                                |
| OTU236  | 473 | AY154960 | 81.54 | 65  | 47  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gonyaulacales;f_Go<br>nyaulacaceae;g_norank;s_Unclassified DINO                                                                                               |
| OTU237  | 470 | AY154960 | 94.89 | 489 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gonyaulacales;f_Go<br>nyaulacaceae;g_Gonyaulax;s_Gonyaulax_cf_spinifera                                                                                       |
| OTU2393 | 477 | JQ616825 | 92    | 106 | 32  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gymnodinales;f_no<br>rank;g_norank;s_Unclassified DINO                                                                                                        |
| OTU2399 | 490 | JF921198 | 98.78 | 490 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gonyaulacales;f_Go<br>nyaulacaceae;g_Alexandrium;s_Alexandrium_peruvianum                                                                                     |
| OTU240  | 436 | AY154960 | 96.45 | 422 | 97  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gonyaulacales;f_Go<br>nyaulacaceae;g_Gonyaulax;s_Gonyaulax_cf_spinifera                                                                                       |
| OTU2407 | 494 | JQ616825 | 76.41 | 496 | 99  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gymnodinales;f_G<br>ymnodiniaceae;g_Gymnodinium;s_Gymnodinium_catenatum                                                                                       |
| OTU2408 | 507 | AY331681 | 81.57 | 510 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gymnodinales;f_G<br>ymnodiniaceae;g_Lepidodinium;s_Lepidodinium_chlorophorum                                                                                  |
| OTU2419 | 460 | KP702713 | 74.19 | 461 | 98  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Diplo<br>psaliaceae;g_Lebouraia;s_Lebouraia_pusilla                                                                                             |
| OTU2425 | 409 | HM596557 | 90    | 154 | 50  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gymnodinales;f_G<br>ymnodiniaceae;g_norank;s_Unclassified gymnodiniaceae species                                                                              |
| OTU2426 | 460 | JX262498 | 78.46 | 455 | 96  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Peridi<br>niaceae;g_Pentapharsodinium;s_Pentapharsodinium_sp.                                                                                   |
| OTU2428 | 235 | JQ639752 | 85.71 | 189 | 80  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Gleno<br>diniaceae;g_Peridiniopsis;s_Peridiniopsis_minima                                                                                       |
| OTU2433 | 519 | FN557541 | 94.38 | 89  | 54  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_unclassified_Dinoph<br>yceae;f_norank;g_norank;s_Unclassified DINO                                                                                            |
| OTU2442 | 496 | JQ413373 | 89.56 | 498 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele<br>riaceae;g_Biecheleria;s_Biecheleria_cincta                                                                                           |
| OTU2446 | 507 | FJ024705 | 89.11 | 505 | 99  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele<br>riaceae;g_Biecheleria;s_Biecheleria_cincta                                                                                           |
| OTU2447 | 502 | FJ024705 | 88.14 | 506 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele<br>riaceae;g_Biecheleria;s_Biecheleria_cincta                                                                                           |
| OTU2448 | 384 | JQ413374 | 96.35 | 384 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele<br>riaceae;g_Biecheleria;s_Biecheleria_cincta                                                                                           |
| OTU2450 | 492 | FJ024705 | 86.87 | 495 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele                                                                                                                                         |

|         |     |          |       |     |     |                                                                                                                            |
|---------|-----|----------|-------|-----|-----|----------------------------------------------------------------------------------------------------------------------------|
| OTU2451 | 481 | FJ024705 | 91.12 | 484 | 100 | riaceae;g_Biecheleria;s_Biecheleria_cincta<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele       |
| OTU2452 | 487 | FJ024705 | 95.89 | 487 | 100 | riaceae;g_Biecheleria;s_Biecheleria_cincta<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele       |
| OTU2453 | 447 | JQ413374 | 97.32 | 447 | 100 | riaceae;g_Biecheleria;s_Biecheleria_cincta<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele       |
| OTU2454 | 431 | JQ413374 | 97.65 | 426 | 99  | riaceae;g_Biecheleria;s_Biecheleria_cincta<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele       |
| OTU2455 | 506 | FJ024705 | 88.39 | 508 | 100 | riaceae;g_Biecheleria;s_Biecheleria_cincta<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele       |
| OTU2456 | 444 | JQ413374 | 96.26 | 454 | 100 | riaceae;g_Biecheleria;s_Biecheleria_cincta<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele       |
| OTU2457 | 428 | JQ413374 | 97.44 | 430 | 100 | riaceae;g_Biecheleria;s_Biecheleria_cincta<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele       |
| OTU2458 | 505 | AB858353 | 91.68 | 505 | 100 | riaceae;g_Biecheleria;s_Biecheleria_cincta<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele       |
| OTU2459 | 489 | FJ024705 | 90.1  | 495 | 100 | riaceae;g_Biecheleria;s_Biecheleria_brevisulcata<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele |
| OTU2461 | 389 | JQ413374 | 95.85 | 386 | 99  | riaceae;g_Biecheleria;s_Biecheleria_cincta<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele       |
| OTU2463 | 404 | JQ413374 | 97.28 | 404 | 100 | riaceae;g_Biecheleria;s_Biecheleria_cincta<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele       |
| OTU2466 | 403 | JQ413374 | 96.78 | 404 | 100 | riaceae;g_Biecheleria;s_Biecheleria_cincta<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele       |
| OTU2467 | 492 | FJ024705 | 86.49 | 496 | 100 | riaceae;g_Biecheleria;s_Biecheleria_cincta<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele       |
| OTU2468 | 356 | JQ413374 | 94.38 | 356 | 100 | riaceae;g_Biecheleria;s_Biecheleria_cincta<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele       |
| OTU2470 | 486 | JQ413374 | 84.54 | 485 | 99  | riaceae;g_Biecheleria;s_Biecheleria_cincta<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele       |
| OTU2471 | 470 | JQ413374 | 98.67 | 300 | 63  | riaceae;g_Biecheleria;s_Biecheleria_cincta<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele       |
| OTU2473 | 485 | JQ413374 | 98.68 | 303 | 62  | riaceae;g_Biecheleria;s_Biecheleria-like_sp.<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele     |
| OTU2474 | 309 | JQ413374 | 96.44 | 309 | 100 | riaceae;g_Biecheleria;s_Biecheleria_cincta<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele       |
| OTU2475 | 312 | JQ413374 | 93.2  | 309 | 99  | riaceae;g_Biecheleria;s_Biecheleria_cincta<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele       |
| OTU2488 | 226 | HQ845329 | 84.58 | 227 | 99  | riaceae;g_Biecheleria;s_Biecheleria_cincta<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Peridi        |

|         |     |          |       |     |     |                                                                                                                                                                                                       |
|---------|-----|----------|-------|-----|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OTU2492 | 512 | JQ179865 | 80    | 78  | 61  | niaceae;g_Pentapharsodinium;s_Pentapharsodinium_tyrrenicum<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gymnodiniales;f_U<br>nclassified Gymnodiniaceae;g_norank;s_Unclassified Gymnodiniaceae |
| OTU2495 | 501 | KP790208 | 89.47 | 76  | 15  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_norank;f_norank;g_<br>_norank;s_Unclassified DINO                                                                                                    |
| OTU2496 | 517 | KP790208 | 89.47 | 76  | 15  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_norank;f_norank;g_<br>_norank;s_Unclassified DINO                                                                                                    |
| OTU2497 | 515 | AB702991 | 99.42 | 515 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Amph<br>idiniopsidaceae;g_Archaeoperidinium;s_Archaeoperidinium_saanichi                                                               |
| OTU25   | 503 | AF260392 | 85.74 | 505 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Thora<br>cosphaeraceae;g_Scrippsiella;s_Scrippsiella_sp.                                                                               |
| OTU250  | 462 | AY154962 | 90.52 | 464 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gonyaulacales;f_Go<br>nyaulacaceae;g_Gonyaulax;s_Gonyaulax_baltica                                                                                   |
| OTU2537 | 477 | HQ845327 | 88    | 84  | 23  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_norank;f_norank;g_<br>_norank;s_Unclassified DINO                                                                                                    |
| OTU2560 | 508 | HQ902267 | 73.01 | 515 | 98  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Heter<br>ocapsaceae;g_Heterocapsa;s_Heterocapsa_triquetra                                                                              |
| OTU2561 | 502 | EU165273 | 84.34 | 198 | 39  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Heter<br>ocapsaceae;g_unclassified_Heterocapsaceae;s_Unclassified<br>Heterocapsaceae_sp.                                               |
| OTU2565 | 311 | JN982387 | 97.75 | 311 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Thora<br>cosphaeraceae;g_Scrippsiella;s_Scrippsiella_donghaiensis                                                                      |
| OTU2567 | 248 | JN982387 | 96.33 | 245 | 99  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Thora<br>cosphaeraceae;g_Scrippsiella;s_Scrippsiella_donghaiensis                                                                      |
| OTU2572 | 484 | HM483396 | 91.21 | 478 | 99  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Thora<br>cosphaeraceae;g_Scrippsiella;s_Scrippsiella_trochoidea                                                                        |
| OTU2582 | 505 | HQ902267 | 73.15 | 514 | 99  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Heter<br>ocapsaceae;g_Heterocapsa;s_Heterocapsa_triquetra                                                                              |
| OTU2583 | 464 | AF260400 | 71.22 | 476 | 99  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Heter<br>ocapsaceae;g_Heterocapsa;s_Heterocapsa_rotundata                                                                              |
| OTU2586 | 437 | HM483396 | 87.53 | 465 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Thora<br>cosphaeraceae;g_Scrippsiella;s_Scrippsiella_trochoidea                                                                        |
| OTU2588 | 290 | JN982392 | 94.96 | 278 | 96  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Thora<br>cosphaeraceae;g_Scrippsiella;s_Scrippsiella_sweeneyae                                                                         |
| OTU2602 | 298 | KJ189491 | 97.99 | 299 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Thora<br>cosphaeraceae;g_Scrippsiella;s_Scrippsiella_cf_acuminata                                                                      |
| OTU2609 | 260 | KJ189491 | 95.87 | 242 | 93  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Thora<br>cosphaeraceae;g_Scrippsiella;s_Scrippsiella_cf_acuminata                                                                      |
| OTU2614 | 281 | JN982400 | 98.12 | 266 | 95  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Thora<br>cosphaeraceae;g_Scrippsiella;s_Scrippsiella_aff_acuminata                                                                     |

|         |     |            |       |     |     |                                                                                                                                           |
|---------|-----|------------|-------|-----|-----|-------------------------------------------------------------------------------------------------------------------------------------------|
| OTU2616 | 260 | JN982400   | 92.25 | 258 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thra cosphaeraceae;g__Scrippsiella;s__Scrippsiella_aff_acuminata    |
| OTU2619 | 499 | JN982400   | 100   | 499 | 65  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thra cosphaeraceae;g__Scrippsiella;s__Scrippsiella_aff_acuminata    |
| OTU262  | 455 | AY154960   | 70.06 | 471 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Go nyaulacaceae;g__Gonyaulax;s__Gonyaulax_sp.                      |
| OTU2620 | 320 | JN982400   | 97.5  | 320 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thra cosphaeraceae;g__Scrippsiella;s__Scrippsiella_aff_acuminata    |
| OTU2632 | 222 | KJ189485   | 91.44 | 222 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thra cosphaeraceae;g__Scrippsiella;s__Scrippsiella_aff_acuminata    |
| OTU2636 | 217 | JN982402   | 93    | 200 | 92  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thra cosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp.              |
| OTU2641 | 299 | JN982402   | 97.57 | 288 | 96  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thra cosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp.              |
| OTU2644 | 513 | JX559886   | 99.1  | 442 | 86  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Am phidomataceae;g__Azadinium;s__Azadinium_polongum                |
| OTU265  | 499 | JX912182.1 | 90    | 175 | 35  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified;f__unclas sified;g__unclassified;s__Unclassified DINO                  |
| OTU2652 | 497 | DQ195367   | 86.21 | 87  | 63  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Suessia ceae;g__Pelagodinium;s__Pelagodinium-like species             |
| OTU2653 | 523 | AB716928   | 90.06 | 523 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Proto peridiniaceae;g__Protoperidinium;s__Protoperidinium_monovelum |
| OTU2655 | 506 | AB716928   | 96.05 | 506 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Proto peridiniaceae;g__Protoperidinium;s__Protoperidinium_monovelum |
| OTU2656 | 499 | AB716928   | 90.38 | 499 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Proto peridiniaceae;g__Protoperidinium;s__Protoperidinium_monovelum |
| OTU2665 | 510 | AB716928   | 90.14 | 507 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Proto peridiniaceae;g__Protoperidinium;s__Protoperidinium_monovelum |
| OTU2666 | 490 | AB716928   | 91.65 | 491 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Proto peridiniaceae;g__Protoperidinium;s__Protoperidinium_monovelum |
| OTU2669 | 359 | AB716928   | 86.35 | 359 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Proto peridiniaceae;g__Protoperidinium;s__Protoperidinium_monovelum |
| OTU2674 | 492 | AB716928   | 89.11 | 496 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Proto peridiniaceae;g__Protoperidinium;s__Protoperidinium_monovelum |
| OTU2675 | 480 | AB716929   | 98.8  | 125 | 61  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Proto peridiniaceae;g__Protoperidinium;s__Protoperidinium-like_sp.  |
| OTU2679 | 440 | AB716929   | 97.6  | 125 | 64  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Proto peridiniaceae;g__Protoperidinium;s__Protoperidinium-like_sp.  |
| OTU2680 | 459 | AB716929   | 96.8  | 125 | 59  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Proto peridiniaceae;g__Protoperidinium;s__Protoperidinium-like_sp.  |

|         |     |          |       |     |     |                                                                                                                                     |
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| OTU2708 | 515 | JX262498 | 87.77 | 515 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_dalei |
| OTU2709 | 492 | JX262498 | 100   | 492 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_dalei |
| OTU2710 | 507 | JX262498 | 89.15 | 507 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_dalei |
| OTU2711 | 473 | JX262498 | 73    | 473 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_sp.   |
| OTU2714 | 492 | JX262498 | 95.73 | 492 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_dalei |
| OTU2717 | 498 | JX262498 | 98.6  | 357 | 72  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_sp.   |
| OTU2723 | 527 | JX262498 | 86.55 | 528 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_dalei |
| OTU2724 | 457 | JX262498 | 86.68 | 458 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_dalei |
| OTU2730 | 418 | JX262498 | 95.92 | 147 | 98  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_dalei |
| OTU2738 | 386 | KP702719 | 98.19 | 387 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Diplopsaliaceae;g__Oblea;s__Oblea_rotunda                     |
| OTU2740 | 484 | JX262498 | 95.66 | 484 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_dalei |
| OTU2743 | 425 | JX262498 | 83.8  | 426 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_dalei |
| OTU2748 | 490 | JX262498 | 92.67 | 505 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_dalei |
| OTU2750 | 490 | JX262498 | 97.13 | 488 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_dalei |
| OTU2753 | 487 | JX262498 | 94.06 | 488 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_dalei |
| OTU2768 | 501 | JQ247713 | 73.05 | 512 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_niei            |
| OTU277  | 467 | KF998563 | 88.89 | 90  | 26  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified;f__unclassified;g__unclassified;s__Unclassified DINO             |
| OTU2799 | 483 | JN558110 | 83    | 33  | 95  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Suessiacae;g__Polarella;s__Polarella_sp.                        |
| OTU280  | 477 | AY154965 | 77.62 | 496 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gonyaulacaceae;g__Gonyaulax;s__Gonyaulax_sp.                 |
| OTU2801 | 215 | KC895475 | 99.49 | 197 | 92  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta            |

|         |     |          |       |     |     |                                                                                                                                             |
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| OTU2804 | 235 | KC895475 | 97.42 | 233 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biechele<br>riaceae;g__Biecheleria;s__Biecheleria_cincta                |
| OTU2806 | 205 | KC895475 | 99.49 | 196 | 95  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biechele<br>riaceae;g__Biecheleria;s__Biecheleria_cincta                |
| OTU2807 | 262 | KC895475 | 97.69 | 260 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biechele<br>riaceae;g__Biecheleria;s__Biecheleria_cincta                |
| OTU2808 | 219 | KC895475 | 96.36 | 220 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biechele<br>riaceae;g__Biecheleria;s__Biecheleria_cincta                |
| OTU2809 | 221 | KC895475 | 96.38 | 221 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biechele<br>riaceae;g__Biecheleria;s__Biecheleria_cincta                |
| OTU2811 | 209 | KC895475 | 99.49 | 198 | 95  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biechele<br>riaceae;g__Biecheleria;s__Biecheleria_cincta                |
| OTU2812 | 228 | KC895475 | 98.66 | 224 | 98  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biechele<br>riaceae;g__Biecheleria;s__Biecheleria_cincta                |
| OTU2813 | 262 | KC895475 | 96.95 | 262 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biechele<br>riaceae;g__Biecheleria;s__Biecheleria_cincta                |
| OTU2856 | 478 | KP790181 | 89.42 | 104 | 22  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__<br>_norank;s__Unclassified DINO                                  |
| OTU2858 | 496 | HQ834210 | 78.67 | 497 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Po<br>lykrikaceae;g__Pheopolykrikos;s__Pheopolykrikos_hartmannii-like |
| OTU2952 | 489 | KF245462 | 91.24 | 491 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__G<br>ymnodiniaceae;g__Gymnodinium;s__Gymnodinium_sp.                  |
| OTU2953 | 491 | KF031312 | 99.32 | 443 | 90  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Heter<br>ocapsaceae;g__Heterocapsa;s__Heterocapsa_minima               |
| OTU2961 | 503 | JQ247713 | 83.4  | 512 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Heter<br>ocapsaceae;g__Heterocapsa;s__Heterocapsa_niei                 |
| OTU2962 | 491 | AY571372 | 75.36 | 491 | 98  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Heter<br>ocapsaceae;g__Heterocapsa;s__Heterocapsa_arctica              |
| OTU2965 | 257 | KF240778 | 96.96 | 263 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Heter<br>ocapsaceae;g__Heterocapsa;s__Heterocapsa_rotundata            |
| OTU2966 | 337 | KF240778 | 96.15 | 338 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Heter<br>ocapsaceae;g__Heterocapsa;s__Heterocapsa_rotundata            |
| OTU2967 | 425 | KF240778 | 97.19 | 427 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Heter<br>ocapsaceae;g__Heterocapsa;s__Heterocapsa_rotundata            |
| OTU2969 | 313 | KF240778 | 98.06 | 310 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Heter<br>ocapsaceae;g__Heterocapsa;s__Heterocapsa_rotundata            |
| OTU2971 | 504 | JN119844 | 83.2  | 506 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Heter<br>ocapsaceae;g__Heterocapsa;s__Heterocapsa_sp._HCBC88           |
| OTU2972 | 435 | KF240778 | 96.34 | 437 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Heter<br>ocapsaceae;g__Heterocapsa;s__Heterocapsa_rotundata            |

|         |     |          |       |     |     |                                                                                                                                                  |
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| OTU2984 | 519 | KF543359 | 96.29 | 431 | 83  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Amphidomataceae;g__Azadinium;s__Azadinium_dalianense                      |
| OTU2999 | 494 | FJ808705 | 90.91 | 66  | 48  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__Unclassified DINO                                            |
| OTU3    | 385 | FN649409 | 88.79 | 116 | 30  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified;f__unclassified;g__unclassified;s__unclassified DINO                          |
| OTU3016 | 523 | HQ176320 | 93.02 | 86  | 54  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__norank;g__norank;s__Unclassified DINO                                       |
| OTU3021 | 527 | KJ508376 | 85.26 | 95  | 63  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Kareniaceae;g__norank;s__Unclassified Kareniaceae                          |
| OTU3033 | 509 | KF651047 | 94.5  | 509 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Protoperidiniaceae;g__Protoperidinium;s__Protoperidinium_tricingulatum      |
| OTU3063 | 490 | LC002848 | 85    | 60  | 46  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinophyceae;f__norank;g__Pseudadenoides;s__Pseudadenoides_kofoidii (non-DINO) |
| OTU3156 | 400 | KF383297 | 88.89 | 90  | 23  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Symbiodiniaceae;g__Symbiodinium;s__Symbiodinium-like_sp.                     |
| OTU317  | 487 | AY438015 | 100   | 487 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gonyaulacaceae;g__Alexandrium;s__Alexandrium_affine                       |
| OTU323  | 510 | AY571369 | 98.82 | 510 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Gymnodiniaceae;g__Gyrodinium;s__Gyrodinium_rubrum                          |
| OTU324  | 509 | KP790197 | 100   | 422 | 83  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Gymnodiniaceae;g__Gyrodinium;s__Gyrodinium_heterogrammmum                  |
| OTU325  | 499 | AY571369 | 88.6  | 500 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Gymnodiniaceae;g__Gyrodinium;s__Gyrodinium_rubrum                          |
| OTU3256 | 524 | AB778763 | 87    | 84  | 26  | d__Eukaryota;k__Alveolata;<br>c__Dinophyceae;o__norank;f__norank;g__norank;s__Unclassified DINO                                                  |
| OTU326  | 514 | AY571369 | 93.35 | 511 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Gymnodiniaceae;g__Gyrodinium;s__Gyrodinium_rubrum                          |
| OTU327  | 512 | AY571369 | 91.23 | 513 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Gymnodiniaceae;g__Gyrodinium;s__Gyrodinium_rubrum                          |
| OTU328  | 499 | KP790196 | 97.4  | 423 | 84  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Gymnodiniaceae;g__Gyrodinium;s__Gyrodinium_heterogrammmum                  |
| OTU3287 | 499 | EF616462 | 86.07 | 524 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Gymnodiniaceae;g__Cochlodinium;s__Cochlodinium_cf_geminatum                |
| OTU3288 | 500 | HQ834210 | 84.79 | 539 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Polykrikaceae;g__Pheopolykrikos;s__Pheopolykrikos_hartmannii               |
| OTU329  | 394 | AY571369 | 97.22 | 395 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Gymnodiniaceae;g__Gyrodinium;s__Gyrodinium_rubrum                          |
| OTU3297 | 499 | KF878935 | 100   | 499 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Gymnodiniaceae;g__Gymnodinium;s__Gymnodinium_instriatum                    |

|         |     |          |       |     |     |                                                                                                                                         |
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| OTU3298 | 512 | KF878935 | 90.66 | 514 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Gymnodinium;s__Gymnodinium_instriatum          |
| OTU3300 | 496 | KF878935 | 96.57 | 496 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Gymnodinium;s__Gymnodinium_instriatum          |
| OTU3301 | 499 | KF878935 | 97.98 | 496 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Gymnodinium;s__Gymnodinium_instriatum          |
| OTU3303 | 491 | KF878935 | 96.14 | 492 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Gymnodinium;s__Gymnodinium_instriatum          |
| OTU3305 | 489 | KF878935 | 94.31 | 492 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Gymnodinium;s__Gymnodinium_instriatum          |
| OTU3306 | 493 | KF878935 | 96.75 | 493 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Gymnodinium;s__Gymnodinium_instriatum          |
| OTU3307 | 491 | KF878935 | 96.96 | 493 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Gymnodinium;s__Gymnodinium_instriatum          |
| OTU3309 | 460 | KF878935 | 96.52 | 460 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Gymnodinium;s__Gymnodinium_instriatum          |
| OTU331  | 510 | AY571370 | 99.8  | 510 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Gyrodinium;s__Gyrodinium_dominans              |
| OTU3316 | 509 | KF568378 | 86.6  | 97  | 19  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;s__Unclassified DINO                                                                 |
| OTU332  | 505 | AY571371 | 99.21 | 505 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Gyrodinium;s__Gyrodinium_spirale               |
| OTU3320 | 488 | KP702714 | 84.62 | 65  | 53  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Diplopsaliaceae;g__Lebouriaia;s__Unclassified DINO                |
| OTU3328 | 499 | HM483396 | 92.99 | 499 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea     |
| OTU3330 | 499 | HM483396 | 92.35 | 497 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea     |
| OTU3331 | 505 | KF751924 | 99.4  | 502 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_aff._acuminata |
| OTU3332 | 503 | KF751924 | 96.63 | 504 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_aff._acuminata |
| OTU3333 | 515 | KF751924 | 90.72 | 517 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_aff._acuminata |
| OTU3335 | 519 | KF751924 | 89.21 | 519 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_aff._acuminata |
| OTU3336 | 537 | KF751924 | 85.92 | 547 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_aff._acuminata |
| OTU3338 | 496 | KF751924 | 96.57 | 496 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_aff._acuminata |
| OTU334  | 497 | AF260392 | 86.97 | 499 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora                                                             |

|         |     |          |       |     |     |                                                                                                                                            |
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| OTU3340 | 498 | AF260393 | 93.99 | 499 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp.<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora           |
| OTU3341 | 492 | KF751924 | 95.75 | 494 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora    |
| OTU3344 | 323 | KF751924 | 96.6  | 324 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_aff_acuminata<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora |
| OTU3345 | 474 | KF751924 | 93.26 | 475 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_aff_acuminata<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora |
| OTU3346 | 405 | KF751924 | 96.77 | 402 | 99  | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_aff_acuminata<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora |
| OTU3349 | 451 | KF751924 | 94.81 | 462 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_aff_acuminata<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora |
| OTU3350 | 486 | KF751924 | 96.09 | 486 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_aff_acuminata<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora |
| OTU3354 | 504 | KF751924 | 96.43 | 504 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_aff_acuminata<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora |
| OTU3356 | 501 | KF751924 | 93.28 | 491 | 98  | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_aff_acuminata<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora |
| OTU3357 | 493 | KF751924 | 93.74 | 495 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_aff_acuminata<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora |
| OTU3358 | 452 | KF751924 | 94.91 | 452 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_aff_acuminata<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora |
| OTU3364 | 279 | KF751924 | 97.84 | 278 | 99  | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_aff_acuminata<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora |
| OTU3365 | 410 | KF751924 | 90.64 | 406 | 99  | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_aff_acuminata<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora |
| OTU3366 | 409 | KF751924 | 94.38 | 409 | 99  | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_aff_acuminata<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora |
| OTU3368 | 513 | KF751926 | 97.83 | 508 | 99  | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp.<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora           |
| OTU337  | 497 | JX262498 | 89.16 | 498 | 100 | niaceae;g__Pentapharsodinium;s__Pentapharsodinium_dalei<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora     |
| OTU3370 | 510 | KF751926 | 97.98 | 496 | 97  | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp.<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora           |
| OTU3376 | 487 | KF751926 | 94.26 | 488 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp.<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora           |
| OTU3377 | 425 | KF751926 | 96.47 | 425 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp.<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora           |
| OTU3379 | 502 | KF751926 | 95.59 | 521 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp.<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora           |

|         |     |          |       |     |     |                                                                                                                                                |
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| OTU338  | 492 | AY571374 | 85.25 | 488 | 97  | cosphaeraceae;g_Scrippsiella;s_Scrippsiella_sp.<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Lophodiniales;f_Lop                        |
| OTU3385 | 495 | HM483396 | 94.34 | 495 | 100 | hodiniaceae;g_Woloszynskia;s_Woloszynskia_tenuissima<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Thora                   |
| OTU3387 | 493 | KF751926 | 91.06 | 492 | 99  | cosphaeraceae;g_Scrippsiella;s_Scrippsiella_trochoidea<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Thora                 |
| OTU3388 | 485 | KF751926 | 93.75 | 496 | 100 | cosphaeraceae;g_Scrippsiella;s_Scrippsiella_sp.<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Thora                        |
| OTU339  | 470 | AY571374 | 100   | 470 | 100 | cosphaeraceae;g_Scrippsiella;s_Scrippsiella_sp.<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Lophodiniales;f_Lop                        |
| OTU3390 | 459 | KF751926 | 93.08 | 491 | 100 | hodiniaceae;g_Woloszynskia;s_Woloszynskia_tenuissima<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Thora                   |
| OTU3391 | 423 | KF751926 | 95.72 | 421 | 99  | cosphaeraceae;g_Scrippsiella;s_Scrippsiella_sp.<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Thora                        |
| OTU3394 | 510 | AB871535 | 96.86 | 509 | 99  | cosphaeraceae;g_Scrippsiella;s_Scrippsiella_sp.<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gonyaulacales;f_Cry                        |
| OTU3399 | 495 | AB858353 | 99.53 | 424 | 85  | pthecodiniaceae;g_Cryptothecodinium;s_Cryptothecodinium_sp_ShSu-2013<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele |
| OTU340  | 490 | AY571374 | 84.71 | 484 | 98  | riaceae;g_Biecheleria;s_Biecheleria_brevisulcata<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Lophodiniales;f_Lop                       |
| OTU3400 | 498 | AB858353 | 95.38 | 498 | 100 | hodiniaceae;g_Woloszynskia;s_Woloszynskia_tenuissima<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele                 |
| OTU3401 | 498 | AB858353 | 95.21 | 501 | 100 | riaceae;g_Biecheleria;s_Biecheleria_brevisulcata<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele                     |
| OTU3402 | 496 | AB858353 | 92.96 | 497 | 100 | riaceae;g_Biecheleria;s_Biecheleria_brevisulcata<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele                     |
| OTU3404 | 494 | AB858353 | 98.38 | 494 | 100 | riaceae;g_Biecheleria;s_Biecheleria_brevisulcata<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele                     |
| OTU3405 | 497 | AB858353 | 95.38 | 498 | 100 | riaceae;g_Biecheleria;s_Biecheleria_brevisulcata<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele                     |
| OTU3406 | 515 | AB858353 | 94.69 | 508 | 99  | riaceae;g_Biecheleria;s_Biecheleria_brevisulcata<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele                     |
| OTU3407 | 501 | AB858353 | 88.42 | 501 | 100 | riaceae;g_Biecheleria;s_Biecheleria_brevisulcata<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele                     |
| OTU3408 | 225 | AB858353 | 99.06 | 213 | 94  | riaceae;g_Biecheleria;s_Biecheleria_brevisulcata<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele                     |
| OTU3409 | 497 | AB858353 | 94.57 | 497 | 100 | riaceae;g_Biecheleria;s_Biecheleria_brevisulcata<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele                     |
| OTU341  | 488 | AY571374 | 83.88 | 490 | 99  | riaceae;g_Biecheleria;s_Biecheleria_brevisulcata<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Lophodiniales;f_Lop                       |

|         |     |          |       |     |     |                                                                                                                                                                                    |
|---------|-----|----------|-------|-----|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OTU3410 | 264 | AB858353 | 97.73 | 264 | 100 | hodiniaceae;g_Woloszynskia;s_Woloszynskia_tenuissima<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele<br>riaceae;g_Biecheleria;s_Biecheleria_brevisulcata |
| OTU3412 | 222 | AB858353 | 99.52 | 210 | 94  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele<br>riaceae;g_Biecheleria;s_Biecheleria_brevisulcata                                                         |
| OTU3413 | 495 | AB858353 | 89.54 | 497 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele<br>riaceae;g_Biecheleria;s_Biecheleria_brevisulcata                                                         |
| OTU3414 | 505 | AB858353 | 98.35 | 303 | 66  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele<br>riaceae;g_Biecheleria;s_Biecheleria-like_sp.                                                             |
| OTU3415 | 488 | AB858353 | 96.93 | 489 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele<br>riaceae;g_Biecheleria;s_Biecheleria_brevisulcata                                                         |
| OTU3418 | 454 | AB858353 | 92.97 | 455 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele<br>riaceae;g_Biecheleria;s_Biecheleria_brevisulcata                                                         |
| OTU342  | 481 | AY571374 | 99.5  | 398 | 83  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Lophodiniales;f_Lop<br>hodiniaceae;g_Woloszynskia;s_Woloszynskia_tenuissima-like                                                  |
| OTU3420 | 351 | AB858353 | 96.85 | 349 | 99  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele<br>riaceae;g_Biecheleria;s_Biecheleria_brevisulcata                                                         |
| OTU3423 | 331 | AB858353 | 96.07 | 331 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele<br>riaceae;g_Biecheleria;s_Biecheleria_brevisulcata                                                         |
| OTU3424 | 488 | AB858353 | 95.09 | 489 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele<br>riaceae;g_Biecheleria;s_Biecheleria_brevisulcata                                                         |
| OTU3426 | 496 | AB858353 | 93.75 | 496 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele<br>riaceae;g_Biecheleria;s_Biecheleria_brevisulcata                                                         |
| OTU3427 | 502 | AB858353 | 94.62 | 502 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele<br>riaceae;g_Biecheleria;s_Biecheleria_brevisulcata                                                         |
| OTU3428 | 463 | AB858353 | 91.81 | 464 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechele<br>riaceae;g_Biecheleria;s_Biecheleria_brevisulcata                                                         |
| OTU3429 | 478 | LM992906 | 99.79 | 478 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Lophodiniales;f_Lop<br>hodiniaceae;g_Biecheleriopsis;s_Biecheleriopsis_adriatica                                                  |
| OTU343  | 476 | AY571374 | 99.52 | 416 | 87  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Lophodiniales;f_Lop<br>hodiniaceae;g_Woloszynskia;s_Woloszynskia_tenuissima-like                                                  |
| OTU3430 | 494 | LM992906 | 94.13 | 494 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Lophodiniales;f_Lop<br>hodiniaceae;g_Biecheleriopsis;s_Biecheleriopsis_adriatica                                                  |
| OTU3431 | 498 | LM992906 | 93.96 | 497 | 99  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Lophodiniales;f_Lop<br>hodiniaceae;g_Biecheleriopsis;s_Biecheleriopsis_adriatica                                                  |
| OTU3434 | 484 | LM992906 | 92.52 | 481 | 99  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Lophodiniales;f_Lop<br>hodiniaceae;g_Biecheleriopsis;s_Biecheleriopsis_adriatica                                                  |
| OTU344  | 477 | AY571374 | 96.44 | 477 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Lophodiniales;f_Lop<br>hodiniaceae;g_Woloszynskia;s_Woloszynskia_tenuissima                                                       |
| OTU3443 | 489 | LM992906 | 91.46 | 492 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Lophodiniales;f_Lop                                                                                                               |

|         |     |            |       |     |     |                                                                                                                                                                                |
|---------|-----|------------|-------|-----|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OTU3445 | 511 | LC068838.1 | 88    | 506 | 98  | hodiniaceae;g_Biecheleriopsis;s_Biecheleriopsis_adriatica<br>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;<br>f_Suessiaceae;g_norank;s_Unclassified_Suessiaceae |
| OTU3446 | 485 | LM992905   | 100   | 339 | 70  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Lophodiniales;f_Lop<br>hodiniaceae;g_Biecheleriopsis;s_Biecheleriopsis_adriatica                                              |
| OTU3447 | 275 | LM992906   | 81.58 | 152 | 99  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Lophodiniales;f_Lop<br>hodiniaceae;g_Biecheleriopsis;s_Biecheleriopsis_sp.                                                    |
| OTU3448 | 441 | KF646451   | 98.19 | 441 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gonyaulacales;f_Go<br>nyaulacaceae;g_Alexandrium;s_Alexandrium_tamarense_species_complex_gro<br>up_IV                         |
| OTU3449 | 499 | KJ879232   | 100   | 499 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gonyaulacales;f_Go<br>nyaulacaceae;g_Alexandrium;s_Alexandrium_catenella                                                      |
| OTU345  | 489 | AY571374   | 96.93 | 489 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Lophodiniales;f_Lop<br>hodiniaceae;g_Woloszynskia;s_Woloszynskia_tenuissima                                                   |
| OTU3451 | 511 | KF998563   | 91.67 | 48  | 27  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gymnodiniales;f_Ka<br>reniaceae;g_Karenia;s_Unclassified_DINO                                                                 |
| OTU3452 | 541 | LC002848   | 87.36 | 87  | 43  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_unclassified_Dinoph<br>yceae;f_norank;g_Pseudadenoides;s_Unclassified_DINO                                                    |
| OTU346  | 482 | AY571374   | 96.69 | 483 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Lophodiniales;f_Lop<br>hodiniaceae;g_Woloszynskia;s_Woloszynskia_tenuissima                                                   |
| OTU3463 | 489 | AB860180   | 87.7  | 496 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gymnodiniales;f_G<br>ymnodiniaceae;g_Gymnodinium;s_unclassified_Gymnodinium                                                   |
| OTU3467 | 490 | HG005135   | 94.29 | 490 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gymnodiniales;f_G<br>ymnodiniaceae;g_Gymnodinium;s_unclassified_Gymnodinium                                                   |
| OTU347  | 487 | AY571374   | 82.92 | 486 | 98  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Lophodiniales;f_Lop<br>hodiniaceae;g_Woloszynskia;s_Woloszynskia_like                                                         |
| OTU348  | 471 | AY571374   | 85.2  | 473 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Lophodiniales;f_Lop<br>hodiniaceae;g_Woloszynskia;s_Woloszynskia_tenuissima                                                   |
| OTU349  | 485 | AY571374   | 95.71 | 489 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Lophodiniales;f_Lop<br>hodiniaceae;g_Woloszynskia;s_Woloszynskia_tenuissima                                                   |
| OTU3490 | 501 | HG005135   | 92.38 | 499 | 99  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gymnodiniales;f_G<br>ymnodiniaceae;g_Gymnodinium;s_unclassified_Gymnodinium                                                   |
| OTU35   | 496 | AF260392   | 89.11 | 496 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridiniales;f_Thora<br>cosphaeraceae;g_Scrippsiella;s_Scrippsiella_sp.                                                       |
| OTU3508 | 470 | AB860180   | 84.07 | 477 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gymnodiniales;f_G<br>ymnodiniaceae;g_Gymnodinium;s_unclassified_Gymnodinium                                                   |
| OTU3509 | 483 | HG005135   | 99.17 | 483 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gymnodiniales;f_G<br>ymnodiniaceae;g_Gymnodinium;s_Gymnodinium_sp. GSSW10                                                     |
| OTU351  | 488 | AY571374   | 96.29 | 485 | 99  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Lophodiniales;f_Lop<br>hodiniaceae;g_Woloszynskia;s_Woloszynskia_tenuissima                                                   |

|         |     |          |       |     |     |                                                                                                                                                       |
|---------|-----|----------|-------|-----|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| OTU3512 | 484 | AB860180 | 84.88 | 496 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Gymnodinium;s__unclassified_Gymnodinium                      |
| OTU352  | 447 | AY571374 | 96.02 | 452 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima                      |
| OTU3527 | 483 | KF646481 | 99.79 | 484 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gonyaulacaceae;g__Alexandrium;s__Alexandrium_tamarense_species_complex_group_I |
| OTU353  | 391 | AY571374 | 94.64 | 392 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima                      |
| OTU3530 | 497 | KJ433986 | 87.62 | 501 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_sp._ZL-2014             |
| OTU3535 | 437 | KJ433986 | 90.13 | 476 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_sp._ZL-2014             |
| OTU3538 | 466 | KJ433986 | 90.79 | 467 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_sp._ZL-2014             |
| OTU355  | 505 | DQ991376 | 95.86 | 507 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Pfiesteriaceae;g__Cryptoperidiniopsis;s__Cryptoperidiniopsis_brodyi             |
| OTU356  | 507 | AY590476 | 99.6  | 501 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Pfiesteriaceae;g__Cryptoperidiniopsis;s__Cryptoperidiniopsis_brodyi             |
| OTU357  | 328 | AY590477 | 98.79 | 330 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Pfiesteriaceae;g__unclassified_Pfiesteriaceae;s__Pfiesteriaceae_sp._CCMP1835    |
| OTU3587 | 228 | HG005132 | 88.89 | 198 | 87  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinophyceae;f__norank;g__Stoeckeria;s__Stoeckeria_sp._SSSC09                       |
| OTU3588 | 222 | HG005132 | 89.39 | 198 | 89  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinophyceae;f__norank;g__Stoeckeria;s__Stoeckeria_sp._SSSC09                       |
| OTU3589 | 416 | KJ450988 | 91.15 | 418 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Peridinium;s__Peridinium_euryceps                              |
| OTU3593 | 516 | AB716928 | 89.36 | 517 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Proto-peridiniaceae;g__Proto-peridinium;s__Proto-peridinium_monovelum           |
| OTU3602 | 486 | KP790206 | 97.24 | 434 | 89  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Gyrodinium;s__Gyrodinium_undulans                            |
| OTU361  | 413 | LC027052 | 76.64 | 244 | 58  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Unclassified;s__Unclassified_Gymnodiniaceae                  |
| OTU3612 | 499 | KJ481814 | 90.2  | 500 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Amphidomataceae;g__Azadinium;s__Azadinium_trinitatum                           |
| OTU3616 | 477 | JX262498 | 77.78 | 477 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_dalei                   |
| OTU3617 | 476 | KJ433986 | 77.87 | 479 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_sp._ZL-2014             |
| OTU3624 | 506 | AY284949 | 73    | 506 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Ka                                                                             |

|         |     |            |       |     |     |                                                                                                                                                                                 |
|---------|-----|------------|-------|-----|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OTU3639 | 510 | JX262498   | 85    | 510 | 100 | reniaceae;g__Takayama; s__Takayama_sp.<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;<br>f__Peridiniaceae; g__Pentaparsodinium; s__Pentaparsodinium_sp. |
| OTU365  | 504 | AY863008   | 99.4  | 504 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Prorocentrales;f__Pro<br>rocentraceae;g__Prorocentrum;s__Prorocentrum_micans                                              |
| OTU367  | 484 | AY916538   | 97.49 | 479 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__G<br>ymnodiniaceae;g__Gymnodinium;s__Gymnodinium_microreticulatum                                        |
| OTU3686 | 495 | JX262498   | 75    | 356 | 72  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;<br>f__Peridiniaceae;g__Pentaparsodinium; s__Pentaparsodinium_sp.                                            |
| OTU3689 | 262 | FJ808690   | 80    | 200 | 75  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Dinophysiales;f__Din<br>ophysiceae;g__Dinophysis;s__Dinophysis_sp.                                                        |
| OTU369  | 482 | AY916538   | 98.74 | 476 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__G<br>ymnodiniaceae;g__Gymnodinium;s__Gymnodinium_microreticulatum                                        |
| OTU3690 | 384 | KJ433986   | 74    | 384 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;<br>f__Peridiniaceae; g__Pentaparsodinium; s__Pentaparsodinium_sp.                                           |
| OTU3691 | 334 | FJ808690   | 78.05 | 205 | 60  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Dinophysiales;f__Din<br>ophysiceae;g__Dinophysis;s__Dinophysis_schuetzii                                                  |
| OTU3692 | 317 | KP790210   | 92.86 | 112 | 35  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__G<br>ymnodiniaceae;g__Gyrodinium;s__Gyrodinium_sp.                                                       |
| OTU3693 | 403 | KJ433986   | 74    | 113 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;<br>f__Peridiniaceae; g__Pentaparsodinium; s__Pentaparsodinium_sp.                                           |
| OTU3694 | 459 | JX262498   | 75    | 66  | 85  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;<br>f__Peridiniaceae; g__Pentaparsodinium; s__Pentaparsodinium_sp.                                           |
| OTU3695 | 360 | KT389956.1 | 81    | 356 | 97  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora<br>cosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp.                                                |
| OTU3696 | 507 | EU490149   | 73.41 | 504 | 96  | d__Eukaryota;k__Fungi;p__environmental_samples;c__Dinophyceae;o__norank;f__<br>__norank;g__norank;s__unclassified DINO                                                          |
| OTU3697 | 494 | EU490149   | 73.02 | 504 | 99  | d__Eukaryota;k__Fungi;p__environmental_samples;c__Dinophyceae;o__norank;f__<br>__norank;g__norank;s__unclassified DINO                                                          |
| OTU3698 | 511 | KF751922   | 95.35 | 86  | 53  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thora<br>cosphaeraceae;g__Calciadinellum;s__Calciadinellum_operosum                                       |
| OTU3699 | 506 | EU490149   | 71.49 | 505 | 97  | d__Eukaryota;k__Fungi;p__environmental_samples;c__Dinophyceae;o__norank;f__<br>__norank;g__norank;s__unclassified DINO                                                          |
| OTU3701 | 511 | HQ176320   | 87.74 | 106 | 57  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Pfiest<br>eriaceae;g__Chimonodinium;s__Chimonodinium_like                                                 |
| OTU3702 | 495 | HQ176320   | 84    | 507 | 55  | d__Eukaryota;k__Fungi;p__environmental_samples;c__Dinophyceae;o__norank;f__<br>__norank;g__norank;s__unclassified DINO                                                          |
| OTU3704 | 522 | HM483397   | 85.32 | 88  | 54  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinoph<br>yceae;f__norank;g__Tintinnophagus;s__unclassified DINO                                             |
| OTU3705 | 516 | FN557541   | 85.38 | 89  | 54  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinoph                                                                                                       |

|         |     |            |       |     |     |                                                                                                                                                                                           |
|---------|-----|------------|-------|-----|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OTU3706 | 519 | HE611580   | 96.51 | 86  | 54  | yceae;f__norank;g__Stoeckeria;s__Stoeckeria_sp._SSMS0806<br>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Gyrodinium;s__Gyrodinium_sp._HJ-2011 |
| OTU3708 | 523 | HM483395   | 73.16 | 529 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Syndiniales;f__Amoebozoa;g__Amoebozoa;s__Amoebozoa_sp._ex_Akashiwo_sanguineum                                                       |
| OTU371  | 493 | AY916539   | 90.2  | 490 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Gymnodinium;s__Gymnodinium_microreticulatum                                                      |
| OTU3710 | 507 | EU490149   | 72.34 | 499 | 96  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__unclassified DINO                                                                                     |
| OTU3711 | 514 | EU490149   | 72.58 | 507 | 96  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__unclassified DINO                                                                                     |
| OTU3712 | 494 | EU490149   | 72.55 | 499 | 98  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__unclassified DINO                                                                                     |
| OTU3717 | 543 | KF835600   | 90.18 | 112 | 21  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Prorocentrales;f__Prorocentrales;g__Prorocentrum;s__unclassified DINO                                                               |
| OTU3720 | 479 | HG792066   | 100   | 479 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified Dinophyceae;f__norank;g__norank;s__Dinophyceae_sp._1_HJH-2013                                                          |
| OTU3721 | 505 | LM992906   | 91    | 89  | 72  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheriellaceae;g__norank;s__Biecheriopsis-like species                                                              |
| OTU3722 | 493 | AF260402   | 81    | 467 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniaceae;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_sp.                                                                |
| OTU3724 | 492 | AF260402   | 81.51 | 465 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniaceae;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia-like_sp.                                                           |
| OTU3726 | 475 | HG792066   | 96.84 | 475 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified Dinophyceae;f__norank;g__norank;s__Dinophyceae_sp._1_HJH-2013                                                          |
| OTU373  | 485 | AY916539   | 89    | 482 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Gymnodinium;s__Gymnodinium_microreticulatum                                                      |
| OTU3730 | 475 | HG792066   | 91.01 | 89  | 71  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified Dinophyceae;f__norank;g__norank;s__Dinophyceae_sp._1_HJH-2013                                                          |
| OTU3731 | 469 | HG792066   | 94.38 | 89  | 74  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified Dinophyceae;f__norank;g__norank;s__Dinophyceae_sp._1_HJH-2013                                                          |
| OTU3733 | 265 | AB858353   | 86.36 | 132 | 50  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheriellaceae;g__Biecheriella;s__unclassified DINO                                                                 |
| OTU3735 | 406 | LC068838.1 | 85    | 406 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheriellaceae;g__norank;s__Unclassified Suessiales                                                                 |
| OTU3736 | 287 | LC068838.1 | 83.19 | 282 | 98  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheriellaceae;g__norank;s__Unclassified Suessiales                                                                 |
| OTU3737 | 241 | AB858353   | 85.61 | 132 | 55  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheriellaceae;g__norank;s__Unclassified Suessiales                                                                 |

|         |     |          |       |     |     |                                                                                                                                                 |
|---------|-----|----------|-------|-----|-----|-------------------------------------------------------------------------------------------------------------------------------------------------|
| OTU3738 | 402 | JQ413374 | 77.34 | 406 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biechele<br>riaceae;g__Biecheleria;s__Biecheleria_cincta                    |
| OTU3741 | 389 | AY916553 | 77.06 | 388 | 98  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lop<br>hodiniaceae;g__Woloszynskia;s__Woloszynskia_sp._CS-341             |
| OTU3744 | 531 | LM049720 | 85.71 | 63  | 27  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__<br>_norank;s__unclassified_DINO                                      |
| OTU3757 | 480 | LC027049 | 98.34 | 481 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinoph<br>yceae;f__norank;g__Pellucidodinium;s__Pellucidodinium_psammophilum |
| OTU3759 | 478 | LC027049 | 89.77 | 479 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinoph<br>yceae;f__norank;g__Pellucidodinium;s__Pellucidodinium_psammophilum |
| OTU376  | 505 | AY916546 | 99.8  | 499 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thora<br>cosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp._CS297           |
| OTU377  | 514 | AY916546 | 87.15 | 506 | 98  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thora<br>cosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp._CS297           |
| OTU3779 | 492 | JX262498 | 75    | 190 | 79  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;<br>f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_sp.            |
| OTU3787 | 538 | AB473665 | 97    | 538 | 73  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Dinophysiales;<br>f__Dinophysiaceae;g__Dinophysis;s__Dinophysis_lativelata                |
| OTU3788 | 490 | KJ508397 | 95.74 | 493 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__W<br>arnowiaceae;g__Warnowia;s__Warnowia_sp._IFR1101                      |
| OTU379  | 492 | AY916546 | 95.9  | 488 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thora<br>cosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp._CS297           |
| OTU3790 | 506 | FJ032669 | 88    | 460 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Dinophysiales;f__<br>Dinophysiaceae;g__Dinophysis;s__Dinophysis_sp.                       |
| OTU3795 | 510 | KJ508377 | 79    | 520 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Ka<br>reniaceae;g__Karlodinium;s__Karlodinium_sp.                         |
| OTU3797 | 528 | JX262498 | 76    | 109 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Peridi<br>niaceae;g__Pentapharsodinium;s__Pentapharsodinium_sp.            |
| OTU3798 | 506 | KJ450990 | 94.43 | 503 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Peridi<br>niaceae;g__Peridinium;s__Peridinium_aciculiferum                 |
| OTU3804 | 497 | AF260400 | 71.6  | 507 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Heter<br>ocapsaceae;g__Heterocapsa;s__Heterocapsa_rotundata                |
| OTU3810 | 487 | KJ450987 | 95.58 | 498 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Peridi<br>niaceae;g__Peridinium;s__Peridinium_baicalense                   |
| OTU3812 | 497 | EF469234 | 78.52 | 512 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Ka<br>reniaceae;g__Karenia;s__Unclassified_Kareniaceae_sp.                |
| OTU3814 | 499 | KJ508393 | 99    | 499 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__G<br>ymnodiniaceae;g__Gymnodinium;s__Gymnodinium_impudicum                |
| OTU3815 | 446 | KP099821 | 85.71 | 56  | 33  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__environmental_samp<br>les;f__norank;g__norank;s__unclassified_DINO                        |

|         |     |            |       |     |     |                                                                                                                                   |
|---------|-----|------------|-------|-----|-----|-----------------------------------------------------------------------------------------------------------------------------------|
| OTU3816 | 485 | HQ176320.1 | 85    | 240 | 50  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__no rank;f__no rank;g__no rank;s__Unclassified DINO                          |
| OTU3819 | 490 | KJ450986   | 98.36 | 487 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Peridiniaceae;g__Peridinium;s__Peridinium_baicalense         |
| OTU382  | 498 | AY916546   | 96.75 | 492 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thra cosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp._CS297 |
| OTU3820 | 468 | KP790228   | 88.76 | 89  | 19  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Polykrikaceae;g__Polykrikos;s__Polykrikos-like_sp.          |
| OTU3822 | 501 | AF260392   | 87.08 | 503 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thra cosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp.       |
| OTU3823 | 454 | KJ508367   | 98.68 | 455 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Karenaceae;g__Karenia;s__Karenia_papilionacea               |
| OTU3826 | 488 | KJ450988   | 95.71 | 489 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Peridiniaceae;g__Peridinium;s__Peridinium_eurycaps           |
| OTU3829 | 491 | KJ508395   | 90.02 | 491 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinophyceae;f__norank;g__Levanderina;s__Levanderina_sp.        |
| OTU3831 | 498 | JX262498   | 83.03 | 501 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Peridiniaceae;g__Pentaparsodinium;s__Pentaparsodinium_dalei  |
| OTU3835 | 480 | JX262498   | 80.93 | 493 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Peridiniaceae;g__Pentaparsodinium;s__Pentaparsodinium_dalei  |
| OTU385  | 499 | AY916546   | 94.93 | 493 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thra cosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp._CS297 |
| OTU388  | 499 | AY916546   | 96.15 | 493 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thra cosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp._CS297 |
| OTU389  | 508 | AY916546   | 91.2  | 500 | 98  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thra cosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp._CS297 |
| OTU392  | 475 | AY916553   | 96.57 | 466 | 98  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_sp._CS-341   |
| OTU393  | 490 | FJ024705   | 93.27 | 490 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta          |
| OTU394  | 483 | FJ024705   | 95.45 | 484 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta          |
| OTU395  | 448 | AY916553   | 96.88 | 449 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_sp._CS-341   |
| OTU396  | 441 | AY916553   | 96.55 | 435 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_sp._CS-341   |
| OTU398  | 472 | AY916553   | 96.33 | 463 | 98  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_sp._CS-341   |
| OTU4    | 259 | KF245459   | 79.28 | 111 | 43  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified;f__unclassified;g__unclassified;s__unclassified DINO           |

|        |     |            |       |     |     |                                                                              |
|--------|-----|------------|-------|-----|-----|------------------------------------------------------------------------------|
| OTU40  | 515 | AF260393   | 96.7  | 515 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thra    |
| OTU42  | 513 | AF260393   | 97.86 | 513 | 100 | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea                     |
| OTU45  | 516 | AF260393   | 97.09 | 516 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thra    |
| OTU459 | 485 | AY154965   | 76.63 | 475 | 95  | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea                     |
| OTU461 | 478 | AY154965   | 74.14 | 406 | 81  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Go    |
| OTU464 | 451 | DQ162802   | 95.37 | 454 | 100 | nyaulacaceae;g__Gonyaulax;s__Gonyaulax_sp.                                   |
| OTU470 | 378 | AY154965   | 73.74 | 396 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Go    |
| OTU475 | 411 | AY154965   | 73.26 | 430 | 99  | nyaulacaceae;g__Gonyaulax;s__Gonyaulax_polygramma                            |
| OTU481 | 472 | JN558110   | 82.77 | 499 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Go    |
| OTU482 | 475 | DQ195346   | 93.47 | 475 | 100 | nyaulacaceae;g__Gonyaulax;s__Gonyaulax_membranacea                           |
| OTU483 | 487 | DQ195346   | 99.59 | 487 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Suessia  |
| OTU485 | 480 | JN558107   | 93.1  | 478 | 99  | ceae;g__Polarella;s__Polarella_glacialis                                     |
| OTU486 | 517 | AY571374.1 | 78    | 517 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Suessia  |
| OTU487 | 264 | DQ195364   | 97.33 | 262 | 98  | ceae;g__Pelagodinium;s__Pelagodinium_béii                                    |
| OTU488 | 492 | DQ195367   | 98.14 | 484 | 98  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Suessia  |
| OTU489 | 481 | DQ195368   | 100   | 481 | 100 | ceae;g__Pelagodinium;s__Pelagodinium_béii                                    |
| OTU490 | 477 | DQ195368   | 96.86 | 478 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Suessia  |
| OTU493 | 495 | FJ024705   | 82.02 | 495 | 99  | ceae;g__Pelagodinium;s__Pelagodinium_béii                                    |
| OTU494 | 492 | LC068838.1 | 88    | 492 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biechele |
| OTU495 | 492 | LC068838.1 | 87    | 492 | 100 | riaceae;g__Biecheleria;s__Biecheleria_cincta                                 |
|        |     |            |       |     |     | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Suessia  |
|        |     |            |       |     |     | ceae;g__Unclassified;s__Unclassified Suessiaceae                             |
|        |     |            |       |     |     | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Suessia  |
|        |     |            |       |     |     | ceae;g__Unclassified;s__Unclassified Suessiaceae                             |

|        |     |          |       |     |     |                                                                                                                          |
|--------|-----|----------|-------|-----|-----|--------------------------------------------------------------------------------------------------------------------------|
| OTU496 | 485 | FJ024705 | 81.39 | 489 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta |
| OTU497 | 467 | JN558110 | 76.54 | 486 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Suessia                                              |
| OTU499 | 447 | DQ195376 | 96.65 | 448 | 100 | ceae;g__Polarella;s__Polarella_glacialis                                                                                 |
| OTU505 | 437 | JQ439944 | 84.48 | 58  | 37  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Suessia                                              |
| OTU506 | 463 | JQ439944 | 79.28 | 111 | 46  | ceae;g__Pelagodinium;s__Pelagodinium_béii                                                                                |
| OTU507 | 474 | DQ289020 | 90.62 | 64  | 36  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__U                                                  |
| OTU508 | 444 | DQ286734 | 100   | 444 | 100 | nclassified;g__Unclassified;s__Unclassified_Gymnodinales                                                                 |
| OTU519 | 448 | DQ320627 | 98.21 | 448 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__U                                                  |
| OTU522 | 475 | DQ444233 | 84    | 475 | 100 | nclassified;g__Unclassified;s__Unclassified_Gymnodinales                                                                 |
| OTU529 | 475 | DQ480430 | 94.12 | 34  | 21  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__U                                                  |
| OTU530 | 450 | DQ480430 | 94.29 | 35  | 22  | nclassified;g__Unclassified;s__Unclassified_Gymnodinales                                                                 |
| OTU532 | 480 | AM408889 | 82.27 | 485 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__G                                                  |
| OTU533 | 503 | FJ032677 | 80.71 | 508 | 99  | ymnodiniaceae;g__Gymnodinium;s__Gymnodinium_catenatum                                                                    |
| OTU535 | 435 | AM408889 | 79.27 | 439 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__To                                                 |
| OTU548 | 373 | AB265968 | 83.91 | 379 | 100 | velliaceae;g__Tovellia;s__Tovellia_sanguinea                                                                             |
| OTU554 | 515 | DQ991375 | 99.03 | 516 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Proto                                               |
| OTU555 | 509 | DQ991375 | 97.45 | 509 | 100 | peridiniaceae;g__Protoperidinium;s__Protoperidinium_pellucidum                                                           |
| OTU556 | 498 | DQ991376 | 95.6  | 500 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Symbio                                               |
| OTU56  | 499 | AF260393 | 97.18 | 497 | 99  | diniaceae;g__Symbiodinium;s__unclassified_Symbiodinium                                                                   |
| OTU57  | 505 | AF260393 | 98.57 | 490 | 97  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Symbio                                               |
|        |     |          |       |     |     | diniaceae;g__Symbiodinium;s__unclassified_Symbiodinium                                                                   |
|        |     |          |       |     |     | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__G                                                  |
|        |     |          |       |     |     | ymnodiniaceae;g__Paragymnodinium;s__Paragymnodinium_shiwhaense                                                           |
|        |     |          |       |     |     | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__environmental_samp                                                 |
|        |     |          |       |     |     | les;f__norank;g__norank;s__uncultured_marine_DINO                                                                        |
|        |     |          |       |     |     | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__G                                                  |
|        |     |          |       |     |     | ymnodiniaceae;g__Paragymnodinium;s__Paragymnodinium_shiwhaense                                                           |
|        |     |          |       |     |     | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__G                                                  |
|        |     |          |       |     |     | ymnodiniaceae;g__Gymnodinium;s__Gymnodinium_microreticulatum                                                             |
|        |     |          |       |     |     | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Pfiest                                              |
|        |     |          |       |     |     | eriaceae;g__Cryptoperidiniopsis;s__Cryptoperidiniopsis_brodyi                                                            |
|        |     |          |       |     |     | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Pfiest                                              |
|        |     |          |       |     |     | eriaceae;g__Cryptoperidiniopsis;s__Cryptoperidiniopsis_brodyi                                                            |
|        |     |          |       |     |     | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Pfiest                                              |
|        |     |          |       |     |     | eriaceae;g__Cryptoperidiniopsis;s__Cryptoperidiniopsis_brodyi                                                            |
|        |     |          |       |     |     | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thora                                               |
|        |     |          |       |     |     | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea                                                                 |
|        |     |          |       |     |     | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thora                                               |
|        |     |          |       |     |     | cosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea                                                                 |

|        |     |          |       |     |     |                                                                                                                                        |
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| OTU573 | 490 | AM408889 | 81.48 | 486 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Paragymnodinium;s__Paragymnodinium_shiwhaense |
| OTU58  | 505 | AF260393 | 97.23 | 505 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea      |
| OTU60  | 498 | AF260393 | 94.19 | 396 | 79  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thracosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp.             |
| OTU601 | 477 | KM042422 | 76.3  | 481 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Proto-peridiniaceae;g__Proto-peridinium;s__Proto-peridinium_abei  |
| OTU614 | 507 | EF052683 | 96.65 | 507 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__unclassified_Peridinales;g__Baldinia;s__Baldinia_anauniensis      |
| OTU615 | 490 | EF052683 | 91.26 | 492 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__unclassified_Peridinales;g__Baldinia;s__Baldinia_anauniensis      |
| OTU62  | 413 | AF260393 | 95.27 | 402 | 97  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea      |
| OTU634 | 265 | KT389966 | 97    | 246 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Peridiniaceae;g__Pentaparsodinium;s__Pentaparsodinium_tyrrhenicum |
| OTU638 | 485 | AY571374 | 84.63 | 488 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima        |
| OTU639 | 487 | AY571374 | 83.95 | 486 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima        |
| OTU64  | 498 | AF260393 | 95.98 | 498 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea      |
| OTU640 | 485 | AY571374 | 84.62 | 481 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima        |
| OTU641 | 485 | AY571374 | 84.12 | 485 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima        |
| OTU642 | 489 | AY571374 | 80.52 | 462 | 92  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima        |
| OTU643 | 504 | AY571374 | 81.27 | 411 | 80  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia-like_Sp.          |
| OTU644 | 502 | AY571374 | 83.85 | 452 | 89  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia-like_sp.          |
| OTU645 | 501 | AY571374 | 81.05 | 459 | 90  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia-like_sp.          |
| OTU646 | 500 | AY571374 | 81.19 | 452 | 90  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia-like_sp.          |
| OTU647 | 495 | AY571374 | 81.62 | 457 | 91  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia-like_sp.          |
| OTU648 | 503 | AY571374 | 78.12 | 425 | 77  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia-like_sp.          |

|        |     |            |       |     |     |                                                                                                                                            |
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| OTU649 | 437 | AY571374   | 75    | 452 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_sp.                  |
| OTU650 | 283 | EF058276   | 94.31 | 281 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_pascheri             |
| OTU651 | 351 | EF058276   | 77.58 | 281 | 79  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia-like_sp.             |
| OTU652 | 368 | EF058276   | 86.02 | 279 | 76  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia-like_sp.             |
| OTU653 | 327 | EF058276   | 87.41 | 278 | 85  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia-like_sp.             |
| OTU654 | 322 | AY571374   | 96.89 | 322 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima           |
| OTU655 | 224 | KM058700   | 96.23 | 106 | 47  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Unclassified;g__Unclassified;s__Unclassified DINO                      |
| OTU656 | 235 | EF058276   | 86.36 | 220 | 94  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_pascheri             |
| OTU657 | 248 | EF058276   | 94.76 | 248 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_pascheri             |
| OTU670 | 476 | KT389956.1 | 86    | 481 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thracosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp.                |
| OTU671 | 472 | KT389946.1 | 84    | 478 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thracosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp.                |
| OTU674 | 493 | JF430394   | 78.47 | 497 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Pfiesteriaceae;g__Chimonodinium;s__Chimonodinium_lomnickii           |
| OTU676 | 502 | HQ176320   | 77.53 | 503 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Pfiesteriaceae;g__Chimonodinium;s__Chimonodinium_lomnickii           |
| OTU677 | 496 | KP702719   | 99.8  | 496 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Diplopsaliaceae;g__Oblea;s__Oblea_rotunda                            |
| OTU679 | 487 | EF152794   | 85.04 | 488 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Diplopsaliaceae;g__Diplopsalis;s__Diplopsalis_lenticula              |
| OTU683 | 455 | KP702719   | 95.83 | 456 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Diplopsaliaceae;g__Oblea;s__Oblea_rotunda                            |
| OTU695 | 461 | EF152953   | 91.99 | 462 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Diplopsaliaceae;g__Preperidinium;s__Preperidinium_sp._M064sm1        |
| OTU697 | 524 | EF152961   | 96.37 | 524 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Diplopsaliaceae;g__Preperidinium;s__Protoperidinium_cf._steidingerae |
| OTU701 | 521 | EF152961   | 96.16 | 521 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Diplopsaliaceae;g__Preperidinium;s__Protoperidinium_cf._steidingerae |
| OTU702 | 527 | EF152961   | 90.74 | 529 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Diplopsaliaceae;g__Preperidinium;s__Protoperidinium_cf._steidingerae |

|        |     |            |       |     |     |                                                                                                                                              |
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| OTU71  | 341 | AF260393   | 96.44 | 337 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea          |
| OTU718 | 506 | EF152961   | 94.73 | 493 | 97  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Diplopsaliaceae;g__Preperidinium;s__Proto-peridinium_cf._steidingeriae |
| OTU719 | 517 | EF152961   | 88.87 | 557 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Diplopsaliaceae;g__Preperidinium;s__Proto-peridinium_cf._steidingeriae |
| OTU72  | 488 | AF260394   | 100   | 488 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Peridinium;s__Peridinium_palatinum                    |
| OTU723 | 517 | AB288382   | 99.81 | 517 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Cochlodinium;s__Cochlodinium_fulvescens             |
| OTU740 | 474 | EF205010   | 97.72 | 482 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Glenodiniaceae;g__Peridiniopsis;s__Peridiniopsis_polonicum             |
| OTU743 | 294 | EF205014   | 99.32 | 294 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinophyceae;f__norank;g__Protodinium;s__Protodinium_simplex               |
| OTU745 | 429 | EF205019   | 97.67 | 430 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_halophila               |
| OTU75  | 498 | AF260392   | 86    | 500 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp.                 |
| OTU754 | 405 | KJ508376.1 | 77    | 74  | 72  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Kareniaceae-like;g__Unclassified;s__Unclassified DINO                 |
| OTU755 | 415 | X16108.1   | 77    | 75  | 69  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__Unclassified DINO                                        |
| OTU76  | 499 | AF260392   | 87.23 | 501 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp.                 |
| OTU768 | 482 | EF613349   | 84.42 | 77  | 53  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gonyaulacaceae;g__Unclassified;s__Unclassified DINO                   |
| OTU77  | 499 | JX262498   | 86.4  | 500 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_dalei          |
| OTU771 | 489 | EF613353   | 98.57 | 490 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinophyceae;f__norank;g__Levanderina;s__Levanderina_fissa                 |
| OTU772 | 504 | EF613353   | 94.64 | 504 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinophyceae;f__norank;g__Levanderina;s__Levanderina_fissa                 |
| OTU774 | 511 | JF430394   | 83.82 | 513 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Pfiesteriaceae;g__Chimonodinium;s__Chimonodinium_sp.                   |
| OTU776 | 515 | KT389885.1 | 93    | 88  | 80  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Amphidomataceae;g__norank;s__Unclassified DINO                        |
| OTU778 | 522 | EF613356   | 77.63 | 541 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Katodinium;s__Katodinium_glaucum                    |
| OTU78  | 497 | AF260393   | 86    | 500 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea          |

|        |     |          |       |     |     |                                                                                                                                         |
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| OTU781 | 524 | KP790221 | 97.53 | 160 | 33  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Katodinium-like;s__Katodinium-like_sp.         |
| OTU90  | 499 | AF260400 | 97.19 | 498 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_rotundata            |
| OTU91  | 492 | AF260400 | 98.17 | 493 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_rotundata            |
| OTU92  | 487 | AF260400 | 96.92 | 487 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_rotundata            |
| OTU93  | 483 | AF260400 | 96.07 | 483 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_rotundata            |
| OTU94  | 490 | AF260400 | 96.74 | 491 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_rotundata            |
| OTU950 | 486 | EF613366 | 92.18 | 486 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea       |
| OTU953 | 527 | EF613367 | 98.67 | 527 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Polykrikaceae;g__Polykrikos;s__Polykrikos_kofoiidii              |
| OTU954 | 524 | EF613367 | 98.73 | 474 | 90  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Polykrikaceae;g__Polykrikos;s__Polykrikos_kofoiidii              |
| OTU958 | 489 | EU165308 | 82.41 | 506 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Kareniaceae;g__Karenia;s__Karenia_brevis                         |
| OTU959 | 496 | EF469234 | 94.35 | 496 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Kareniaceae;g__Karlodinium;s__Karlodinium_antarcticum            |
| OTU960 | 511 | EF469234 | 89.34 | 516 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Kareniaceae;g__Karlodinium;s__Karlodinium_antarcticum            |
| OTU962 | 488 | EF469234 | 87.58 | 499 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Kareniaceae;g__Karlodinium;s__Karlodinium_antarcticum            |
| OTU97  | 485 | AF260400 | 95.67 | 485 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_rotundata            |
| OTU975 | 505 | AB295051 | 93.89 | 507 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Cochlodinium;s__Cochlodinium_fulvescens        |
| OTU976 | 512 | EF616462 | 86.16 | 513 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Cochlodinium;s__Cochlodinium_cf_geminatum      |
| OTU977 | 517 | EF616462 | 81.73 | 520 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Cochlodinium;s__Cochlodinium_cf_geminatum      |
| OTU979 | 516 | EF616462 | 84.04 | 520 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Cochlodinium;s__Cochlodinium_cf_geminatum      |
| OTU98  | 498 | EF616464 | 92.65 | 68  | 61  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia-like_sp.           |
| OTU980 | 497 | EF616462 | 94.74 | 133 | 90  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Cochlodinium;s__Cochlodinium_cf_geminatum-like |

|        |     |          |       |     |    |                                                                                                                                     |
|--------|-----|----------|-------|-----|----|-------------------------------------------------------------------------------------------------------------------------------------|
| OTU984 | 501 | EF616462 | 84.1  | 497 | 99 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Cochlodinium;s__Cochlodinium_cf._geminatum |
| OTU986 | 511 | EF616462 | 85.28 | 496 | 97 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Cochlodinium;s__Cochlodinium_cf._geminatum |
| OTU999 | 385 | EF616462 | 86.75 | 317 | 82 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Cochlodinium;s__Cochlodinium_cf._geminatum |

1  
2

1

**Table S2.** The 51 operational taxonomic units (OTUs) taxonomically identical to an entity in GenBank but having no species name provided.

| OTU ID  | OUT length | Gi number  | Identity | Align length | Coverage | Taxon                                                                                                                                                |
|---------|------------|------------|----------|--------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| OTU1034 | 524        | EU048553   | 98.46    | 520          | 99       | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Pfiesteriaceae;g__unclassified_Pfiesteriaceae;s__Pfiesteriaceae_sp._masanensis |
| OTU1043 | 432        | EU048553   | 97.92    | 433          | 100      | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Pfiesteriaceae;g__unclassified_Pfiesteriaceae;s__Pfiesteriaceae_sp._masanensis |
| OTU105  | 251        | AF318248   | 96.41    | 251          | 99       | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Gymnodinium;s__unclassified_Gymnodinium                     |
| OTU1051 | 374        | EU048553   | 99.43    | 352          | 94       | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Pfiesteriaceae;g__unclassified_Pfiesteriaceae;s__Pfiesteriaceae_sp._masanensis |
| OTU1150 | 317        | EU165289   | 97.16    | 317          | 100      | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp._CCMP2775                |
| OTU1151 | 261        | EU165289   | 98.43    | 255          | 98       | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp._CCMP2775                |
| OTU1184 | 544        | KT390028.1 | 95.22    | 544          | 100      | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Blastodinales;f__norank;g__Blastodinium;s__Blastodinium_sp.                                    |
| OTU1370 | 209        | FJ024706   | 98.06    | 206          | 98       | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_sp._MB-1                       |
| OTU1372 | 229        | FJ024706   | 98.67    | 225          | 98       | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_sp._MB-1                       |
| OTU1414 | 521        | KT390028   | 94.63    | 521          | 100      | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Blastodinales;f__Blastodinales;g__Blastodinium-like;s__Blastodinium-like_sp.                   |
| OTU1570 | 500        | KP790240   | 98.33    | 419          | 84       | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Warnowiaceae;g__Warnowia;s__Warnowia_sp._4_AR-2015                            |
| OTU1577 | 418        | KP790242   | 98.8     | 418          | 100      | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Warnowiaceae;g__Warnowia;s__Warnowia_sp._5_AR-2015                            |
| OTU1636 | 494        | FN557541   | 96.76    | 494          | 100      | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinophyceae;f__norank;g__Stoeckeria;s__Stoeckeria_sp._SSMS0806                    |
| OTU1639 | 504        | FN557541   | 99.8     | 504          | 100      | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinophyceae;f__norank;g__Stoeckeria;s__Stoeckeria_sp._SSMS0806                    |
| OTU1643 | 498        | FN557541   | 96.79    | 498          | 100      | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinophyceae;f__norank;g__Stoeckeria;s__Stoeckeria_sp._SSMS0806                    |
| OTU185  | 518        | AY245689   | 97.68    | 517          | 99       | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Pfiesteriaceae;g__unclassified_Pfiesteriaceae;s__Pfiesteria-like_DINO_Lucy     |
| OTU186  | 519        | AY245689   | 94.8     | 519          | 100      | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Pfiesteriaceae;g__unclassified_Pfiesteriaceae;s__Pfiesteria-like_DINO_Lucy     |
| OTU192  | 499        | AY245689   | 94.59    | 499          | 100      | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Pfiesteriaceae;g__unclassified_Pfiesteriaceae;s__Pfiesteria-like_DINO_Lucy     |

|         |     |          |       |     |     |                                                                                                                                           |
|---------|-----|----------|-------|-----|-----|-------------------------------------------------------------------------------------------------------------------------------------------|
| OTU199  | 525 | AY245689 | 96.88 | 32  | 81  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridiniales;f_Pfiesteriaceae;g_unclassified_Pfiesteriaceae;s_Pfiesteria-like_DINO_Lucy  |
| OTU2267 | 516 | JQ247714 | 93.86 | 521 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gonyaulacales;f_Cladopyxidaceae;g_Peridiniella;s_Peridiniella_sp_NC-2011                 |
| OTU2316 | 542 | JN934984 | 96.68 | 542 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Syndiniales;f_Eudubosquellidae;g_Euduboscquella;s_Euduboscquella_sp_ex_Tintinnopsis_sp_1 |
| OTU2321 | 359 | JN934984 | 94.74 | 361 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Syndiniales;f_Eudubosquellidae;g_Euduboscquella;s_Euduboscquella_sp_ex_Tintinnopsis_sp_1 |
| OTU2344 | 540 | JN934994 | 99.63 | 540 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Syndiniales;f_Eudubosquellidae;g_Euduboscquella;s_Euduboscquella_sp_ex_Tintinnopsis_sp_2 |
| OTU3368 | 513 | KF751926 | 97.83 | 508 | 99  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridiniales;f_Thoracosphaeraceae;g_Scrippsiella;s_Scrippsiella_sp.                      |
| OTU3376 | 487 | KF751926 | 94.26 | 488 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridiniales;f_Thoracosphaeraceae;g_Scrippsiella;s_Scrippsiella_sp.                      |
| OTU3377 | 425 | KF751926 | 96.47 | 425 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridiniales;f_Thoracosphaeraceae;g_Scrippsiella;s_Scrippsiella_sp.                      |
| OTU3379 | 502 | KF751926 | 95.59 | 521 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridiniales;f_Thoracosphaeraceae;g_Scrippsiella;s_Scrippsiella_sp.                      |
| OTU3391 | 423 | KF751926 | 95.72 | 421 | 99  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridiniales;f_Thoracosphaeraceae;g_Scrippsiella;s_Scrippsiella_sp.                      |
| OTU3394 | 510 | AB871535 | 96.86 | 509 | 99  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gonyaulacales;f_Cryptocodiniaceae;g_Cryptocodinium;s_Cryptocodinium_sp_ShSu-2013         |
| OTU342  | 481 | AY571374 | 99.5  | 398 | 83  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Lophodiniales;f_Lophodiniaceae;g_Woloszynskia;s_Woloszynskia_tenuissima-like             |
| OTU343  | 476 | AY571374 | 99.52 | 416 | 87  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Lophodiniales;f_Lophodiniaceae;g_Woloszynskia;s_Woloszynskia_tenuissima-like             |
| OTU3467 | 490 | HG005135 | 94.29 | 490 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gymnodiniales;f_Gymnodiniaceae;g_Gymnodinium;s_unclassified_Gymnodinium                  |
| OTU3509 | 483 | HG005135 | 99.17 | 483 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gymnodiniales;f_Gymnodiniaceae;g_Gymnodinium;s_Gymnodinium_sp_GSSW10                     |
| OTU357  | 328 | AY590477 | 98.79 | 330 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridiniales;f_Pfiesteriaceae;g_unclassified_Pfiesteriaceae;s_Pfiesteriaceae_sp_CCMP1835 |
| OTU3686 | 495 | JX262498 | 75    | 356 | 72  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridiniales;f_Peridiniaceae;g_Pentapharsodinium;s_Pentapharsodinium_sp.                 |
| OTU3690 | 384 | KJ433986 | 74    | 384 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridiniales;f_Peridiniaceae;g_Pentapharsodinium;s_Pentapharsodinium_sp.                 |
| OTU3693 | 403 | KJ433986 | 74    | 113 | 99  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridiniales;f_Peridiniaceae;g_Pentapharsodinium;s_Pentapharsodinium_sp.                 |
| OTU3694 | 459 | JX262498 | 75    | 66  | 85  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridiniales;f_Peridiniaceae;g_Pentapharsodinium;s_Pentapharsodinium_sp.                 |

|         |     |          |       |     |     |                                                                                                                                    |
|---------|-----|----------|-------|-----|-----|------------------------------------------------------------------------------------------------------------------------------------|
| OTU3720 | 479 | HG792066 | 100   | 479 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinophyceae;f__norank;g__norank;s__Dinophyceae_sp._1_HJH-2013   |
| OTU3726 | 475 | HG792066 | 96.84 | 475 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinophyceae;f__norank;g__norank;s__Dinophyceae_sp._1_HJH-2013   |
| OTU376  | 505 | AY916546 | 99.8  | 499 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp._CS297 |
| OTU3788 | 490 | KJ508397 | 95.74 | 493 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Warnowiaceae;g__Warnowia;s__Warnowia_sp._IFR1101            |
| OTU379  | 492 | AY916546 | 95.9  | 488 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp._CS297 |
| OTU382  | 498 | AY916546 | 96.75 | 492 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp._CS297 |
| OTU385  | 499 | AY916546 | 94.93 | 493 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp._CS297 |
| OTU388  | 499 | AY916546 | 96.15 | 493 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp._CS297 |
| OTU392  | 475 | AY916553 | 96.57 | 466 | 98  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_sp._CS-341   |
| OTU395  | 448 | AY916553 | 96.88 | 449 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_sp._CS-341   |
| OTU396  | 441 | AY916553 | 96.55 | 435 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_sp._CS-341   |
| OTU398  | 472 | AY916553 | 96.33 | 463 | 98  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_sp._CS-341   |
| OTU60   | 498 | AF260393 | 94.19 | 396 | 79  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp.       |

**Table S3.** The most abundant taxa (each with reads >0.9% of the total reads).

| OTU ID  | Total reads in 32 samples | Percentage of total reads of 801 OTUs | OUT length | Gi number  | Identity | Align length | Coverage | Taxon                                                                                                                               |
|---------|---------------------------|---------------------------------------|------------|------------|----------|--------------|----------|-------------------------------------------------------------------------------------------------------------------------------------|
| OTU1321 | 29186                     | 7.18%                                 | 489        | FJ024705   | 100      | 489          | 100      | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta            |
| OTU2708 | 20465                     | 5.04%                                 | 515        | JX262498   | 87.77    | 515          | 99       | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentaparsodinium;s__Pentaparsodinium_dalei   |
| OTU1775 | 18635                     | 4.59%                                 | 504        | HM483396   | 96.83    | 504          | 100      | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea |
| OTU3819 | 15455                     | 3.80%                                 | 490        | KJ450986   | 98.36    | 487          | 99       | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Peridinium;s__Peridinium_baicalense          |
| OTU493  | 14553                     | 3.58%                                 | 495        | FJ024705   | 82.02    | 495          | 99       | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta            |
| OTU638  | 13831                     | 3.40%                                 | 485        | AY571374   | 84.63    | 488          | 99       | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima     |
| OTU1322 | 13764                     | 3.39%                                 | 497        | FJ024705   | 98.39    | 497          | 100      | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta            |
| OTU341  | 12008                     | 2.96%                                 | 488        | AY571374   | 83.88    | 490          | 99       | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima     |
| OTU1059 | 11531                     | 2.84%                                 | 488        | AY571374   | 84.05    | 489          | 99       | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima     |
| OTU1996 | 10526                     | 2.59%                                 | 482        | EF205002   | 85.9     | 78           | 38       | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__Unclassified DINO                               |
| OTU1351 | 10101                     | 2.49%                                 | 485        | FJ024705   | 95.82    | 502          | 99       | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta            |
| OTU338  | 9934                      | 2.45%                                 | 492        | AY571374   | 85.25    | 488          | 97       | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima     |
| OTU376  | 9438                      | 2.32%                                 | 505        | AY916546   | 99.8     | 499          | 99       | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp._CS297  |
| OTU670  | 8007                      | 1.97%                                 | 476        | KT389956.1 | 86       | 481          | 100      | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp.        |
| OTU339  | 7625                      | 1.88%                                 | 470        | AY571374   | 100      | 470          | 100      | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima     |
| OTU1780 | 7339                      | 1.81%                                 | 499        | HM483396   | 94.39    | 499          | 100      | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea |
| OTU340  | 7103                      | 1.75%                                 | 490        | AY571374   | 84.71    | 484          | 98       | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima     |

|                |             |              |            |                 |            |            |            |                                                                                                                                         |
|----------------|-------------|--------------|------------|-----------------|------------|------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| OTU1926        | 7043        | 1.73%        | 502        | HM483399        | 92.87      | 505        | 100        | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinophyceae;f__norank;g__Duboscquodinium;s__Duboscquodinium_collinii |
| OTU1058        | 6993        | 1.72%        | 500        | EU126801        | 77.84      | 528        | 100        | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Borghiellaceae;g__Borghiella;s__Borghiella_dodgei                   |
| <b>OTU3297</b> | <b>6547</b> | <b>1.61%</b> | <b>499</b> | <b>KF878935</b> | <b>100</b> | <b>499</b> | <b>100</b> | <b>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Gymnodiniaceae;g__Gymnodinium;s__Gymnodinium_instriatum</b>    |
| OTU2723        | 5681        | 1.40%        | 527        | JX262498        | 86.55      | 528        | 100        | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_dalei      |
| OTU2393        | 5472        | 1.35%        | 477        | JQ616825        | 92         | 106        | 32         | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__norank;g__norank;s__Unclassified_DINO                             |
| OTU351         | 5336        | 1.31%        | 488        | AY571374        | 96.29      | 485        | 99         | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima         |
| OTU1332        | 4291        | 1.06%        | 494        | FJ024705        | 97.57      | 494        | 100        | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta                |
| OTU323         | 4101        | 1.01%        | 510        | AY571369        | 98.82      | 510        | 100        | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Gymnodiniaceae;g__Gyrodinium;s__Gyrodinium_rubrum                 |
| OTU489         | 3773        | 0.9%         | 481        | DQ195368        | 100        | 481        | 100        | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Suessiaceae;g__Pelagodinium;s__Pelagodinium_béii                    |
| OTU3404        | 3685        | 0.9%         | 494        | AB858353        | 98.38      | 494        | 100        | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_brevisulcata          |
| OTU3721        | 3595        | 0.9%         | 505        | LM992906        | 91         | 89         | 72         | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__norank;s__Biecheleriopsis-like species           |
| OTU3694        | 3553        | 0.9%         | 459        | JX262498        | 75         | 66         | 85         | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_sp.        |
| OTU72          | 3478        | 0.9%         | 488        | AF260394        | 100        | 488        | 100        | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Peridiniaceae;g__Peridinium;s__Peridinium_palatinum                |

Bold font indicates fully identified species.

**Table S4.** The most frequently detected operational taxonomic units (OTUs) (detected in >50% of the samples) among the 801 OTUs annotated as dinoflagellates.

| OTU ID  | Frequency | Percentage of frequency | OUT length | Gi number | Identity | Align length | Coverage | Taxon                                                                                                                  |
|---------|-----------|-------------------------|------------|-----------|----------|--------------|----------|------------------------------------------------------------------------------------------------------------------------|
| OTU1321 | 29        | 91%                     | 489        | FJ024705  | 100      | 489          | 100      | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biecheleriaceae;g_Biecheleria;s_Biecheleria_cincta       |
| OTU1351 | 29        | 91%                     | 485        | FJ024705  | 95.82    | 502          | 99       | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biecheleriaceae;g_Biecheleria;s_Biecheleria_cincta       |
| OTU1322 | 28        | 88%                     | 497        | FJ024705  | 98.39    | 497          | 100      | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biecheleriaceae;g_Biecheleria;s_Biecheleria_cincta       |
| OTU1332 | 28        | 88%                     | 494        | FJ024705  | 97.57    | 494          | 100      | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biecheleriaceae;g_Biecheleria;s_Biecheleria_cincta       |
| OTU3404 | 27        | 84%                     | 494        | AB858353  | 98.38    | 494          | 100      | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biecheleriaceae;g_Biecheleria;s_Biecheleria_brevisulcata |
| OTU2473 | 25        | 78%                     | 485        | JQ413374  | 98.68    | 303          | 62       | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biecheleriaceae;g_Biecheleria;s_Biecheleria-like_sp.     |
| OTU1343 | 22        | 69%                     | 490        | FJ024705  | 97.56    | 491          | 100      | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biecheleriaceae;g_Biecheleria;s_Biecheleria_cincta       |
| OTU338  | 21        | 66%                     | 492        | AY571374  | 85.25    | 488          | 97       | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Lophodiales;f_Lophodiniaceae;g_Woloszynskia;s_Woloszynskia_tenuissima |
| OTU2452 | 20        | 63%                     | 487        | FJ024705  | 95.89    | 487          | 100      | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biecheleriaceae;g_Biecheleria;s_Biecheleria_cincta       |
| OTU2471 | 19        | 59%                     | 470        | JQ413374  | 98.67    | 300          | 63       | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biecheleriaceae;g_Biecheleria;s_Biecheleria-like_sp.     |
| OTU638  | 18        | 56%                     | 485        | AY571374  | 84.63    | 488          | 99       | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Lophodiales;f_Lophodiniaceae;g_Woloszynskia;s_Woloszynskia_tenuissima |
| OTU489  | 18        | 56%                     | 481        | DQ195368  | 100      | 481          | 100      | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Suessiaceae;g_Pelagodinium;s_Pelagodinium_béii           |
| OTU488  | 17        | 53%                     | 492        | DQ195367  | 98.14    | 484          | 98       | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Suessiaceae;g_Pelagodinium;s_Pelagodinium_béii           |
| OTU647  | 16        | 50%                     | 495        | AY571374  | 81.62    | 457          | 91       | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Lophodiales;f_Lophodiniaceae;g_Woloszynskia;s_Woloszynskia-like_sp.   |
| OTU3426 | 16        | 50%                     | 496        | AB858353  | 93.75    | 496          | 100      | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biecheleriaceae;g_Biecheleria;s_Biecheleria_brevisulcata |
| OTU2463 | 16        | 50%                     | 404        | JQ413374  | 97.28    | 404          | 100      | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biecheleriaceae;g_Biecheleria;s_Biecheleria_cincta       |

Bold font indicates fully identified species.

1

**Table S5.** The most rare taxa among the 801 operational taxonomic units (OTUs) annotated as dinoflagellates (detected with 1 or 2 reads).

| OTU ID         | Reads    | OUT length | Gi number       | Identity     | Align length | Coverage   | Taxon                                                                                                                              |
|----------------|----------|------------|-----------------|--------------|--------------|------------|------------------------------------------------------------------------------------------------------------------------------------|
| OTU1066        | 1        | 507        | JN119844        | 76.14        | 549          | 100        | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Heterocapsaceae;g_Heterocapsa;s_Heterocapsa_sp_HCBC88               |
| <b>OTU1151</b> | <b>1</b> | <b>261</b> | <b>EU165289</b> | <b>98.43</b> | <b>255</b>   | <b>98</b>  | <b>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Thoracosphaeraceae;g_Scrippsiella;s_Scrippsiella_sp_CCMP2775</b> |
| OTU1183        | 1        | 487        | AY154965        | 74.64        | 414          | 81         | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gonyaulacales;f_Gonyaulacaceae;g_Gonyaulax;s_Gonyaulax-like_sp.                   |
| OTU12          | 1        | 523        | EU126801        | 74.54        | 538          | 100        | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Borghiellaceae;g_Borghiella;s_Borghiella_sp.                         |
| OTU1328        | 1        | 510        | FJ024705        | 91.73        | 508          | 99         | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biecheleriaceae;g_Biecheleria;s_Biecheleria_cincta                   |
| <b>OTU1337</b> | <b>1</b> | <b>499</b> | <b>FJ024705</b> | <b>94.19</b> | <b>499</b>   | <b>100</b> | <b>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biecheleriaceae;g_Biecheleria;s_Biecheleria_cincta</b>            |
| OTU1347        | 1        | 499        | FJ024705        | 92.22        | 501          | 100        | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biecheleriaceae;g_Biecheleria;s_Biecheleria_cincta                   |
| OTU1360        | 1        | 491        | FJ024705        | 92.68        | 492          | 100        | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biecheleriaceae;g_Biecheleria;s_Biecheleria_cincta                   |
| OTU1520        | 1        | 484        | FJ939579        | 72.27        | 494          | 99         | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gonyaulacales;f_Gonyaulacaceae;g_Gonyaulax;s_Gonyaulax_sp.                        |
| OTU1607        | 1        | 503        | FJ600087        | 88.66        | 529          | 100        | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Pfiesteriaceae;g_Pfiesteria;s_Pfiesteria_piscicida                  |
| OTU1620        | 1        | 334        | LC027066        | 82.08        | 106          | 32         | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_norank;f_norank;g_norank;s_Unclassified DINO                                      |
| OTU1776        | 1        | 482        | HM483396        | 92.95        | 482          | 100        | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Thoracosphaeraceae;g_Scrippsiella;s_Scrippsiella_trochoidea         |
| OTU1799        | 1        | 503        | HM483396        | 89.66        | 503          | 100        | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Thoracosphaeraceae;g_Scrippsiella;s_Scrippsiella_trochoidea         |
| <b>OTU1842</b> | <b>1</b> | <b>516</b> | <b>HM483396</b> | <b>94.79</b> | <b>518</b>   | <b>100</b> | <b>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Thoracosphaeraceae;g_Scrippsiella;s_Scrippsiella_trochoidea</b>  |
| OTU1879        | 1        | 436        | HM483396        | 89.33        | 431          | 99         | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Thoracosphaeraceae;g_Scrippsiella;s_Scrippsiella_trochoidea         |
| OTU1897        | 1        | 498        | HM483396        | 90.56        | 498          | 100        | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Thoracosphaeraceae;g_Scrippsiella;s_Scrippsiella_trochoidea         |
| <b>OTU1912</b> | <b>1</b> | <b>507</b> | <b>HM483396</b> | <b>95.87</b> | <b>508</b>   | <b>100</b> | <b>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Thoracosphaeraceae;g_Scrippsiella;s_Scrippsiella_trochoidea</b>  |
| OTU2000        | 1        | 494        | FR720082        | 80.72        | 498          | 100        | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gymnodinales;f_Gymnodiniaceae;g_Gyrodiniellum;s_Gyrodiniellum_sp.                 |

|         |   |     |          |       |     |     |                                                                                                                                                    |
|---------|---|-----|----------|-------|-----|-----|----------------------------------------------------------------------------------------------------------------------------------------------------|
| OTU2044 | 1 | 502 | HQ902267 | 82.9  | 503 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_triquetra                      |
| OTU2068 | 1 | 502 | JF430394 | 92.63 | 502 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Pfiesteriaceae;g__Chimonodinium;s__Chimonodinium_lomnickii                   |
| OTU210  | 1 | 426 | EU165272 | 80.12 | 322 | 75  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__unclassified_Heterocapsaceae;s__Heterocapsaceae-like sp.  |
| OTU2110 | 1 | 436 | HQ670228 | 95.86 | 435 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thorracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea               |
| OTU2188 | 1 | 494 | FN647674 | 98.1  | 421 | 85  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Barrufeta;s__Barrufeta_bravensis                          |
| OTU2196 | 1 | 479 | DQ195375 | 75.21 | 480 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Suessiacae;g__Pelagodinium;s__Pelagodinium_sp.                                 |
| OTU2202 | 1 | 478 | JN558107 | 96.44 | 478 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Suessiacae;g__Pelagodinium;s__Pelagodinium_béii                                |
| OTU2316 | 1 | 542 | JN934984 | 96.68 | 542 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Syndiniales;f__Eudubosquellidae;g__Euduboscquella;s__Euduboscquella_sp_ex_Tintinnopsis_sp._1 |
| OTU2321 | 1 | 359 | JN934984 | 94.74 | 361 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Syndiniales;f__Eudubosquellidae;g__Euduboscquella;s__Euduboscquella_sp_ex_Tintinnopsis_sp._1 |
| OTU2325 | 1 | 561 | JN934988 | 96.8  | 563 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Syndiniales;f__Eudubosquellidae;g__Euduboscquella;s__Euduboscquella_cachoni                  |
| OTU2332 | 1 | 498 | JN934989 | 69.26 | 501 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Syndiniales;f__Eudubosquellidae;g__Euduboscquella;s__Euduboscquella_sp_ex_Favella_arcuata    |
| OTU2344 | 1 | 540 | JN934994 | 99.63 | 540 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Syndiniales;f__Eudubosquellidae;g__Euduboscquella;s__Euduboscquella_sp_ex_Tintinnopsis_sp._2 |
| OTU2428 | 1 | 235 | JQ639752 | 85.71 | 189 | 80  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Glenodiniaceae;g__Peridiniopsis;s__Peridiniopsis_minima                      |
| OTU2447 | 1 | 502 | FJ024705 | 88.14 | 506 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta                           |
| OTU2451 | 1 | 481 | FJ024705 | 91.12 | 484 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta                           |
| OTU2456 | 1 | 444 | JQ413374 | 96.26 | 454 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta                           |
| OTU2458 | 1 | 505 | AB858353 | 91.68 | 505 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_brevisulcata                     |
| OTU2537 | 1 | 477 | HQ845327 | 88    | 84  | 23  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__Unclassified DINO                                              |

|         |   |     |          |       |     |     |                                                                                                                                             |
|---------|---|-----|----------|-------|-----|-----|---------------------------------------------------------------------------------------------------------------------------------------------|
| OTU2583 | 1 | 464 | AF260400 | 71.22 | 476 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_rotundata               |
| OTU2641 | 1 | 299 | JN982402 | 97.57 | 288 | 96  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thracosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp.                 |
| OTU2666 | 1 | 490 | AB716928 | 91.65 | 491 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Proto-peridiniaceae;g__Proto-peridinium;s__Proto-peridinium_monovelum |
| OTU2669 | 1 | 359 | AB716928 | 86.35 | 359 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Proto-peridiniaceae;g__Proto-peridinium;s__Proto-peridinium_monovelum |
| OTU2711 | 1 | 473 | JX262498 | 73    | 473 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_sp.           |
| OTU2808 | 1 | 219 | KC895475 | 96.36 | 220 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta                    |
| OTU2856 | 1 | 478 | KP790181 | 89.42 | 104 | 22  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__Unclassified DINO                                       |
| OTU2953 | 1 | 491 | KF031312 | 99.32 | 443 | 90  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_minima                  |
| OTU3287 | 1 | 499 | EF616462 | 86.07 | 524 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Cochlodinium;s__Cochlodinium_cf_geminatum          |
| OTU3288 | 1 | 500 | HQ834210 | 84.79 | 539 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Polykrikaceae;g__Pheopolykrikos;s__Pheopolykrikos_hartmannii         |
| OTU3328 | 1 | 499 | HM483396 | 92.99 | 499 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea          |
| OTU3335 | 1 | 519 | KF751924 | 89.21 | 519 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thracosphaeraceae;g__Scrippsiella;s__Scrippsiella_aff_acuminata       |
| OTU334  | 1 | 497 | AF260392 | 86.97 | 499 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thracosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp.                 |
| OTU3365 | 1 | 410 | KF751924 | 90.64 | 406 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thracosphaeraceae;g__Scrippsiella;s__Scrippsiella_aff_acuminata       |
| OTU3377 | 1 | 425 | KF751926 | 96.47 | 425 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thracosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp.                 |
| OTU3385 | 1 | 495 | HM483396 | 94.34 | 495 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea          |
| OTU3407 | 1 | 501 | AB858353 | 88.42 | 501 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_brevisulcata              |
| OTU3408 | 1 | 225 | AB858353 | 99.06 | 213 | 94  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_brevisulcata              |
| OTU3413 | 1 | 495 | AB858353 | 89.54 | 497 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_brevisulcata              |
| OTU342  | 1 | 481 | AY571374 | 99.5  | 398 | 83  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima-like       |

|                |          |            |                 |              |            |            |                                                                                                                                             |
|----------------|----------|------------|-----------------|--------------|------------|------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| OTU3443        | 1        | 489        | LM992906        | 91.46        | 492        | 100        | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Biecheleriopsis;s__Biecheleriopsis_adriatica        |
| OTU3490        | 1        | 501        | HG005135        | 92.38        | 499        | 99         | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Gymnodiniaceae;g__Gymnodinium;s__unclassified_Gymnodinium             |
| <b>OTU3509</b> | <b>1</b> | <b>483</b> | <b>HG005135</b> | <b>99.17</b> | <b>483</b> | <b>100</b> | <b>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Gymnodiniaceae;g__Gymnodinium;s__Gymnodinium_sp. GSSW10</b>        |
| OTU3530        | 1        | 497        | KJ433986        | 87.62        | 501        | 99         | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_sp. ZL-2014    |
| OTU3535        | 1        | 437        | KJ433986        | 90.13        | 476        | 100        | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_sp. ZL-2014    |
| OTU3538        | 1        | 466        | KJ433986        | 90.79        | 467        | 100        | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_sp. ZL-2014    |
| OTU355         | 1        | 505        | DQ991376        | 95.86        | 507        | 100        | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Pfiesteriaceae;g__Cryptoperidiniopsis;s__Cryptoperidiniopsis_brodyi    |
| OTU3602        | 1        | 486        | KP790206        | 97.24        | 434        | 89         | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Gymnodiniaceae;g__Gyrodinium;s__Gyrodinium_undulans                   |
| OTU3686        | 1        | 495        | JX262498        | 75           | 356        | 72         | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_sp.            |
| OTU3726        | 1        | 475        | HG792066        | 96.84        | 475        | 100        | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinophyceae;f__norank;g__norank;s__Dinophyceae_sp. 1 HJH-2013            |
| OTU3757        | 1        | 480        | LC027049        | 98.34        | 481        | 100        | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinophyceae;f__norank;g__Pellucidodinium;s__Pellucidodinium_psammophilum |
| OTU3759        | 1        | 478        | LC027049        | 89.77        | 479        | 99         | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinophyceae;f__norank;g__Pellucidodinium;s__Pellucidodinium_psammophilum |
| OTU3831        | 1        | 498        | JX262498        | 83.03        | 501        | 100        | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_dalei          |
| OTU385         | 1        | 499        | AY916546        | 94.93        | 493        | 99         | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thorracosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp. CS297          |
| OTU398         | 1        | 472        | AY916553        | 96.33        | 463        | 98         | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_sp. CS-341             |
| OTU4           | 1        | 259        | KF245459        | 79.28        | 111        | 43         | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified;f__unclassified;g__unclassified;s__unclassified DINO                     |
| OTU470         | 1        | 378        | AY154965        | 73.74        | 396        | 99         | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gonyaulacaceae;g__Gonyaulax;s__Gonyaulax_membranacea                 |
| OTU475         | 1        | 411        | AY154965        | 73.26        | 430        | 99         | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gonyaulacaceae;g__Gonyaulax;s__Gonyaulax_membranacea                 |
| OTU499         | 1        | 447        | DQ195376        | 96.65        | 448        | 100        | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Suessiaceae;g__Pelagodinium;s__Pelagodinium_béii                        |
| OTU535         | 1        | 435        | AM408889        | 79.27        | 439        | 100        | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Gymnodiniaceae;g__Paragymnodinium;s__Paragymnodinium_shiwhaense       |

|         |   |     |            |       |     |     |                                                                                                                                                  |
|---------|---|-----|------------|-------|-----|-----|--------------------------------------------------------------------------------------------------------------------------------------------------|
| OTU58   | 1 | 505 | AF260393   | 97.23 | 505 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridiniales;f_Tho<br>racosphaeraceae;g_Scrippsiella;s_Scrippsiella_trochoidea                  |
| OTU60   | 1 | 498 | AF260393   | 94.19 | 396 | 79  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridiniales;f_Tho<br>racosphaeraceae;g_Scrippsiella;s_Scrippsiella_sp.                         |
| OTU62   | 1 | 413 | AF260393   | 95.27 | 402 | 97  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridiniales;f_Tho<br>racosphaeraceae;g_Scrippsiella;s_Scrippsiella_trochoidea                  |
| OTU702  | 1 | 527 | EF152961   | 90.74 | 529 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridiniales;f_Diplo<br>psaliaceae;g_Preperidinium;s_Protoperidinium_cf_steidingerae            |
| OTU71   | 1 | 341 | AF260393   | 96.44 | 337 | 99  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridiniales;f_Tho<br>racosphaeraceae;g_Scrippsiella;s_Scrippsiella_trochoidea                  |
| OTU719  | 1 | 517 | EF152961   | 88.87 | 557 | 99  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridiniales;f_Diplo<br>psaliaceae;g_Preperidinium;s_Protoperidinium_cf_steidingerae            |
| OTU1043 | 2 | 432 | EU048553   | 97.92 | 433 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridiniales;f_Pfie<br>steriaceae;g_unclassified_Pfiesteriaceae;s_Pfiesteriaceae_sp._masanensis |
| OTU105  | 2 | 251 | AF318248   | 96.41 | 251 | 99  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gymnodiniales;f_<br>Gymnodiniaceae;g_Gymnodinium;s_unclassified_Gymnodinium                     |
| OTU1091 | 2 | 514 | HQ902267   | 76.44 | 556 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridiniales;f_Heter<br>ocapsaceae;g_Heterocapsa;s_Heterocapsa_triquetra                        |
| OTU110  | 2 | 413 | KF031312   | 76.43 | 420 | 99  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridiniales;f_Heter<br>ocapsaceae;g_Heterocapsa;s_Heterocapsa_minima                           |
| OTU1150 | 2 | 317 | EU165289   | 97.16 | 317 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridiniales;f_Tho<br>racosphaeraceae;g_Scrippsiella;s_Scrippsiella_sp._CCMP2775                |
| OTU1158 | 2 | 236 | HQ845331   | 94.92 | 236 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridiniales;f_Tho<br>racosphaeraceae;g_Scrippsiella;s_Scrippsiella_sweeneyae                   |
| OTU1178 | 2 | 487 | HQ670228.1 | 98    | 487 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridiniales;f_Tho<br>racosphaeraceae;g_Scrippsiella;s_Scrippsiella_trochoidea                  |
| OTU1180 | 2 | 295 | EU370959   | 96.96 | 296 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridiniales;f_Tho<br>racosphaeraceae;g_Scrippsiella;s_Scrippsiella_trochoidea                  |
| OTU1329 | 2 | 508 | FJ024705   | 95.44 | 504 | 99  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biech<br>eleriaceae;g_Biecheleria;s_Biecheleria_cincta                             |
| OTU1339 | 2 | 485 | FJ024705   | 94.02 | 485 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biech<br>eleriaceae;g_Biecheleria;s_Biecheleria_cincta                             |
| OTU1346 | 2 | 489 | FJ024705   | 91.85 | 491 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechel<br>eriaceae;g_Biecheleria;s_Biecheleria_cincta                             |
| OTU1356 | 2 | 493 | FJ024705   | 93.1  | 493 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechel<br>eriaceae;g_Biecheleria;s_Biecheleria_cincta                             |
| OTU1359 | 2 | 492 | FJ024705   | 95.53 | 492 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biech<br>eleriaceae;g_Biecheleria;s_Biecheleria_cincta                             |
| OTU1361 | 2 | 491 | FJ024705   | 90.84 | 491 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biechel<br>eriaceae;g_Biecheleria;s_Biecheleria_cincta                             |

|                |          |            |                 |              |            |            |                                                                                                                                             |
|----------------|----------|------------|-----------------|--------------|------------|------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| OTU1363        | 2        | 488        | FJ024705        | 93.24        | 488        | 100        | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta                    |
| OTU1613        | 2        | 461        | EF205003        | 83.72        | 86         | 53         | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__Unclassified DINO                                       |
| OTU1695        | 2        | 507        | LC002848        | 82.09        | 402        | 79         | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinophyceae;f__norank;g__norank;s__Unclassified DINO                     |
| <b>OTU1794</b> | <b>2</b> | <b>499</b> | <b>HM483396</b> | <b>96.79</b> | <b>498</b> | <b>99</b>  | <b>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea</b>  |
| OTU1853        | 2        | 494        | EF152961        | 91.5         | 494        | 100        | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Diplopsaliaceae;g__Preperidinium;s__Proto-peridinium_cf._steidingerae |
| OTU1884        | 2        | 489        | HM483396        | 92.02        | 489        | 100        | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea         |
| OTU2042        | 2        | 512        | HQ902267        | 82.91        | 515        | 99         | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_triquetra               |
| <b>OTU2059</b> | <b>2</b> | <b>416</b> | <b>JF521637</b> | <b>98.56</b> | <b>417</b> | <b>100</b> | <b>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gonyaulacaceae;g__Alexandrium;s__Alexandrium_ostensfeldii</b>     |
| OTU2078        | 2        | 515        | JN119844        | 84.17        | 518        | 100        | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_sp._HCBC88              |
| OTU236         | 2        | 473        | AY154960        | 81.54        | 65         | 47         | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gonyaulacaceae;g__norank;s__Unclassified DINO                        |
| <b>OTU240</b>  | <b>2</b> | <b>436</b> | <b>AY154960</b> | <b>96.45</b> | <b>422</b> | <b>97</b>  | <b>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gonyaulacaceae;g__Gonyaulax;s__Gonyaulax_cf._spiniifera</b>       |
| OTU2407        | 2        | 494        | JQ616825        | 76.41        | 496        | 99         | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Gymnodinium;s__Gymnodinium_catenatum               |
| OTU2446        | 2        | 507        | FJ024705        | 89.11        | 505        | 99         | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta                    |
| OTU2450        | 2        | 492        | FJ024705        | 86.87        | 495        | 100        | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta                    |
| OTU2455        | 2        | 506        | FJ024705        | 88.39        | 508        | 100        | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta                    |
| OTU2467        | 2        | 492        | FJ024705        | 86.49        | 496        | 100        | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta                    |
| OTU2496        | 2        | 517        | KP790208        | 89.47        | 76         | 15         | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__Unclassified DINO                                       |
| <b>OTU2644</b> | <b>2</b> | <b>513</b> | <b>JX559886</b> | <b>99.1</b>  | <b>442</b> | <b>86</b>  | <b>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Amphidomataceae;g__Azadinium;s__Azadinium_polongum</b>            |
| OTU2768        | 2        | 501        | JQ247713        | 73.05        | 512        | 100        | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_niei                    |
| <b>OTU2965</b> | <b>2</b> | <b>257</b> | <b>KF240778</b> | <b>96.96</b> | <b>263</b> | <b>100</b> | <b>d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_rotundata</b>        |

|         |   |     |          |       |     |     |                                                                                                                                             |
|---------|---|-----|----------|-------|-----|-----|---------------------------------------------------------------------------------------------------------------------------------------------|
| OTU2984 | 2 | 519 | KF543359 | 96.29 | 431 | 83  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gonyaulacales;f_Amphidomataceae;g_Azadinium;s_Azadinium_dalianense                         |
| OTU3033 | 2 | 509 | KF651047 | 94.5  | 509 | 100 | <b>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridiniales;f_Protoperidiniaceae;g_Protoperidinium;s_Protoperidinium_tricingulatum</b> |
| OTU3344 | 2 | 323 | KF751924 | 96.6  | 324 | 100 | <b>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridiniales;f_Thoracosphaeraceae;g_Scrippsiella;s_Scrippsiella_aff_acuminata</b>       |
| OTU3364 | 2 | 279 | KF751924 | 97.84 | 278 | 99  | <b>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridiniales;f_Thoracosphaeraceae;g_Scrippsiella;s_Scrippsiella_aff_acuminata</b>       |
| OTU337  | 2 | 497 | JX262498 | 89.16 | 498 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridiniales;f_Peridiniaceae;g_Pentapharsodinium;s_Pentapharsodinium_dalei                 |
| OTU3391 | 2 | 423 | KF751926 | 95.72 | 421 | 99  | <b>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridiniales;f_Thoracosphaeraceae;g_Scrippsiella;s_Scrippsiella_sp.</b>                 |
| OTU3402 | 2 | 496 | AB858353 | 92.96 | 497 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biecheleriaceae;g_Biecheleria;s_Biecheleria_brevisulcata                      |
| OTU3406 | 2 | 515 | AB858353 | 94.69 | 508 | 99  | <b>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biecheleriaceae;g_Biecheleria;s_Biecheleria_brevisulcata</b>               |
| OTU3424 | 2 | 488 | AB858353 | 95.09 | 489 | 100 | <b>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biecheleriaceae;g_Biecheleria;s_Biecheleria_brevisulcata</b>               |
| OTU3446 | 2 | 485 | LM992905 | 100   | 339 | 70  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Lophodinales;f_Lophodiniaceae;g_Biecheleriopsis;s_Biecheleriopsis_adriatica                |
| OTU361  | 2 | 413 | LC027052 | 76.64 | 244 | 58  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gymnodinales;f_Gymnodiniaceae;g_Unclassified;s_Unclassified_Gymnodiniaceae                 |
| OTU3712 | 2 | 494 | EU490149 | 72.55 | 499 | 98  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_norank;f_norank;g_norank;s_unclassified_DINO                                               |
| OTU379  | 2 | 492 | AY916546 | 95.9  | 488 | 99  | <b>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridiniales;f_Thoracosphaeraceae;g_Scrippsiella;s_Scrippsiella_sp_CS297</b>            |
| OTU382  | 2 | 498 | AY916546 | 96.75 | 492 | 99  | <b>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridiniales;f_Thoracosphaeraceae;g_Scrippsiella;s_Scrippsiella_sp_CS297</b>            |
| OTU683  | 2 | 455 | KP702719 | 95.83 | 456 | 100 | <b>d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridiniales;f_Diplopsaliaceae;g_Oblea;s_Oblea_rotunda</b>                              |
| OTU980  | 2 | 497 | EF616462 | 94.74 | 133 | 90  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gymnodinales;f_Gymnodiniaceae;g_Cochlodinium;s_Cochlodinium_cf_geminatum-like              |

Bold font indicates fully identified species.

1

**Table S6.** The least frequently detected operational taxonomic units (OTUs) (detected in 1 or 2 samples).

| OTU ID  | Frequency | OUT length | Gi number  | Identity | Align length | Coverage | Taxon                                                                                                                                |
|---------|-----------|------------|------------|----------|--------------|----------|--------------------------------------------------------------------------------------------------------------------------------------|
| OTU1059 | 1         | 488        | AY571374   | 84.05    | 489          | 99       | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima     |
| OTU1498 | 1         | 507        | FJ236464   | 100      | 502          | 99       | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Glenodiniaceae;g__Peridiniopsis;s__Peridiniopsis_borgei        |
| OTU1082 | 1         | 509        | EU126801   | 79.62    | 520          | 100      | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Borghiellaceae;g__Borghiella;s__Borghiella_dodgei                |
| OTU2060 | 1         | 466        | JF521638   | 100      | 466          | 100      | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gonyaulacaceae;g__Alexandrium;s__Alexandrium_pseudogoniaulax  |
| OTU1073 | 1         | 501        | AY571374   | 83.83    | 507          | 100      | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima     |
| OTU3822 | 1         | 501        | AF260392   | 87.08    | 503          | 99       | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp.         |
| OTU3697 | 1         | 494        | EU490149   | 73.02    | 504          | 99       | d__Eukaryota;k__Fungi;p__environmental_samples;c__Dinophyceae;o__norank;f__norank;g__norank;s__unclassified_DINO                     |
| OTU1800 | 1         | 504        | HM483396   | 96.63    | 504          | 100      | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea  |
| OTU3724 | 1         | 492        | AF260402   | 81.51    | 465          | 100      | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia-like_sp.       |
| OTU2061 | 1         | 481        | JF521638   | 100      | 398          | 83       | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gonyaulacaceae;g__Alexandrium;s__Alexandrium_pseudogoniaulax  |
| OTU776  | 1         | 515        | KT389885.1 | 93       | 88           | 80       | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Amphidomataceae;g__norank;s__Unclassified_DINO                |
| OTU1085 | 1         | 507        | EU126801.1 | 80       | 540          | 100      | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Borghiellaceae;g__Borghiella;s__Borghiella_sp.                   |
| OTU367  | 1         | 484        | AY916538   | 97.49    | 479          | 99       | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Gymnodinium;s__Gymnodinium_microreticulatum |
| OTU695  | 1         | 461        | EF152953   | 91.99    | 462          | 100      | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Diplopsaliaceae;g__Preperidinium;s__Preperidinium_sp._M064sm1  |
| OTU1076 | 1         | 481        | AY571374   | 81.24    | 517          | 100      | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima     |
| OTU325  | 1         | 499        | AY571369   | 88.6     | 500          | 100      | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Gyrodinium;s__Gyrodinium_rubrum             |
| OTU1201 | 1         | 497        | FJ947042   | 86.08    | 510          | 100      | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Warnowiaceae;g__Warnowia;s__Warnowia_sp._BSL-2009a            |
| OTU3815 | 1         | 446        | KP099821   | 85.71    | 56           | 33       | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__environmental_samples;f__norank;g__norank;s__unclassified_DINO                 |

|         |   |     |            |       |     |     |                                                                                                                                          |
|---------|---|-----|------------|-------|-----|-----|------------------------------------------------------------------------------------------------------------------------------------------|
| OTU2858 | 1 | 496 | HQ834210   | 78.67 | 497 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Polykrikaceae;g__Pheopolykrikos;s__Pheopolykrikos_hartmannii-like |
| OTU2264 | 1 | 510 | HQ902267   | 72.46 | 541 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_triquetra            |
| OTU207  | 1 | 488 | KJ670426.1 | 76    | 488 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Kareniaceae;g__Karlodinium;s__Karlodinium_sp.                     |
| OTU494  | 1 | 492 | LC068838.1 | 88    | 492 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Suessiaceae;g__Unclassified;s__Unclassified Suessiaceae              |
| OTU2173 | 1 | 499 | LC027067   | 74    | 82  | 50  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__Unclassified DINO                                    |
| OTU2212 | 1 | 489 | JN558110   | 79    | 544 | 97  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Suessiaceae;g__Polarella;s__Polarella_sp.                            |
| OTU1318 | 1 | 533 | KP790233   | 93.58 | 436 | 82  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Brachidiniaceae;g__Torodinium;s__Torodinium_teredo                |
| OTU645  | 1 | 501 | AY571374   | 81.05 | 459 | 90  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia-like_sp.            |
| OTU3616 | 1 | 477 | JX262498   | 77.78 | 477 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_dalei      |
| OTU2014 | 1 | 296 | EF205002   | 92.59 | 108 | 36  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Glenodiniaceae;g__Glenodiniopsis;s__Glenodiniopsis_sp.             |
| OTU2027 | 1 | 484 | JX262498   | 91.74 | 484 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_dalei      |
| OTU3698 | 1 | 511 | KF751922   | 95.35 | 86  | 53  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Calciodinellum;s__Calciodinellum_operosum    |
| OTU1414 | 1 | 521 | KT390028   | 94.63 | 521 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Blastodinales;f__Blastodinales;g__Blastodinium-like;s__Blastodinium-like_sp.       |
| OTU1319 | 1 | 509 | FJ024703   | 98.43 | 509 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Kareniaceae;g__Takayama;s__Takayama_acrotricha                    |
| OTU1410 | 1 | 531 | KT390028   | 86.96 | 537 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Blastodinales;f__Blastodinales;g__Blastodinium-like;s__Blastodinium-like_sp.       |
| OTU1626 | 1 | 506 | HQ902267   | 80    | 141 | 90  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_sp.                  |
| OTU3717 | 1 | 543 | KF835600   | 90.18 | 112 | 21  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Prorocentrales;f__Prorocentrales;g__Prorocentrum;s__unclassified DINO              |
| OTU959  | 1 | 496 | EF469234   | 94.35 | 496 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Kareniaceae;g__Karlodinium;s__Karlodinium_antarcticum             |
| OTU332  | 1 | 505 | AY571371   | 99.21 | 505 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Gyrodinium;s__Gyrodinium_spirale                |
| OTU2748 | 1 | 490 | JX262498   | 92.67 | 505 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_dalei      |

|         |   |     |          |       |     |     |                                                                                                                                                 |
|---------|---|-----|----------|-------|-----|-----|-------------------------------------------------------------------------------------------------------------------------------------------------|
| OTU192  | 1 | 499 | AY245689 | 94.59 | 499 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Pfiesteriaceae;g__unclassified_Pfiesteriaceae;s__Pfiesteria-like_DINO_Lucy |
| OTU262  | 1 | 455 | AY154960 | 70.06 | 471 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gonyaulacaceae;g__Gonyaulax;s__Gonyaulax_sp.                             |
| OTU3699 | 1 | 506 | EU490149 | 71.49 | 505 | 97  | d__Eukaryota;k__Fungi;p__environmental_samples;c__Dinophyceae;o__norank;f__norank;g__norank;s__unclassified_DINO                                |
| OTU347  | 1 | 487 | AY571374 | 82.92 | 486 | 98  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_like                       |
| OTU2343 | 1 | 537 | JN934989 | 76.33 | 545 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Syndinales;f__Eudubosquellidae;g__Euduboscquella;s__Euduboscquella_sp._ex_Favella_arcuata |
| OTU2680 | 1 | 459 | AB716929 | 96.8  | 125 | 59  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Protopteridiniaceae;g__Protopteridinium;s__Protopteridinium-like_sp.       |
| OTU3    | 1 | 385 | FN649409 | 88.79 | 116 | 30  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified;f__unclassified;g__unclassified;s__unclassified_DINO                         |
| OTU3429 | 1 | 478 | LM992906 | 99.79 | 478 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Biecheleriopsis;s__Biecheleriopsis_adriatica            |
| OTU2265 | 1 | 493 | JQ247714 | 88.38 | 499 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Cladopyxidaceae;g__Peridiniella;s__Peridiniella_sp._NC-2011              |
| OTU348  | 1 | 471 | AY571374 | 85.2  | 473 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima                 |
| OTU2952 | 1 | 489 | KF245462 | 91.24 | 491 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Gymnodiniaceae;g__Gymnodinium;s__Gymnodinium_sp.                          |
| OTU3320 | 1 | 488 | KP702714 | 84.62 | 65  | 53  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Diplopsaliaceae;g__Lebouriaia;s__Unclassified_DINO                         |
| OTU464  | 1 | 451 | DQ162802 | 95.37 | 454 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gonyaulacaceae;g__Gonyaulax;s__Gonyaulax_polygramma                      |
| OTU1019 | 1 | 499 | FJ947042 | 83.53 | 510 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Warnowiaceae;g__Warnowia;s__Warnowia_sp._BSL-2009a                        |
| OTU648  | 1 | 503 | AY571374 | 78.12 | 425 | 77  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia-like_sp.                   |
| OTU1092 | 1 | 510 | JN119844 | 76.97 | 547 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_sp._HCBC88                   |
| OTU3702 | 1 | 495 | HQ176320 | 84    | 507 | 55  | d__Eukaryota;k__Fungi;p__environmental_samples;c__Dinophyceae;o__norank;f__norank;g__norank;s__unclassified_DINO                                |
| OTU373  | 1 | 485 | AY916539 | 89    | 482 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Gymnodiniaceae;g__Gymnodinium;s__Gymnodinium_microreticulatum             |
| OTU3701 | 1 | 511 | HQ176320 | 87.74 | 106 | 57  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Pfiesteriaceae;g__Chimonodinium;s__Chimonodinium_like                      |
| OTU2426 | 1 | 460 | JX262498 | 78.46 | 455 | 96  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_sp.                |

|         |   |     |            |       |     |     |                                                                                                                                           |
|---------|---|-----|------------|-------|-----|-----|-------------------------------------------------------------------------------------------------------------------------------------------|
| OTU530  | 1 | 450 | DQ480430   | 94.29 | 35  | 22  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Symbiodiniaceae;g__Symbiodinium;s__unclassified_Symbiodinium          |
| OTU1570 | 1 | 500 | KP790240   | 98.33 | 419 | 84  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Warnowiaceae;g__Warnowia;s__Warnowia_sp._4_AR-2015                 |
| OTU1593 | 1 | 490 | JQ247713   | 73.1  | 513 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_sp.                   |
| OTU1864 | 1 | 476 | HM483396   | 94.76 | 477 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea       |
| OTU2050 | 1 | 487 | KJ433986   | 75.51 | 490 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_sp._ZL-2014 |
| OTU3804 | 1 | 497 | AF260400   | 71.6  | 507 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_rotundata             |
| OTU1320 | 1 | 495 | FJ024703   | 96.38 | 497 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Kareniaceae;g__Takayama;s__Takayama_acrotrocha                     |
| OTU21   | 1 | 481 | AF260389   | 92.53 | 482 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Ceratiaceae;g__Neoceratium;s__Neoceratium_tripos                   |
| OTU960  | 1 | 511 | EF469234   | 89.34 | 516 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Kareniaceae;g__Karlodinium;s__Karlodinium_antarcticum              |
| OTU1090 | 1 | 500 | AY571374   | 82.02 | 534 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima          |
| OTU2348 | 1 | 503 | FR877580   | 93.47 | 505 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Ampidomataceae;g__Azadinium;s__Azadinium_cf._poporum_HJ-2011       |
| OTU2218 | 1 | 440 | KF031312   | 77.95 | 449 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_minima                |
| OTU3823 | 1 | 454 | KJ508367   | 98.68 | 455 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Kareniaceae;g__Karenia;s__Karenia_papilionacea                     |
| OTU326  | 1 | 514 | AY571369   | 93.35 | 511 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Gyrodinium;s__Gyrodinium_rubrum                  |
| OTU533  | 1 | 503 | FJ032677   | 80.71 | 508 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__environmental_sample_s;f__norank;g__norank;s__uncultured_marine_DINO                |
| OTU1495 | 1 | 503 | KT389895.1 | 99    | 503 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Pyrocystales;f__Pyrocystaceae;g__Dissodinium;s__Dissodinium_pseudolunula            |
| OTU327  | 1 | 512 | AY571369   | 91.23 | 513 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Gyrodinium;s__Gyrodinium_rubrum                  |
| OTU331  | 1 | 510 | AY571370   | 99.8  | 510 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Gyrodinium;s__Gyrodinium_dominans                |
| OTU77   | 1 | 499 | JX262498   | 86.4  | 500 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_dalei       |
| OTU778  | 1 | 522 | EF613356   | 77.63 | 541 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Katodinium;s__Katodinium_glaucum                 |

|         |   |     |            |       |     |     |                                                                                                                                             |
|---------|---|-----|------------|-------|-----|-----|---------------------------------------------------------------------------------------------------------------------------------------------|
| OTU1417 | 1 | 526 | KT390028   | 86.09 | 532 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Blastodinales;<br>f_Blastodinales;g_Blastodinium-like;s_Blastodinium-like_sp.              |
| OTU1440 | 1 | 488 | FR720082.1 | 92.21 | 488 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gymnodinales;f_Gymnodini<br>aceae;g_Gyrodiniellum;s_Gyrodiniellum_shiwhaense               |
| OTU2013 | 1 | 221 | EF205002   | 92.59 | 108 | 49  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Glenodi<br>niaceae;g_Glenodiniopsis;s_Glenodiniopsis_sp.                     |
| OTU215  | 1 | 465 | AY284951   | 98.71 | 465 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gymnodinales;f_Kare<br>niaceae;g_Takayama;s_Takayama_helix                                 |
| OTU3624 | 1 | 506 | AY284949   | 73    | 506 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gymnodinales;f_Kare<br>niaceae;g_Takayama;s_Takayama_sp.                                   |
| OTU1639 | 1 | 504 | FN557541   | 99.8  | 504 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_unclassified_Dinophyc<br>eae;f_norank;g_Stoeckeria;s_Stoeckeria_sp._SSMS0806               |
| OTU979  | 1 | 516 | EF616462   | 84.04 | 520 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gymnodinales;f_Gy<br>mnodiniaceae;g_Cochlodinium;s_Cochlodinium_cf_geminatum               |
| OTU2419 | 1 | 460 | KP702713   | 74.19 | 461 | 98  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Diplops<br>aliaceae;g_Lebouraia;s_Lebouraia_pusilla                          |
| OTU962  | 1 | 488 | EF469234   | 87.58 | 499 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gymnodinales;f_Kare<br>niaceae;g_Karlodinium;s_Karlodinium_antarcticum                     |
| OTU3829 | 1 | 491 | KJ508395   | 90.02 | 491 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_unclassified_Dinophyc<br>eae;f_norank;g_Levanderina;s_Levanderina_sp.                      |
| OTU522  | 1 | 475 | DQ444233   | 84    | 475 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Protope<br>ridiniaceae;g_Protoperidinium;s_Protoperidinium_pellucidum        |
| OTU2177 | 1 | 501 | HQ176320   | 99.6  | 502 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Pfiesteri<br>aceae;g_Chimonodinium;s_Chimonodinium_lomnickii                 |
| OTU986  | 1 | 511 | EF616462   | 85.28 | 496 | 97  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gymnodinales;f_Gy<br>mnodiniaceae;g_Cochlodinium;s_Cochlodinium_cf_geminatum               |
| OTU2267 | 1 | 516 | JQ247714   | 93.86 | 521 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gonyaulacales;f_Clad<br>opyxidaceae;g_Peridiniella;s_Peridiniella_sp._NC-2011              |
| OTU369  | 1 | 482 | AY916538   | 98.74 | 476 | 99  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gymnodinales;f_Gy<br>mnodiniaceae;g_Gymnodinium;s_Gymnodinium_microreticulatum             |
| OTU1099 | 1 | 496 | AY571374   | 77.92 | 530 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Lophodinales;f_Loph<br>odiniaceae;g_Woloszynskia;s_Woloszynskia_tenuissima                 |
| OTU3730 | 1 | 475 | HG792066   | 91.01 | 89  | 71  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_unclassified_Dinophyc<br>eae;f_norank;g_norank;s_Dinophyceae_sp._1_HJH-2013                |
| OTU496  | 1 | 485 | FJ024705   | 81.39 | 489 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Biecheleri<br>aceae;g_Biecheleria;s_Biecheleria_cincta                        |
| OTU186  | 1 | 519 | AY245689   | 94.8  | 519 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Pfiesteri<br>aceae;g_unclassified_Pfiesteriaceae;s_Pfiesteria-like_DINO_Lucy |
| OTU2750 | 1 | 490 | JX262498   | 97.13 | 488 | 99  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridinales;f_Peridini<br>aceae;g_Pentapharsodinium;s_Pentapharsodinium_dalei              |

|         |   |     |            |       |     |     |                                                                                                                                            |
|---------|---|-----|------------|-------|-----|-----|--------------------------------------------------------------------------------------------------------------------------------------------|
| OTU2961 | 1 | 503 | JQ247713   | 83.4  | 512 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_niei                   |
| OTU3812 | 1 | 497 | EF469234   | 78.52 | 512 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Kareniaceae;g__Karenia;s__Unclassified Kareniaceae_sp.              |
| OTU1676 | 1 | 525 | HE611580   | 94.32 | 88  | 55  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Gyrodinium;s__Gyrodinium_sp._HJ-2011              |
| OTU1014 | 1 | 435 | EF616464   | 98.68 | 76  | 17  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__Unclassified DINO                                      |
| OTU3589 | 1 | 416 | KJ450988   | 91.15 | 418 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Peridinium;s__Peridinium_euryceps                   |
| OTU3744 | 1 | 531 | LM049720   | 85.71 | 63  | 27  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__unclassified DINO                                      |
| OTU3816 | 1 | 485 | HQ176320.1 | 85    | 240 | 50  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__Unclassified DINO                                      |
| OTU1454 | 1 | 562 | FJ160592   | 90.12 | 81  | 31  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__Unclassified DINO                                      |
| OTU2345 | 1 | 477 | JN934999   | 90.79 | 76  | 27  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Syndiniales;f__Eudubosquellidae;g__norank;s__Unclassified Eudubosquellidae species   |
| OTU2675 | 1 | 480 | AB716929   | 98.8  | 125 | 61  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Proto-peridiniaceae;g__Proto-peridinium;s__Proto-peridinium-like_sp. |
| OTU3300 | 1 | 496 | KF878935   | 96.57 | 496 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Gymnodinium;s__Gymnodinium_instriatum             |
| OTU3449 | 1 | 499 | KJ879232   | 100   | 499 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gonyaulacaceae;g__Alexandrium;s__Alexandrium_catenella              |
| OTU3639 | 1 | 510 | JX262498   | 85    | 510 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_sp.          |
| OTU1850 | 1 | 486 | HM483396   | 91.56 | 486 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea        |
| OTU2724 | 1 | 457 | JX262498   | 86.68 | 458 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_dalei        |
| OTU1345 | 1 | 477 | FJ024705   | 92.75 | 483 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta                   |
| OTU772  | 1 | 504 | EF613353   | 94.64 | 504 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinophyceae;f__norank;g__Levanderina;s__Levanderina_fissa               |
| OTU102  | 1 | 496 | KJ508360   | 95.77 | 497 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Kareniaceae;g__Karenia;s__Karenia_cristata                          |
| OTU1110 | 1 | 501 | AY571374   | 80.9  | 513 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima            |
| OTU250  | 1 | 462 | AY154962   | 90.52 | 464 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gonyaulacaceae;g__Gonyaulax;s__Gonyaulax_baltica                    |

|         |   |     |          |       |     |     |                                                                                                                                                       |
|---------|---|-----|----------|-------|-----|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| OTU365  | 1 | 504 | AY863008 | 99.4  | 504 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Prorocentrales;f__Prorocentrales;g__Prorocentrum;s__Prorocentrum_micans                         |
| OTU3797 | 1 | 528 | JX262498 | 76    | 109 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_sp.                      |
| OTU950  | 1 | 486 | EF613366 | 92.18 | 486 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea                    |
| OTU1071 | 1 | 513 | JN119844 | 76.35 | 554 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_sp._HCBC88                         |
| OTU1415 | 1 | 531 | KT390028 | 90.4  | 531 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Blastodinales;f__Blastodinales;g__Blastodinium-like;s__Blastodinium-like_sp.                    |
| OTU2207 | 1 | 489 | JN558110 | 77.92 | 548 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Suessiaceae;g__Polarella;s__Polarella_glacialis                                   |
| OTU3527 | 1 | 483 | KF646481 | 99.79 | 484 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gonyaulacaceae;g__Alexandrium;s__Alexandrium_tamarense_species_complex_group_I |
| OTU3814 | 1 | 499 | KJ508393 | 99    | 499 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Gymnodiniaceae;g__Gymnodinium;s__Gymnodinium_impudicum                          |
| OTU1402 | 1 | 517 | KT390028 | 91.68 | 517 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Blastodinales;f__Blastodinales;g__Blastodinium-like;s__Blastodinium-like_sp.                    |
| OTU615  | 1 | 490 | EF052683 | 91.26 | 492 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__unclassified_Peridinales;g__Baldinia;s__Baldinia_ananiensis                      |
| OTU3336 | 1 | 537 | KF751924 | 85.92 | 547 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_aff._acuminata                |
| OTU2038 | 1 | 505 | AF260399 | 91.18 | 510 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_sp.                                |
| OTU2614 | 1 | 281 | JN982400 | 98.12 | 266 | 95  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_aff._acuminata                |
| OTU2655 | 1 | 506 | AB716928 | 96.05 | 506 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Protoperidiniaceae;g__Protoperidinium;s__Protoperidinium_monovelum               |
| OTU2679 | 1 | 440 | AB716929 | 97.6  | 125 | 64  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Protoperidiniaceae;g__Protoperidinium;s__Protoperidinium-like_sp.                |
| OTU723  | 1 | 517 | AB288382 | 99.81 | 517 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Gymnodiniaceae;g__Cochlodinium;s__Cochlodinium_fulvescens                       |
| OTU1138 | 1 | 506 | JN119844 | 82.84 | 507 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_sp._HCBC88                         |
| OTU2191 | 1 | 478 | AF200673 | 91.96 | 112 | 42  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Gymnodiniaceae;g__norank;s__Unclassified_Gymnodinium-like_species               |
| OTU356  | 1 | 507 | AY590476 | 99.6  | 501 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Pfiesteriaceae;g__Cryptoperidiniopsis;s__Cryptoperidiniopsis_brodyi              |
| OTU3731 | 1 | 469 | HG792066 | 94.38 | 89  | 74  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinophyceae;f__norank;g__norank;s__Dinophyceae_sp._1_HJH-2013                      |

|         |   |     |            |       |     |     |                                                                                                                                       |
|---------|---|-----|------------|-------|-----|-----|---------------------------------------------------------------------------------------------------------------------------------------|
| OTU497  | 1 | 467 | JN558110   | 76.54 | 486 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Suessiaceae;g__Polarella;s__Polarella_glacialis                   |
| OTU507  | 1 | 474 | DQ289020   | 90.62 | 64  | 36  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Unclassified;g__Unclassified;s__Unclassified_Gymnodiniales     |
| OTU754  | 1 | 405 | KJ508376.1 | 77    | 74  | 72  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Karniaceae-like;g__Unclassified;s__Unclassified_DINO           |
| OTU1915 | 1 | 280 | HM483396   | 95.68 | 278 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea    |
| OTU3706 | 1 | 519 | HE611580   | 96.51 | 86  | 54  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Gyrodinium;s__Gyrodinium_sp._HJ-2011         |
| OTU76   | 1 | 499 | AF260392   | 87.23 | 501 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp.           |
| OTU1017 | 1 | 346 | EF616464   | 98.68 | 76  | 22  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__Unclassified_DINO                                 |
| OTU1097 | 1 | 487 | EU126801   | 76.76 | 525 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Borghiellaceae;g__Borghiella;s__Borghiella_dodgei                 |
| OTU1103 | 1 | 485 | AY571374   | 80.67 | 507 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima       |
| OTU2224 | 1 | 495 | JN119844   | 80.24 | 506 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_sp._HCBC88         |
| OTU2495 | 1 | 501 | KP790208   | 89.47 | 76  | 15  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__Unclassified_DINO                                 |
| OTU975  | 1 | 505 | AB295051   | 93.89 | 507 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Cochlodinium;s__Cochlodinium_fulvescens      |
| OTU1413 | 1 | 529 | KT390028   | 88.72 | 532 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Blastodinales;f__Blastodinales;g__Blastodinium-like;s__Blastodinium-like_sp.    |
| OTU3705 | 1 | 516 | FN557541   | 85.38 | 89  | 54  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinophyceae;f__norank;g__Stoeckeria;s__Stoeckeria_sp._SSMS0806     |
| OTU3795 | 1 | 510 | KJ508377   | 79    | 520 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Karniaceae;g__Karlodinium;s__Karlodinium_sp.                   |
| OTU601  | 1 | 477 | KM042422   | 76.3  | 481 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Protopteridiniaceae;g__Protopteridinium;s__Protopteridinium_abei |
| OTU1007 | 1 | 331 | EF616462   | 86.41 | 309 | 92  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Cochlodinium;s__Cochlodinium_cf._geminatum   |
| OTU1622 | 1 | 447 | KJ189480   | 83.5  | 103 | 23  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thoracosphaeraceae;g__Scrippsiella-like;s__Scrippsiella-like_sp. |
| OTU2261 | 1 | 492 | AF260400   | 81.25 | 496 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_rotundata          |
| OTU495  | 1 | 492 | LC068838.1 | 87    | 492 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Suessiaceae;g__Unclassified;s__Unclassified_Suessiaceae           |

|         |   |     |            |       |     |     |                                                                                                                                            |
|---------|---|-----|------------|-------|-----|-----|--------------------------------------------------------------------------------------------------------------------------------------------|
| OTU768  | 1 | 482 | EF613349   | 84.42 | 77  | 53  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gonyaulacaceae;g__Unclassified;s__Unclassified DINO                 |
| OTU1182 | 1 | 549 | KT804914.1 | 90    | 95  | 18  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__Unclassified DINO                                      |
| OTU1577 | 1 | 418 | KP790242   | 98.8  | 418 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Warnowiaceae;g__Warnowia;s__Warnowia_sp._5_AR-2015                  |
| OTU1594 | 1 | 463 | FN357291   | 72.73 | 484 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Kareniaceae;g__Karlodinium;s__Karlodinium_sp._KAMS0708              |
| OTU2497 | 1 | 515 | AB702991   | 99.42 | 515 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Amphidiniopsidaceae;g__Archaeperidinium;s__Archaeperidinium_saanichi |
| OTU3447 | 1 | 275 | LM992906   | 81.58 | 152 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Biecheleriopsis;s__Biecheleriopsis_sp.             |
| OTU3593 | 1 | 516 | AB716928   | 89.36 | 517 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Protoperidiniaceae;g__Protoperidinium;s__Protoperidinium_monovelum   |
| OTU532  | 1 | 480 | AM408889   | 82.27 | 485 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Paragymnodinium;s__Paragymnodinium_shiwhaense     |
| OTU1511 | 1 | 489 | EU707473   | 92.06 | 491 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gonyaulacaceae;g__Alexandrium;s__Alexandrium_minutum                |
| OTU1640 | 1 | 485 | LK934662   | 92.26 | 478 | 98  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Pfiesteriaceae;g__Aduncodinium;s__Aduncodinium_glandula              |
| OTU2003 | 1 | 499 | AM408889   | 81.37 | 510 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Paragymnodinium;s__Paragymnodinium_sp.            |
| OTU2271 | 1 | 513 | JQ247714   | 92.65 | 517 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Cladopyxidaceae;g__Peridiniella;s__Peridiniella_sp._NC-2011         |
| OTU3434 | 1 | 484 | LM992906   | 92.52 | 481 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Biecheleriopsis;s__Biecheleriopsis_adriatica       |
| OTU506  | 1 | 463 | JQ439944   | 79.28 | 111 | 46  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Unclassified;g__Unclassified;s__Unclassified_Gymnodiniales          |
| OTU1013 | 1 | 489 | AB858353   | 92.86 | 490 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_breviculata              |
| OTU1906 | 1 | 395 | HM483396   | 96.23 | 398 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea        |
| OTU2039 | 1 | 496 | HQ902267   | 97.98 | 496 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_triquetra              |
| OTU2408 | 1 | 507 | AY331681   | 81.57 | 510 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Lepidodinium;s__Lepidodinium_chlorophorum         |
| OTU2425 | 1 | 409 | HM596557   | 90    | 154 | 50  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__norank;s__Unclassified gymnodiniaceae species     |
| OTU2588 | 1 | 290 | JN982392   | 94.96 | 278 | 96  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_sweeneyae         |

|         |   |     |            |       |     |     |                                                                                                                                             |
|---------|---|-----|------------|-------|-----|-----|---------------------------------------------------------------------------------------------------------------------------------------------|
| OTU2652 | 1 | 497 | DQ195367   | 86.21 | 87  | 63  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Suessiaceae;g__Pelagodinium;s__Pelagodinium-like species                |
| OTU2730 | 1 | 418 | JX262498   | 95.92 | 147 | 98  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_dalei         |
| OTU3430 | 1 | 494 | LM992906   | 94.13 | 494 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Biecheleriopsis;s__Biecheleriopsis_adriatica        |
| OTU3612 | 1 | 499 | KJ481814   | 90.2  | 500 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Amphidomataceae;g__Azadinium;s__Azadinium_trinitatum                 |
| OTU1161 | 1 | 313 | HM483396   | 93.29 | 313 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea         |
| OTU277  | 1 | 467 | KF998563   | 88.89 | 90  | 26  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified;f__unclassified;g__unclassified;s__Unclassified DINO                     |
| OTU329  | 1 | 394 | AY571369   | 97.22 | 395 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Gymnodiniaceae;g__Gyrodinium;s__Gyrodinium_rubrum                     |
| OTU64   | 1 | 498 | AF260393   | 95.98 | 498 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea         |
| OTU671  | 1 | 472 | KT389946.1 | 84    | 478 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp.                |
| OTU2037 | 1 | 379 | HM483396   | 93.8  | 371 | 98  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea         |
| OTU2093 | 1 | 497 | HQ670228   | 94.37 | 497 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea         |
| OTU2266 | 1 | 515 | HQ902267   | 81.98 | 516 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_triquetra               |
| OTU2492 | 1 | 512 | JQ179865   | 80    | 78  | 61  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Unclassified Gymnodiniaceae;g__norank;s__Unclassified Gymnodiniaceae  |
| OTU3463 | 1 | 489 | AB860180   | 87.7  | 496 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Gymnodiniaceae;g__Gymnodinium;s__unclassified_Gymnodinium             |
| OTU3710 | 1 | 507 | EU490149   | 72.34 | 499 | 96  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__unclassified DINO                                       |
| OTU2025 | 1 | 504 | AF260399   | 80.35 | 514 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_sp.                     |
| OTU2277 | 1 | 446 | HQ890883   | 98    | 47  | 9   | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__Unclassified DINO                                       |
| OTU2653 | 1 | 523 | AB716928   | 90.06 | 523 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Proto-peridiniaceae;g__Proto-peridinium;s__Proto-peridinium_monovelum |
| OTU3370 | 1 | 510 | KF751926   | 97.98 | 496 | 97  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp.                |
| OTU3508 | 1 | 470 | AB860180   | 84.07 | 477 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Gymnodiniaceae;g__Gymnodinium;s__unclassified_Gymnodinium             |

|         |   |     |            |       |     |     |                                                                                                                                                               |
|---------|---|-----|------------|-------|-----|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OTU56   | 1 | 499 | AF260393   | 97.18 | 497 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoraco<br>sphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea                       |
| OTU573  | 1 | 490 | AM408889   | 81.48 | 486 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gy<br>mnodiniaceae;g__Paragymnodinium;s__Paragymnodinium_shiwhaense                    |
| OTU999  | 1 | 385 | EF616462   | 86.75 | 317 | 82  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gy<br>mnodiniaceae;g__Cochlodinium;s__Cochlodinium_cf._geminatum                       |
| OTU1113 | 1 | 528 | EU126801.1 | 94    | 91  | 49  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__n<br>orank;s__Unclassified DINO                                                     |
| OTU1162 | 1 | 501 | KF751924   | 92.48 | 532 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoraco<br>sphaeraceae;g__Scrippsiella;s__Scrippsiella_aff._acuminata                   |
| OTU1314 | 1 | 497 | FR720082   | 81.71 | 514 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gy<br>mnodiniaceae;g__Gyrodiniellum;s__Gyrodiniellum_shiwhaense                        |
| OTU1404 | 1 | 528 | KT390028   | 90.53 | 528 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Blastodinales;<br>f__Blastodinales;g__Blastodinium-like;s__Blastodinium-like_sp.                        |
| OTU1572 | 1 | 492 | FJ947041   | 93.71 | 493 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__War<br>nowiaceae;g__Nematodinium;s__Nematodinium_sp._BSL-2009a                         |
| OTU1643 | 1 | 498 | FN557541   | 96.79 | 498 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinophyc<br>eae;f__norank;g__Stoeckeria;s__Stoeckeria_sp._SSMS0806                         |
| OTU1790 | 1 | 511 | HM483396   | 86.19 | 507 | 98  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoraco<br>sphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea                       |
| OTU1824 | 1 | 492 | HM483396   | 88.96 | 498 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoraco<br>sphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea                       |
| OTU1832 | 1 | 369 | HM483396   | 92.14 | 369 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoraco<br>sphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea                       |
| OTU2002 | 1 | 493 | FR720082   | 82.29 | 497 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gy<br>mnodiniaceae;g__Gyrodiniellum;s__Gyrodiniellum_sp.                               |
| OTU2033 | 1 | 288 | HQ845329   | 96.89 | 289 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridini<br>aceae;g__Pentapharsodinium;s__Pentapharsodinium_tyrrenicum                  |
| OTU2198 | 1 | 503 | JN558107   | 73.87 | 509 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Suessiac<br>ae;g__Pelagodinium;s__Pelagodinium_sp.                                        |
| OTU2206 | 1 | 443 | JN558107   | 94    | 147 | 46  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__n<br>orank;s__Unclassified DINO                                                     |
| OTU2263 | 1 | 496 | JQ247713   | 81.6  | 500 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heteroc<br>apsaceae;g__Heterocapsa;s__Heterocapsa_niei                                  |
| OTU2324 | 1 | 555 | JN934988   | 98.2  | 556 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Syndiniales;f__Eudubo<br>squellidae;g__Euduboscquella;s__Euduboscquella_cachoni                         |
| OTU2561 | 1 | 502 | EU165273   | 84.34 | 198 | 39  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heteroc<br>apsaceae;g__unclassified_Heterocapsaceae;s__Unclassified_Heterocapsaceae_sp. |
| OTU2586 | 1 | 437 | HM483396   | 87.53 | 465 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoraco<br>sphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea                       |

|         |   |     |            |       |     |     |                                                                                                                                                        |
|---------|---|-----|------------|-------|-----|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| OTU3298 | 1 | 512 | KF878935   | 90.66 | 514 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Gymnodinium;s__Gymnodinium_instriatum                         |
| OTU3309 | 1 | 460 | KF878935   | 96.52 | 460 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Gymnodinium;s__Gymnodinium_instriatum                         |
| OTU3316 | 1 | 509 | KF568378   | 86.6  | 97  | 19  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;s__Unclassified DINO                                                                                |
| OTU3333 | 1 | 515 | KF751924   | 90.72 | 517 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_aff._acuminata                |
| OTU3390 | 1 | 459 | KF751926   | 93.08 | 491 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp.                           |
| OTU3448 | 1 | 441 | KF646451   | 98.19 | 441 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gonyaulacaceae;g__Alexandrium;s__Alexandrium_tamarense_species_complex_group_IV |
| OTU3736 | 1 | 287 | LC068838.1 | 83.19 | 282 | 98  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__norank;s__Unclassified Suessiales                               |
| OTU3820 | 1 | 468 | KP790228   | 88.76 | 89  | 19  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Polykrikaceae;g__Polykrikos;s__Polykrikos-like_sp.                              |
| OTU459  | 1 | 485 | AY154965   | 76.63 | 475 | 95  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gonyaulacaceae;g__Gonyaulax;s__Gonyaulax_sp.                                    |
| OTU781  | 1 | 524 | KP790221   | 97.53 | 160 | 33  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Katodinium-like;s__Katodinium-like_sp.                        |
| OTU1821 | 1 | 493 | HM483396   | 94.64 | 504 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea                    |
| OTU1907 | 1 | 500 | HM483396   | 92.83 | 516 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea                    |
| OTU1913 | 1 | 495 | AF260393   | 94.55 | 495 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea                    |
| OTU199  | 1 | 525 | AY245689   | 96.88 | 32  | 81  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Pfiesteriaceae;g__unclassified_Pfiesteriaceae;s__Pfiesteria-like_DINO_Lucy       |
| OTU2046 | 1 | 423 | EU165312   | 88.86 | 431 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_rotundata                          |
| OTU2062 | 1 | 474 | JF521638   | 90.32 | 475 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gonyaulacaceae;g__Alexandrium;s__Alexandrium_pseudogoniaulax                    |
| OTU226  | 1 | 486 | AY154960   | 97.54 | 407 | 83  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gonyaulacaceae;g__Gonyaulax;s__Gonyaulax_cf._spinfiera                          |
| OTU2269 | 1 | 497 | JQ247713   | 83    | 500 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_niei                               |
| OTU2310 | 1 | 533 | JN606065   | 98.12 | 533 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Syndiniales;f__Eudubosquellidae;g__Eudubosquella;s__Eudubosquella_crenulata                      |
| OTU2350 | 1 | 499 | FR877580   | 96.99 | 499 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Ampidomataceae;g__Azadinium;s__Azadinium_cf._poporum_HJ-2011                    |

|         |   |     |          |       |     |     |                                                                                                                                                    |
|---------|---|-----|----------|-------|-----|-----|----------------------------------------------------------------------------------------------------------------------------------------------------|
| OTU2560 | 1 | 508 | HQ902267 | 73.01 | 515 | 98  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_triquetra                      |
| OTU2572 | 1 | 484 | HM483396 | 91.21 | 478 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea                |
| OTU2582 | 1 | 505 | HQ902267 | 73.15 | 514 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_triquetra                      |
| OTU2971 | 1 | 504 | JN119844 | 83.2  | 506 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_sp._HCBC88                     |
| OTU3307 | 1 | 491 | KF878935 | 96.96 | 493 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Gymnodinium;s__Gymnodinium_instriatum                     |
| OTU3452 | 1 | 541 | LC002848 | 87.36 | 87  | 43  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinophyceae;f__norank;g__Pseudadenoides;s__Unclassified DINO                    |
| OTU3512 | 1 | 484 | AB860180 | 84.88 | 496 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Gymnodinium;s__unclassified_Gymnodinium                   |
| OTU357  | 1 | 328 | AY590477 | 98.79 | 330 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Pfiesteriaceae;g__unclassified_Pfiesteriaceae;s__Pfiesteriaceae_sp._CCMP1835 |
| OTU3689 | 1 | 262 | FJ808690 | 80    | 200 | 75  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Dinophysiales;f__Dinophysaceae;g__Dinophysis;s__Dinophysis_sp.                               |
| OTU3711 | 1 | 514 | EU490149 | 72.58 | 507 | 96  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__unclassified DINO                                              |
| OTU461  | 1 | 478 | AY154965 | 74.14 | 406 | 81  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gonyaulacaceae;g__Gonyaulax;s__Gonyaulax_sp.                                |
| OTU508  | 1 | 444 | DQ286734 | 100   | 444 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Gymnodinium;s__Gymnodinium_catenatum                      |
| OTU755  | 1 | 415 | X16108.1 | 77    | 75  | 69  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__Unclassified DINO                                              |
| OTU98   | 1 | 498 | EF616464 | 92.65 | 68  | 61  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia-like_sp.                      |
| OTU984  | 1 | 501 | EF616462 | 84.1  | 497 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Cochlodinium;s__Cochlodinium_cf._geminatum                |
| OTU105  | 1 | 251 | AF318248 | 96.41 | 251 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Gymnodinium;s__unclassified_Gymnodinium                   |
| OTU1091 | 1 | 514 | HQ902267 | 76.44 | 556 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_triquetra                      |
| OTU110  | 1 | 413 | KF031312 | 76.43 | 420 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_minima                         |
| OTU1150 | 1 | 317 | EU165289 | 97.16 | 317 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp._CCMP2775              |
| OTU1158 | 1 | 236 | HQ845331 | 94.92 | 236 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_sweeneyae                 |

|         |   |     |          |       |     |     |                                                                                                                                                 |
|---------|---|-----|----------|-------|-----|-----|-------------------------------------------------------------------------------------------------------------------------------------------------|
| OTU1180 | 1 | 295 | EU370959 | 96.96 | 296 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoraco<br>sphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea         |
| OTU1339 | 1 | 485 | FJ024705 | 94.02 | 485 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleri<br>aceae;g__Biecheleria;s__Biecheleria_cincta                    |
| OTU1356 | 1 | 493 | FJ024705 | 93.1  | 493 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleri<br>aceae;g__Biecheleria;s__Biecheleria_cincta                    |
| OTU1613 | 1 | 461 | EF205003 | 83.72 | 86  | 53  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__n<br>orank;s__Unclassified DINO                                       |
| OTU1794 | 1 | 499 | HM483396 | 96.79 | 498 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoraco<br>sphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea         |
| OTU1853 | 1 | 494 | EF152961 | 91.5  | 494 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Diplops<br>aliaceae;g__Preperidinium;s__Protoperidinium_cf__steidingerae  |
| OTU2042 | 1 | 512 | HQ902267 | 82.91 | 515 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heteroc<br>apsaceae;g__Heterocapsa;s__Heterocapsa_triquetra               |
| OTU2059 | 1 | 416 | JF521637 | 98.56 | 417 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gony<br>aulacaceae;g__Alexandrium;s__Alexandrium_ostenfeldii             |
| OTU2078 | 1 | 515 | JN119844 | 84.17 | 518 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heteroc<br>apsaceae;g__Heterocapsa;s__Heterocapsa_sp__HCBC88              |
| OTU236  | 1 | 473 | AY154960 | 81.54 | 65  | 47  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gony<br>aulacaceae;g__norank;s__Unclassified DINO                        |
| OTU2455 | 1 | 506 | FJ024705 | 88.39 | 508 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleri<br>aceae;g__Biecheleria;s__Biecheleria_cincta                    |
| OTU2496 | 1 | 517 | KP790208 | 89.47 | 76  | 15  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__n<br>orank;s__Unclassifid DINO                                        |
| OTU2644 | 1 | 513 | JX559886 | 99.1  | 442 | 86  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Amp<br>hidomataceae;g__Azadinium;s__Azadinium_polongum                   |
| OTU2768 | 1 | 501 | JQ247713 | 73.05 | 512 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heteroc<br>apsaceae;g__Heterocapsa;s__Heterocapsa_niei                    |
| OTU2984 | 1 | 519 | KF543359 | 96.29 | 431 | 83  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Amp<br>hidomataceae;g__Azadinium;s__Azadinium_dalianense                 |
| OTU3033 | 1 | 509 | KF651047 | 94.5  | 509 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Protope<br>ridiniaceae;g__Protoperidinium;s__Protoperidinium_tricinctulum |
| OTU3344 | 1 | 323 | KF751924 | 96.6  | 324 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoraco<br>sphaeraceae;g__Scrippsiella;s__Scrippsiella_aff__acuminata     |
| OTU3364 | 1 | 279 | KF751924 | 97.84 | 278 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoraco<br>sphaeraceae;g__Scrippsiella;s__Scrippsiella_aff__acuminata     |
| OTU337  | 1 | 497 | JX262498 | 89.16 | 498 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridini<br>aceae;g__Pentapharsodinium;s__Pentapharsodinium_dalei         |
| OTU3391 | 1 | 423 | KF751926 | 95.72 | 421 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoraco<br>sphaeraceae;g__Scrippsiella;s__Scrippsiella_sp.                |

|         |   |     |          |       |     |     |                                                                                                                                         |
|---------|---|-----|----------|-------|-----|-----|-----------------------------------------------------------------------------------------------------------------------------------------|
| OTU3402 | 1 | 496 | AB858353 | 92.96 | 497 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_breviculcata          |
| OTU3446 | 1 | 485 | LM992905 | 100   | 339 | 70  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Biecheleriopsis;s__Biecheleriopsis_adriatica    |
| OTU361  | 1 | 413 | LC027052 | 76.64 | 244 | 58  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Gymnodiniaceae;g__Unclassified;s__Unclassified_Gymnodiniaceae     |
| OTU3712 | 1 | 494 | EU490149 | 72.55 | 499 | 98  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__unclassified DINO                                   |
| OTU683  | 1 | 455 | KP702719 | 95.83 | 456 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Diplopsaliaceae;g__Oblea;s__Oblea_rotunda                          |
| OTU980  | 1 | 497 | EF616462 | 94.74 | 133 | 90  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodinales;f__Gymnodiniaceae;g__Cochlodinium;s__Cochlodinium_cf._geminatum-like |
| OTU1066 | 1 | 507 | JN119844 | 76.14 | 549 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_sp._HCBC88           |
| OTU1151 | 1 | 261 | EU165289 | 98.43 | 255 | 98  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp._CCMP2775    |
| OTU1183 | 1 | 487 | AY154965 | 74.64 | 414 | 81  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gonyaulacaceae;g__Gonyaulax;s__Gonyaulax-like_sp.                |
| OTU12   | 1 | 523 | EU126801 | 74.54 | 538 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Borghiellaceae;g__Borghiella;s__Borghiella_sp.                      |
| OTU1328 | 1 | 510 | FJ024705 | 91.73 | 508 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta                |
| OTU1337 | 1 | 499 | FJ024705 | 94.19 | 499 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta                |
| OTU1347 | 1 | 499 | FJ024705 | 92.22 | 501 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta                |
| OTU1360 | 1 | 491 | FJ024705 | 92.68 | 492 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta                |
| OTU1520 | 1 | 484 | FJ939579 | 72.27 | 494 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gonyaulacaceae;g__Gonyaulax;s__Gonyaulax_sp.                     |
| OTU1607 | 1 | 503 | FJ600087 | 88.66 | 529 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Pfiesteriaceae;g__Pfiesteria;s__Pfiesteria_piscicida               |
| OTU1620 | 1 | 334 | LC027066 | 82.08 | 106 | 32  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__Unclassified DINO                                   |
| OTU1776 | 1 | 482 | HM483396 | 92.95 | 482 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea      |
| OTU1799 | 1 | 503 | HM483396 | 89.66 | 503 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea      |
| OTU1842 | 1 | 516 | HM483396 | 94.79 | 518 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridinales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea      |

|         |   |     |          |       |     |     |                                                                                                                                                       |
|---------|---|-----|----------|-------|-----|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| OTU1879 | 1 | 436 | HM483396 | 89.33 | 431 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoraco<br>sphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea               |
| OTU1897 | 1 | 498 | HM483396 | 90.56 | 498 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoraco<br>sphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea               |
| OTU1912 | 1 | 507 | HM483396 | 95.87 | 508 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoraco<br>sphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea               |
| OTU2000 | 1 | 494 | FR720082 | 80.72 | 498 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gy<br>mnodiniaceae;g__Gyrodiniellum;s__Gyrodiniellum_sp.                       |
| OTU2044 | 1 | 502 | HQ902267 | 82.9  | 503 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heteroc<br>apsaceae;g__Heterocapsa;s__Heterocapsa_triquetra                     |
| OTU2068 | 1 | 502 | JF430394 | 92.63 | 502 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Pfiesteri<br>aceae;g__Chimonodinium;s__Chimonodinium_lomnickii                  |
| OTU210  | 1 | 426 | EU165272 | 80.12 | 322 | 75  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heteroc<br>apsaceae;g__unclassified_Heterocapsaceae;s__Heterocapsaceae-like sp. |
| OTU2110 | 1 | 436 | HQ670228 | 95.86 | 435 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoraco<br>sphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea               |
| OTU2188 | 1 | 494 | FN647674 | 98.1  | 421 | 85  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gy<br>mnodiniaceae;g__Barrufeta;s__Barrufeta_bravensis                         |
| OTU2196 | 1 | 479 | DQ195375 | 75.21 | 480 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Suessiace<br>ae;g__Pelagodinium;s__Pelagodinium_sp.                               |
| OTU2202 | 1 | 478 | JN558107 | 96.44 | 478 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Suessiace<br>ae;g__Pelagodinium;s__Pelagodinium_béii                              |
| OTU2316 | 1 | 542 | JN934984 | 96.68 | 542 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Syndiniales;f__Eudubo<br>squellidae;g__Euduboscquella;s__Euduboscquella_sp_ex_Tintinnopsis_sp_1 |
| OTU2321 | 1 | 359 | JN934984 | 94.74 | 361 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Syndiniales;f__Eudubo<br>squellidae;g__Euduboscquella;s__Euduboscquella_sp_ex_Tintinnopsis_sp_1 |
| OTU2325 | 1 | 561 | JN934988 | 96.8  | 563 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Syndiniales;f__Eudubo<br>squellidae;g__Euduboscquella;s__Euduboscquella_cachoni                 |
| OTU2332 | 1 | 498 | JN934989 | 69.26 | 501 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Syndiniales;f__Eudubo<br>squellidae;g__Euduboscquella;s__Euduboscquella_sp_ex_Favella_arcuata   |
| OTU2344 | 1 | 540 | JN934994 | 99.63 | 540 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Syndiniales;f__Eudubo<br>squellidae;g__Euduboscquella;s__Euduboscquella_sp_ex_Tintinnopsis_sp_2 |
| OTU2428 | 1 | 235 | JQ639752 | 85.71 | 189 | 80  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Glenodi<br>niaceae;g__Peridiniopsis;s__Peridiniopsis_minima                     |
| OTU2447 | 1 | 502 | FJ024705 | 88.14 | 506 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleri<br>aceae;g__Biecheleria;s__Biecheleria_cincta                          |
| OTU2451 | 1 | 481 | FJ024705 | 91.12 | 484 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleri<br>aceae;g__Biecheleria;s__Biecheleria_cincta                          |
| OTU2456 | 1 | 444 | JQ413374 | 96.26 | 454 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleri<br>aceae;g__Biecheleria;s__Biecheleria_cincta                          |

|         |   |     |          |       |     |     |                                                                                                                                          |
|---------|---|-----|----------|-------|-----|-----|------------------------------------------------------------------------------------------------------------------------------------------|
| OTU2458 | 1 | 505 | AB858353 | 91.68 | 505 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_brevisulcata           |
| OTU2537 | 1 | 477 | HQ845327 | 88    | 84  | 23  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__Unclassified DINO                                    |
| OTU2583 | 1 | 464 | AF260400 | 71.22 | 476 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_rotundata            |
| OTU2641 | 1 | 299 | JN982402 | 97.57 | 288 | 96  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp.             |
| OTU2666 | 1 | 490 | AB716928 | 91.65 | 491 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Protoperidiniaceae;g__Protoperidinium;s__Protoperidinium_monovelum |
| OTU2669 | 1 | 359 | AB716928 | 86.35 | 359 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Protoperidiniaceae;g__Protoperidinium;s__Protoperidinium_monovelum |
| OTU2711 | 1 | 473 | JX262498 | 73    | 473 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_sp.        |
| OTU2808 | 1 | 219 | KC895475 | 96.36 | 220 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta                 |
| OTU2856 | 1 | 478 | KP790181 | 89.42 | 104 | 22  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__Unclassified DINO                                    |
| OTU2953 | 1 | 491 | KF031312 | 99.32 | 443 | 90  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_minima               |
| OTU3287 | 1 | 499 | EF616462 | 86.07 | 524 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Cochlodinium;s__Cochlodinium_cf._geminatum      |
| OTU3288 | 1 | 500 | HQ834210 | 84.79 | 539 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Polykrikaceae;g__Pheopolykrikos;s__Pheopolykrikos_hartmannii      |
| OTU3328 | 1 | 499 | HM483396 | 92.99 | 499 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea      |
| OTU3335 | 1 | 519 | KF751924 | 89.21 | 519 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_aff._acuminata  |
| OTU334  | 1 | 497 | AF260392 | 86.97 | 499 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp.             |
| OTU3365 | 1 | 410 | KF751924 | 90.64 | 406 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_aff._acuminata  |
| OTU3377 | 1 | 425 | KF751926 | 96.47 | 425 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp.             |
| OTU3385 | 1 | 495 | HM483396 | 94.34 | 495 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea      |
| OTU3407 | 1 | 501 | AB858353 | 88.42 | 501 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_brevisulcata           |
| OTU3408 | 1 | 225 | AB858353 | 99.06 | 213 | 94  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_brevisulcata           |

|         |   |     |          |       |     |     |                                                                                                                                           |
|---------|---|-----|----------|-------|-----|-----|-------------------------------------------------------------------------------------------------------------------------------------------|
| OTU3413 | 1 | 495 | AB858353 | 89.54 | 497 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_breviculcata            |
| OTU342  | 1 | 481 | AY571374 | 99.5  | 398 | 83  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima-like     |
| OTU3443 | 1 | 489 | LM992906 | 91.46 | 492 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Biecheleriopsis;s__Biecheleriopsis_adriatica     |
| OTU3490 | 1 | 501 | HG005135 | 92.38 | 499 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Gymnodinium;s__unclassified_Gymnodinium          |
| OTU3509 | 1 | 483 | HG005135 | 99.17 | 483 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Gymnodinium;s__Gymnodinium_sp. GSSW10            |
| OTU3530 | 1 | 497 | KJ433986 | 87.62 | 501 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_sp._ZL-2014 |
| OTU3535 | 1 | 437 | KJ433986 | 90.13 | 476 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_sp._ZL-2014 |
| OTU3538 | 1 | 466 | KJ433986 | 90.79 | 467 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_sp._ZL-2014 |
| OTU355  | 1 | 505 | DQ991376 | 95.86 | 507 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Pfiesteriaceae;g__Cryptoperidiniopsis;s__Cryptoperidiniopsis_brodyi |
| OTU3602 | 1 | 486 | KP790206 | 97.24 | 434 | 89  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Gyrodinium;s__Gyrodinium_undulans                |
| OTU3686 | 1 | 495 | JX262498 | 75    | 356 | 72  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_sp.         |
| OTU3726 | 1 | 475 | HG792066 | 96.84 | 475 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinophyceae;f__norank;g__norank;s__Dinophyceae_sp._1_HJH-2013          |
| OTU3757 | 1 | 480 | LC027049 | 98.34 | 481 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinophyceae;f__norank;g__Pellucidodinium;s__Pellucidodinium_psamphilum |
| OTU3759 | 1 | 478 | LC027049 | 89.77 | 479 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinophyceae;f__norank;g__Pellucidodinium;s__Pellucidodinium_psamphilum |
| OTU3831 | 1 | 498 | JX262498 | 83.03 | 501 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_dalei       |
| OTU385  | 1 | 499 | AY916546 | 94.93 | 493 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp._CS297        |
| OTU398  | 1 | 472 | AY916553 | 96.33 | 463 | 98  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_sp._CS-341          |
| OTU4    | 1 | 259 | KF245459 | 79.28 | 111 | 43  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified;f__unclassified;g__unclassified;s__unclassified_DINO                   |
| OTU470  | 1 | 378 | AY154965 | 73.74 | 396 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gonyaulacaceae;g__Gonyaulax;s__Gonyaulax_membranacea               |
| OTU475  | 1 | 411 | AY154965 | 73.26 | 430 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gonyaulacaceae;g__Gonyaulax;s__Gonyaulax_membranacea               |

|         |   |     |          |       |     |     |                                                                                                                                                  |
|---------|---|-----|----------|-------|-----|-----|--------------------------------------------------------------------------------------------------------------------------------------------------|
| OTU499  | 1 | 447 | DQ195376 | 96.65 | 448 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Suessiaceae;g__Pelagodinium;s__Pelagodinium_béii                             |
| OTU535  | 1 | 435 | AM408889 | 79.27 | 439 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Paragymnodinium;s__Paragymnodinium_shiwhaense           |
| OTU58   | 1 | 505 | AF260393 | 97.23 | 505 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea              |
| OTU60   | 1 | 498 | AF260393 | 94.19 | 396 | 79  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp.                     |
| OTU62   | 1 | 413 | AF260393 | 95.27 | 402 | 97  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea              |
| OTU702  | 1 | 527 | EF152961 | 90.74 | 529 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Diplopsaliaceae;g__Preperidinium;s__Protoperidinium_cf._steidingerae       |
| OTU71   | 1 | 341 | AF260393 | 96.44 | 337 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea              |
| OTU719  | 1 | 517 | EF152961 | 88.87 | 557 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Diplopsaliaceae;g__Preperidinium;s__Protoperidinium_cf._steidingerae       |
| OTU1996 | 2 | 482 | EF205002 | 85.9  | 78  | 38  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__Unclassified DINO                                            |
| OTU3788 | 2 | 490 | KJ508397 | 95.74 | 493 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Warnowiaceae;g__Warnowia;s__Warnowia_sp._IFR1101                          |
| OTU1796 | 2 | 505 | HM483396 | 95.84 | 505 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea              |
| OTU2008 | 2 | 333 | EF205002 | 92.59 | 108 | 32  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__Unclassified DINO                                            |
| OTU2190 | 2 | 477 | FN649409 | 91.96 | 112 | 23  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__norank;s__Unclassified Gymnodinium-like species         |
| OTU1795 | 2 | 489 | HM483396 | 96.52 | 489 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea              |
| OTU1629 | 2 | 458 | KJ433986 | 72.79 | 463 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_sp._ZL-2014        |
| OTU1779 | 2 | 503 | HM483396 | 97.01 | 501 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea              |
| OTU481  | 2 | 472 | JN558110 | 82.77 | 499 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Suessiaceae;g__Polarella;s__Polarella_glacialis                              |
| OTU2340 | 2 | 542 | JN934989 | 76.78 | 547 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Syndiniales;f__Eudubosquellidae;g__Euduboscquella;s__Euduboscquella_sp._ex_Favella_arcuata |
| OTU3696 | 2 | 507 | EU490149 | 73.41 | 504 | 96  | d__Eukaryota;k__Fungi;p__environmental_samples;c__Dinophyceae;o__norank;f__norank;g__norank;s__unclassified DINO                                 |
| OTU1072 | 2 | 487 | AY571374 | 84.6  | 487 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodiniales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima                 |

|         |   |     |            |       |     |     |                                                                                                                                   |
|---------|---|-----|------------|-------|-----|-----|-----------------------------------------------------------------------------------------------------------------------------------|
| OTU482  | 2 | 475 | DQ195346   | 93.47 | 475 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Suessiaceae;g_Pelagodinium;s_Pelagodinium_béii                      |
| OTU3338 | 2 | 496 | KF751924   | 96.57 | 496 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridiniales;f_Thoracosphaeraceae;g_Scrippsiella;s_Scrippsiella_aff_acuminata    |
| OTU1866 | 2 | 358 | HM483396   | 92.46 | 358 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridiniales;f_Thoracosphaeraceae;g_Scrippsiella;s_Scrippsiella_trochoidea       |
| OTU641  | 2 | 485 | AY571374   | 84.12 | 485 | 99  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Lophodinales;f_Lophodiniaceae;g_Woloszynskia;s_Woloszynskia_tenuissima           |
| OTU1105 | 2 | 505 | AY571374   | 81.84 | 523 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Lophodinales;f_Lophodiniaceae;g_Woloszynskia;s_Woloszynskia_tenuissima           |
| OTU1494 | 2 | 490 | FJ211386   | 98.98 | 490 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gymnodinales;f_Polykrikaceae;g_Polykrikos;s_Polykrikos_geminatum                 |
| OTU556  | 2 | 498 | DQ991376   | 95.6  | 500 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridiniales;f_Pfiesteriaceae;g_Cryptoperidiniopsis;s_Cryptoperidiniopsis_brodyi |
| OTU1792 | 2 | 503 | HM483396   | 96.21 | 501 | 99  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridiniales;f_Thoracosphaeraceae;g_Scrippsiella;s_Scrippsiella_trochoidea       |
| OTU1789 | 2 | 513 | HM483396   | 95.13 | 513 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridiniales;f_Thoracosphaeraceae;g_Scrippsiella;s_Scrippsiella_trochoidea       |
| OTU519  | 2 | 448 | DQ320627   | 98.21 | 448 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gymnodinales;f_Tovelliaceae;g_Tovellia;s_Tovellia_sanguinea                      |
| OTU505  | 2 | 437 | JQ439944   | 84.48 | 58  | 37  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gymnodinales;f_Unclassified;g_Unclassified;s_Unclassified_Gymnodinales           |
| OTU1083 | 2 | 488 | AY571374   | 83.5  | 491 | 99  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Lophodinales;f_Lophodiniaceae;g_Woloszynskia;s_Woloszynskia_tenuissima           |
| OTU679  | 2 | 487 | EF152794   | 85.04 | 488 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridiniales;f_Diplopsaliaceae;g_Diplopsalis;s_Diplopsalis_lenticula             |
| OTU1925 | 2 | 492 | HM483399   | 88.66 | 494 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_unclassified_Dinophyceae;f_norank;g_Duboscquodinium;s_Duboscquodinium_collinii   |
| OTU1438 | 2 | 483 | FR720082.1 | 94    | 483 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gymnodinales;f_Gymnodiniaceae;g_Gyrodiniellum;s_Gyrodiniellum_shiwhaense         |
| OTU1625 | 2 | 466 | EU126801.1 | 70    | 466 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Suessiales;f_Borghiellaceae;g_Borghiella;s_Borghiella_sp.                        |
| OTU1436 | 2 | 478 | EF616465.1 | 87    | 478 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gymnodinales;f_Gymnodiniaceae;g_Gymnodinium;s_Gymnodinium_impudicum-like         |
| OTU976  | 2 | 512 | EF616462   | 86.16 | 513 | 99  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gymnodinales;f_Gymnodiniaceae;g_Cochlodinium;s_Cochlodinium_cf_geminatum         |
| OTU2185 | 2 | 497 | FN647674   | 96.45 | 422 | 85  | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Gymnodinales;f_Gymnodiniaceae;g_Barrufeta;s_Barrufeta_bravensis                  |
| OTU1599 | 2 | 506 | FJ600087   | 93.48 | 506 | 100 | d_Eukaryota;k_Alveolata;p_norank;c_Dinophyceae;o_Peridiniales;f_Pfiesteriaceae;g_Pfiesteria;s_Pfiesteria_piscicida                |

|         |   |     |          |       |     |     |                                                                                                                                                  |
|---------|---|-----|----------|-------|-----|-----|--------------------------------------------------------------------------------------------------------------------------------------------------|
| OTU3467 | 2 | 490 | HG005135 | 94.29 | 490 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Gymnodinium;s__unclassified_Gymnodinium                 |
| OTU2962 | 2 | 491 | AY571372 | 75.36 | 491 | 98  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_arctica                      |
| OTU958  | 2 | 489 | EU165308 | 82.41 | 506 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Kareniaceae;g__Karenia;s__Karenia_brevis                                  |
| OTU953  | 2 | 527 | EF613367 | 98.67 | 527 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Polykrikaceae;g__Polykrikos;s__Polykrikos_kofoidii                        |
| OTU1316 | 2 | 500 | KP790188 | 91.71 | 422 | 84  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Gymnodinium;s__Gymnodinium_sp.                          |
| OTU1101 | 2 | 489 | AY571374 | 79.11 | 517 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima                  |
| OTU2208 | 2 | 485 | JN558110 | 83    | 485 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Suessiaceae;g__Polarella;s__Polarella_sp.                                    |
| OTU3835 | 2 | 480 | JX262498 | 80.93 | 493 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_dalei              |
| OTU2399 | 2 | 490 | JF921198 | 98.78 | 490 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gonyaulacaceae;g__Alexandrium;s__Alexandrium_peruvianum                   |
| OTU1202 | 2 | 487 | AF200669 | 79.84 | 501 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Lepidodinium;s__Lepidodinium_chlorophorum               |
| OTU42   | 2 | 513 | AF260393 | 97.86 | 513 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea              |
| OTU2085 | 2 | 498 | HQ670228 | 95.38 | 498 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea              |
| OTU3720 | 2 | 479 | HG792066 | 100   | 479 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinophyceae;f__norank;g__norank;s__Dinophyceae_sp._1_HJH-2013                 |
| OTU185  | 2 | 518 | AY245689 | 97.68 | 517 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Pfiesteriaceae;g__unclassified_Pfiesteriaceae;s__Pfiesteria-like_DINO_Lucy |
| OTU1451 | 2 | 552 | FJ160592 | 90.12 | 81  | 32  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__Unclassified_DINO                                            |
| OTU2028 | 2 | 458 | JN119844 | 74    | 500 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_sp._HCBC88                   |
| OTU3704 | 2 | 522 | HM483397 | 85.32 | 88  | 54  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinophyceae;f__norank;g__Tintinnophagus;s__unclassified_DINO                  |
| OTU740  | 2 | 474 | EF205010 | 97.72 | 482 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Glenodiniaceae;g__Peridiniopsis;s__Peridiniopsis_polonicum                 |
| OTU2674 | 2 | 492 | AB716928 | 89.11 | 496 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Protoperidiniaceae;g__Protoperidinium;s__Protoperidinium_monovelum         |
| OTU2717 | 2 | 498 | JX262498 | 98.6  | 357 | 72  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_sp.                |

|         |   |     |          |       |     |     |                                                                                                                                                     |
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| OTU548  | 2 | 373 | AB265968 | 83.91 | 379 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Gymnodinium;s__Gymnodinium_microreticulatum                |
| OTU2213 | 2 | 469 | JN558110 | 90.04 | 472 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Suessiaceae;g__Polarella;s__Polarella_glacialis                                 |
| OTU2710 | 2 | 507 | JX262498 | 89.15 | 507 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_dalei                 |
| OTU2258 | 2 | 498 | HQ902267 | 71    | 531 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_triquetra                       |
| OTU3256 | 2 | 524 | AB778763 | 87    | 84  | 26  | d__Eukaryota;k__Alveolata;                                                                                                                          |
| OTU3330 | 2 | 499 | HM483396 | 92.35 | 497 | 99  | c__Dinophyceae;o__norank;f__norank;g__norank;s__Unclassified DINO                                                                                   |
| OTU2181 | 2 | 471 | HQ176320 | 86.86 | 472 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea                 |
| OTU1098 | 2 | 476 | AY571374 | 79.18 | 490 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Pfiesteriaceae;g__Chimonodinium;s__Chimonodinium_lomnickii                    |
| OTU2311 | 2 | 425 | JN606065 | 95.67 | 416 | 98  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_tenuissima                     |
| OTU977  | 2 | 517 | EF616462 | 81.73 | 520 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Syndiniales;f__Eudubosquellidae;g__Euduboscquella;s__Euduboscquella_crenulata                 |
| OTU2665 | 2 | 510 | AB716928 | 90.14 | 507 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Cochlodinium;s__Cochlodinium_cf__geminatum                 |
| OTU1836 | 2 | 508 | HM483396 | 88.04 | 510 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Protoperidiniaceae;g__Protoperidinium;s__Protoperidinium_monovelum            |
| OTU3733 | 2 | 265 | AB858353 | 86.36 | 132 | 50  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea                 |
| OTU1822 | 2 | 497 | HM483396 | 93.37 | 498 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__unclassified DINO                             |
| OTU1848 | 2 | 500 | HM483396 | 94.19 | 516 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea                 |
| OTU201  | 2 | 227 | LK934662 | 91.15 | 226 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea                 |
| OTU2024 | 2 | 518 | JN119844 | 76.28 | 548 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Pfiesteriaceae;g__Aduncodinium;s__Aduncodinium_glandula                       |
| OTU2738 | 2 | 386 | KP702719 | 98.19 | 387 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_sp__HCBC88                      |
| OTU3394 | 2 | 510 | AB871535 | 96.86 | 509 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Diplopsaliaceae;g__Oblea;s__Oblea_rotunda                                     |
| OTU2488 | 2 | 226 | HQ845329 | 84.58 | 227 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Cryptothecodiniaceae;g__Cryptothecodinium;s__Cryptothecodinium_sp__ShSu-2013 |
|         |   |     |          |       |     | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentapharsodinium;s__Pentapharsodinium_tyrrhenicum           |

|         |   |     |          |       |     |     |                                                                                                                                         |
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| OTU676  | 2 | 502 | HQ176320 | 77.53 | 503 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Pfiesteriaceae;g__Chimonodinium;s__Chimonodinium_lomnickii        |
| OTU954  | 2 | 524 | EF613367 | 98.73 | 474 | 90  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Polykrikaceae;g__Polykrikos;s__Polykrikos_kofoidii               |
| OTU40   | 2 | 515 | AF260393 | 96.7  | 515 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea     |
| OTU3692 | 2 | 317 | KP790210 | 92.86 | 112 | 35  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Gyrodinium;s__Gyrodinium_sp.                   |
| OTU1826 | 2 | 493 | HM483396 | 92.12 | 520 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea     |
| OTU2176 | 2 | 513 | KJ508390 | 92.42 | 66  | 35  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__Unclassified_DINO                                   |
| OTU2034 | 2 | 364 | HQ845328 | 79.94 | 359 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Ensiculifera;s__Ensiculifera_aff_loeblichii |
| OTU45   | 2 | 516 | AF260393 | 97.09 | 516 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea     |
| OTU1372 | 2 | 229 | FJ024706 | 98.67 | 225 | 98  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_sp_MB-1            |
| OTU237  | 2 | 470 | AY154960 | 94.89 | 489 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gonyaulacaceae;g__Gonyaulax;s__Gonyaulax_cf_spinifera            |
| OTU393  | 2 | 490 | FJ024705 | 93.27 | 490 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta                |
| OTU78   | 2 | 497 | AF260393 | 86    | 500 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea     |
| OTU1645 | 2 | 489 | FN557541 | 93.05 | 489 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinophyceae;f__norank;g__Stoeckeria;s__Stoeckeria_sp_SSMS0806        |
| OTU3423 | 2 | 331 | AB858353 | 96.07 | 331 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_brevisulcata          |
| OTU1117 | 2 | 235 | EF058276 | 83.33 | 234 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Lophodinales;f__Lophodiniaceae;g__Woloszynskia;s__Woloszynskia_pascheri           |
| OTU1898 | 2 | 480 | HM483396 | 92.97 | 498 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea     |
| OTU1910 | 2 | 505 | HM483396 | 89.5  | 505 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea     |
| OTU1012 | 2 | 478 | AB858353 | 92.48 | 479 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_brevisulcata          |
| OTU2809 | 2 | 221 | KC895475 | 96.38 | 221 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta                |
| OTU3345 | 2 | 474 | KF751924 | 93.26 | 475 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_aff_acuminata  |

|         |   |     |          |       |     |     |                                                                                                                                             |
|---------|---|-----|----------|-------|-----|-----|---------------------------------------------------------------------------------------------------------------------------------------------|
| OTU228  | 2 | 483 | AY154960 | 97.49 | 478 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gonyaulacaceae;g__Gonyaulax;s__Gonyaulax_cf_spiniifera               |
| OTU280  | 2 | 477 | AY154965 | 77.62 | 496 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gonyaulacaceae;g__Gonyaulax;s__Gonyaulax_sp.                         |
| OTU3156 | 2 | 400 | KF383297 | 88.89 | 90  | 23  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Symbiodiniaceae;g__Symbiodinium;s__Symbiodinium-like_sp.                |
| OTU3708 | 2 | 523 | HM483395 | 73.16 | 529 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Syndiniales;f__Amoebozoa;g__Amoebozoa;s__Amoebozoa_sp_ex_Akashiwo_sanguineum          |
| OTU774  | 2 | 511 | JF430394 | 83.82 | 513 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Pfiesteriaceae;g__Chimonodinium;s__Chimonodinium_sp.                  |
| OTU2969 | 2 | 313 | KF240778 | 98.06 | 310 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_rotundata               |
| OTU3354 | 2 | 504 | KF751924 | 96.43 | 504 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_aff_acuminata      |
| OTU1146 | 2 | 522 | HM483396 | 88.7  | 522 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea         |
| OTU1456 | 2 | 540 | FJ160592 | 90.12 | 81  | 33  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__Unclassified DINO                                       |
| OTU2031 | 2 | 282 | JN119844 | 82.17 | 258 | 91  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_sp_HCBC88               |
| OTU2656 | 2 | 499 | AB716928 | 90.38 | 499 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Protopteridiniaceae;g__Protopteridinium;s__Protopteridinium_monovelum |
| OTU3349 | 2 | 451 | KF751924 | 94.81 | 462 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_aff_acuminata      |
| OTU3414 | 2 | 505 | AB858353 | 98.35 | 303 | 66  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria-like_sp.                  |
| OTU1459 | 2 | 505 | FJ167681 | 96.63 | 505 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Pfiesteriaceae;g__Tyrannodinium;s__Tyrannodinium_berolinense          |
| OTU1886 | 2 | 490 | HM483396 | 94.67 | 488 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea         |
| OTU2740 | 2 | 484 | JX262498 | 95.66 | 484 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridiniaceae;g__Pentaparsodinium;s__Pentaparsodinium_dalei           |
| OTU1010 | 2 | 472 | EF616463 | 95.35 | 86  | 18  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__norank;f__norank;g__norank;s__Unclassified DINO                                       |
| OTU1088 | 2 | 512 | JN119844 | 75.27 | 558 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_sp_HCBC88               |
| OTU1876 | 2 | 459 | HM483396 | 95.21 | 459 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea         |
| OTU2326 | 2 | 544 | JN934988 | 99.26 | 537 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Syndiniales;f__Euduboscquellidae;g__Euduboscquella;s__Euduboscquella_cachoni          |

|         |   |     |            |       |     |     |                                                                                                                                                         |
|---------|---|-----|------------|-------|-----|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| OTU3357 | 2 | 493 | KF751924   | 93.74 | 495 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoraco<br>sphaeraceae;g__Scrippsiella;s__Scrippsiella_aff_acuminata              |
| OTU3358 | 2 | 452 | KF751924   | 94.91 | 452 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoraco<br>sphaeraceae;g__Scrippsiella;s__Scrippsiella_aff_acuminata              |
| OTU3376 | 2 | 487 | KF751926   | 94.26 | 488 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoraco<br>sphaeraceae;g__Scrippsiella;s__Scrippsiella_sp.                        |
| OTU1333 | 2 | 500 | FJ024705   | 92.22 | 501 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleri<br>aceae;g__Biecheleria;s__Biecheleria_cincta                            |
| OTU1364 | 2 | 486 | FJ024705   | 92.59 | 486 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleri<br>aceae;g__Biecheleria;s__Biecheleria_cincta                            |
| OTU1785 | 2 | 527 | HM483396   | 95.98 | 522 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoraco<br>sphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea                 |
| OTU1828 | 2 | 490 | HM483396   | 91.8  | 488 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoraco<br>sphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea                 |
| OTU1867 | 2 | 489 | HM483396   | 95.71 | 489 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoraco<br>sphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea                 |
| OTU2442 | 2 | 496 | JQ413373   | 89.56 | 498 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleri<br>aceae;g__Biecheleria;s__Biecheleria_cincta                            |
| OTU2466 | 2 | 403 | JQ413374   | 96.78 | 404 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleri<br>aceae;g__Biecheleria;s__Biecheleria_cincta                            |
| OTU25   | 2 | 503 | AF260392   | 85.74 | 505 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoraco<br>sphaeraceae;g__Scrippsiella;s__Scrippsiella_sp.                        |
| OTU2602 | 2 | 298 | KJ189491   | 97.99 | 299 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoraco<br>sphaeraceae;g__Scrippsiella;s__Scrippsiella_cf_acuminata               |
| OTU2619 | 2 | 499 | JN982400   | 100   | 499 | 65  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoraco<br>sphaeraceae;g__Scrippsiella;s__Scrippsiella_aff_acuminata              |
| OTU3346 | 2 | 405 | KF751924   | 96.77 | 402 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoraco<br>sphaeraceae;g__Scrippsiella;s__Scrippsiella_aff_acuminata              |
| OTU634  | 2 | 265 | KT389966   | 97    | 246 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Peridini<br>aceae;g__Pentapharsodinium;s__Pentapharsodinium_tyrrenicum            |
| OTU1043 | 2 | 432 | EU048553   | 97.92 | 433 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Pfiesteri<br>aceae;g__unclassified_Pfiesteriaceae;s__Pfiesteriaceae_sp_masanensis |
| OTU1178 | 2 | 487 | HQ670228.1 | 98    | 487 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoraco<br>sphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea                 |
| OTU1329 | 2 | 508 | FJ024705   | 95.44 | 504 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleri<br>aceae;g__Biecheleria;s__Biecheleria_cincta                            |
| OTU1346 | 2 | 489 | FJ024705   | 91.85 | 491 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleri<br>aceae;g__Biecheleria;s__Biecheleria_cincta                            |
| OTU1359 | 2 | 492 | FJ024705   | 95.53 | 492 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleri<br>aceae;g__Biecheleria;s__Biecheleria_cincta                            |

|         |   |     |          |       |     |     |                                                                                                                                     |
|---------|---|-----|----------|-------|-----|-----|-------------------------------------------------------------------------------------------------------------------------------------|
| OTU1361 | 2 | 491 | FJ024705 | 90.84 | 491 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta            |
| OTU1363 | 2 | 488 | FJ024705 | 93.24 | 488 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta            |
| OTU1695 | 2 | 507 | LC002848 | 82.09 | 402 | 79  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__unclassified_Dinophyceae;f__norank;g__norank;s__Unclassified DINO             |
| OTU1884 | 2 | 489 | HM483396 | 92.02 | 489 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_trochoidea |
| OTU240  | 2 | 436 | AY154960 | 96.45 | 422 | 97  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gonyaulacales;f__Gonyaulacaceae;g__Gonyaulax;s__Gonyaulax_cf._spiniifera      |
| OTU2407 | 2 | 494 | JQ616825 | 76.41 | 496 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Gymnodiniales;f__Gymnodiniaceae;g__Gymnodinium;s__Gymnodinium_catenatum       |
| OTU2446 | 2 | 507 | FJ024705 | 89.11 | 505 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta            |
| OTU2450 | 2 | 492 | FJ024705 | 86.87 | 495 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta            |
| OTU2467 | 2 | 492 | FJ024705 | 86.49 | 496 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_cincta            |
| OTU2965 | 2 | 257 | KF240778 | 96.96 | 263 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Heterocapsaceae;g__Heterocapsa;s__Heterocapsa_rotundata       |
| OTU3406 | 2 | 515 | AB858353 | 94.69 | 508 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_brevisulcata      |
| OTU3424 | 2 | 488 | AB858353 | 95.09 | 489 | 100 | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Suessiales;f__Biecheleriaceae;g__Biecheleria;s__Biecheleria_brevisulcata      |
| OTU379  | 2 | 492 | AY916546 | 95.9  | 488 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp._CS297  |
| OTU382  | 2 | 498 | AY916546 | 96.75 | 492 | 99  | d__Eukaryota;k__Alveolata;p__norank;c__Dinophyceae;o__Peridiniales;f__Thoracosphaeraceae;g__Scrippsiella;s__Scrippsiella_sp._CS297  |

1

**Table S7.** Numbers of dinoflagellate taxa reported in ships' ballast tanks, including the present study, and the studies' method(s) of identification.

| References                      | Number of<br>dinoflagellates<br>identified to species<br>level (n) | Number of<br>dinoflagellates not<br>identified to species<br>level (n) | Total number of the reported<br>dinoflagellate taxa (n) | Identification method             | Sample type |
|---------------------------------|--------------------------------------------------------------------|------------------------------------------------------------------------|---------------------------------------------------------|-----------------------------------|-------------|
| This study                      | 73                                                                 | 545 OTUs                                                               |                                                         | Microscopy/Single-cell<br>PCR/NGS | BS          |
| Casas-Monroy et al., 2011 [1]   | 32                                                                 | 26                                                                     | 58                                                      | Microscopy/Culture                | BS          |
| Casas-Monroy et al., 2013 [2]   | 39                                                                 | 21                                                                     | 60                                                      | Microscopy/Culture                | BS          |
| Fahnenstiel et al., 2009 [3]    | 17                                                                 | 18                                                                     | 35                                                      | Microscopy                        | BS          |
| Garrett et al., 2011 [4]        | 10                                                                 | 1                                                                      | 11                                                      | Microscopy/Culture                | BS          |
| Garrett et al., 2014 [5]        | 1                                                                  | 0                                                                      | 1                                                       | Microscopy/Culture/PCR            | BS          |
| Gollasch et al., 2000a [6]      | Unknown                                                            | Unknown                                                                | Unknown                                                 | Unknown                           | BS          |
| Hallegraeff and Bolch, 1992 [7] | 33                                                                 | 20                                                                     | 53                                                      | Microscopy/Culture                | BS          |
| Hamer et al., 2000 [8]          | 17                                                                 | 14                                                                     | 31                                                      | Microscopy                        | BS          |
| Hamer et al., 2001 [9]          | 42                                                                 | 12                                                                     | 54                                                      | Microscopy/Culture                | BS          |
| Harvey et al., 1999 [10]        | 14                                                                 | 9                                                                      | 23                                                      | Microscopy/Culture                | BS          |
| Johengen et al., 2005 [11]      | 32                                                                 | 1                                                                      | 33                                                      | Microscopy/Culture                | BS          |
| Macdonald, 1995 [12]            | 23                                                                 | 10                                                                     | 33                                                      | Microscopy                        | BS          |
| Pertola et al., 2006 [13]       | 4                                                                  | 9                                                                      | 13                                                      | Microscopy/Culture                | BS          |
| Shaw et al. 2019 [14]           | 0                                                                  | 35 OTUs                                                                |                                                         | Microscopy/NGS                    | BS          |

|                                |         |         |         |                        |    |
|--------------------------------|---------|---------|---------|------------------------|----|
| Cabrini et al. 2018 [15]       | 25      | 8       | 33      | Microscopy             | BW |
| Cheniti et al. 2018 [16]       | 32      | 9       | 41      | Microscopy             | BW |
| Baek et al., 2012 [17]         | 3       | 0       | 3       | Microscopy/Culture     | BW |
| Boltovskoy et al., 2011 [18]   | 50      | 17      | 67      | Microscopy             | BW |
| Briski et al., 2015 [19]       | 14      | 3       | 17      | Microscopy             | BW |
| Burkholder et al., 2007 [20]   | 32      | 0       | 32      | Microscopy/Culture/PCR | BW |
| Butron et al., 2011 [21]       | 20      | 9       | 29      | Microscopy/Culture     | BW |
| Carlton and Geller, 1993 [22]  |         | 4       | 4       | Unknown                | BW |
| Casas-Monroy et al., 2016 [23] | 142     | 13      | 155     | Microscopy/Culture     | BW |
| David et al., 2007 [24]        | 9       | 14      | 23      | Microscopy/Culture     | BW |
| DiBacco et al., 2012 [25]      | 1       |         | 1       | Microscopy             | BW |
| Drake et al., 2005 [26]        | 1       | 0       | 1       | Culture/PCR            | BW |
| Galil and Hulsmann, 1997 [27]  | 1       | 4       | 5       | Microscopy             | BW |
| Garrett et al., 2011 [4]       | 23      | 5       | 28      | Microscopy/Culture     | BW |
| Gollasch et al., 2000a [6]     | Unknown | Unknown | Unknown | Unknown                | BW |
| Gollasch et al., 2000b [28]    |         | 9       | 9       | Microscopy             | BW |
| Harvey et al., 1999 [10]       | 45      | 4       | 49      | Microscopy             | BW |
| Hyun et al., 2016 [29]         | 21      | 3       | 24      | Microscopy/Culture     | BW |
| Lavoie et al., 1999 [30]       |         | 1       | 1       | Microscopy             | BW |
| Levings et al., 2004 [31]      |         | 2       | 2       | Microscopy             | BW |
| Lewis et al., 2003 [32]        | 1       | 1       | 2       | Microscopy             | BW |
| Masson et al., 2013 [33]       | 11      | 3       | 14      | Microscopy             | BW |

|                                       |     |    |     |                                  |    |
|---------------------------------------|-----|----|-----|----------------------------------|----|
| Olenin et al., 2000 [34]              | 6   | 0  | 6   | Microscopy                       | BW |
| Park et al., 2007 [35]                | 1   |    | 1   | Culture/Molecular identification | BW |
| Rao et al., 1994 [36]                 | 25  | 5  | 30  | Microscopy                       | BW |
| Roy et al., 2012 [37]                 | 114 | 45 | 159 | Microscopy                       | BW |
| Selifonova, 2009 [38]                 | 1   |    | 1   | Unknown                          | BW |
| Stat and Gates, 2008 [39]             |     | 1  | 1   | PCR                              | BW |
| Steichen et al., 2014 [40]            | 4   | 4  | 8   | DGGE                             | BW |
| Steichen et al., 2015 [41]            | 2   | 6  | 8   | Culture/PCR                      | BW |
| Steichen and Quigg, 2015 [42]         |     | 10 | 10  | Microscopy                       | BW |
| Wonham et al., 2001 [43]              |     | 3  | 3   | Microscopy                       | BW |
| Zaiko et al., 2015 [44]               |     | 5  | 5   | NGS                              | BW |
| Zhang and Dickman, 1999 [45]          | 8   | 1  | 9   | Microscopy                       | BW |
| Zmerli and Yahia-Kefi, 2012 [46]      | 3   | 1  | 4   | Microscopy                       | BW |
| Zvyagintsev et al., 2009 [47]         | 11  | 3  | 14  | Microscopy                       | BW |
| Zvyagintsev and Selifonova, 2010 [48] | 12  | 3  | 15  | Unknown                          | BW |

OTUs = Operational Taxonomic Units; NGS = Next Generation Sequencing; BS = Ballast Tank Sediment Samples; BW = Ballast Water Samples; PCR = Polymerase Chain Reaction; DGGE = Denaturing Gradient Gel Electrophoresis.

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**Table S8.** Dinoflagellate species reported in ballast tank sediments. Species denoted with paleontological names were not included.

| No. | Species                            | Sampling Time    | Sampling Port                                       | References                                     |
|-----|------------------------------------|------------------|-----------------------------------------------------|------------------------------------------------|
| 1   | <i>Alexandrium affine</i>          | 2000–2003        | Great Lakes                                         | This study                                     |
|     |                                    | 2002–2003        | Great Lakes                                         | Reported as <i>Alexandrium affinis</i> [1]     |
|     |                                    | 2001–2002        | Great Lakes                                         | Reported as <i>Alexandrium affinis</i> [2]     |
| 2   | <i>Alexandrium balechii</i>        | 2003–2006        | Port of Tampa and Port Manatee                      | [3]                                            |
| 3   | <i>Alexandrium fundyense</i> *     | 2000–2003        | Great Lakes                                         | This study                                     |
| 4   | <i>Alexandrium hiranoi</i>         | 2002–2003        | Great Lakes                                         | [1]                                            |
|     |                                    | 2001–2002        | Great Lakes                                         | [2]                                            |
| 5   | <i>Alexandrium leei</i>            | 2001 (published) | English and Welsh ports                             | [4]                                            |
| 6   | <i>Alexandrium margalefi</i>       | 1994             | Scottish ports                                      | [5]                                            |
| 7   | <i>Alexandrium minutum</i>         | 2001–2002        | Great Lakes                                         | Reported as <i>Alexandrium lusitanicum</i> [2] |
|     |                                    | 2002–2003        | Great Lakes                                         | Reported as <i>Alexandrium lusitanicum</i> [1] |
|     |                                    | 2002–2003        | Great Lakes                                         | [1]                                            |
|     |                                    | 2001–2002        | Great Lakes                                         | [2]                                            |
|     |                                    | 1994             | Scottish ports                                      | [5]                                            |
|     |                                    | 2001 (published) | English and Welsh ports                             | [4]                                            |
| 8   | <i>Alexandrium ostenfeldii</i> *   | 2000–2003        | Great Lakes                                         | This study                                     |
| 9   | <i>Alexandrium pacificum</i>       | 2000–2003        | Great Lakes                                         | This study                                     |
|     |                                    | 1987–1990        | Australian ports                                    | Reported as <i>Alexandrium catenella</i> [6]   |
|     |                                    | 2001–2002        | Great Lakes                                         | Reported as <i>Alexandrium catenella</i> [2]   |
| 10  | <i>Alexandrium peruvianum</i> *    | 2000–2003        | Great Lakes                                         | This study                                     |
| 11  | <i>Alexandrium pseudogonyaulax</i> | 2000–2003        | Great Lakes                                         | This study                                     |
|     |                                    | 2001 (published) | English and Welsh ports                             | [4]                                            |
| 12  | <i>Alexandrium tamarense</i>       | 2007–2009        | Canada's east coast, west coast and the Great Lakes | [7]                                            |
|     |                                    | 1987–1990        | Australian ports                                    | [6]                                            |
|     |                                    | 2000 (published) | English and Welsh ports                             | [8]                                            |
|     |                                    | 2002–2003        | Great Lakes                                         | [1]                                            |
|     |                                    | 2007–2009        | East coast of Canada                                | [9]                                            |

|    |                                     |                  |                                    |                                                |
|----|-------------------------------------|------------------|------------------------------------|------------------------------------------------|
|    |                                     | 2001 (published) | English and Welsh ports            | [4]                                            |
|    |                                     | 2001–2002        | Great Lakes                        | [2]                                            |
| 13 | <i>Alexandrium tropicale</i>        | 2001 (published) | English and Welsh ports            | [4]                                            |
| 14 | <i>Apocalathium aciculiferum</i> *  | 2000–2003        | Great Lakes                        | This study                                     |
| 15 | <i>Apocalathium baicalense</i> *    | 2000–2003        | Great Lakes                        | This study                                     |
| 16 | <i>Apocalathium euryceps</i> *      | 2000–2003        | Great Lakes                        | This study                                     |
| 17 | <i>Apocalathium malmogiense</i>     | 2000–2003        | Great Lakes                        | This study                                     |
|    |                                     | 2000 (published) | England and Wales                  | Reported as <i>Scrippsiella hangoei</i> [8]    |
|    |                                     | 2001 (published) | English and Welsh ports            | Reported as <i>Scrippsiella hangoei</i> [4]    |
| 18 | <i>Archaeoperidinium minutum</i>    | 2007–2009        | East coast of Canada               | Reported as <i>Protoperidinium minutum</i> [9] |
| 19 | <i>Archaeoperidinium saanichi</i> * | 2000–2003        | Great Lakes                        | This study                                     |
| 20 | <i>Azadinium polongum</i> *         | 2000–2003        | Great Lakes                        | This study                                     |
| 21 | <i>Azadinium poporum</i> *          | 2000–2003        | Great Lakes                        | This study                                     |
| 22 | <i>Baldinia anauniensis</i> *       | 2000–2003        | Great Lakes                        | This study                                     |
| 23 | <i>Barrufeta bravensis</i> *        | 2000–2003        | Great Lakes                        | This study                                     |
| 24 | <i>Biecheleria baltica</i> *        | 2000–2003        | Great Lakes and the Chesapeake Bay | This study                                     |
| 25 | <i>Biecheleria brevisulcata</i> *   | 2000–2003        | Great Lakes and the Chesapeake Bay | This study                                     |
| 26 | <i>Biecheleria cincta</i> *         | 2000–2003        | Great Lakes and the Chesapeake Bay | This study                                     |
| 27 | <i>Biecheleriopsis adriatica</i> *  | 2000–2003        | Great Lakes                        | This study                                     |
| 28 | <i>Blastodinium contortum</i> *     | 2000–2003        | Great Lakes and the Chesapeake Bay | This study                                     |
| 29 | <i>Borghiella dodgei</i> *          | 2000–2003        | Great Lakes                        | This study                                     |
| 30 | <i>Borghiella tenuissima</i> *      | 2000–2003        | Great Lakes and the Chesapeake Bay | This study                                     |
| 31 | <i>Calciadinellum levantinum</i>    | 2003–2006        | Port of Tampa and Port Manatee     | [3]                                            |
| 32 | <i>Chimonodinium lomnickii</i> *    | 2000–2003        | Great Lakes                        | This study                                     |
| 33 | <i>Cryptoperidiniopsis brodyi</i> * | 2000–2003        | Great Lakes and the Chesapeake Bay | This study                                     |
| 34 | <i>Dinophysis caudata</i>           | 1995             | Estuary and Gulf of St. Lawrence   | Reported as <i>Dinophysis diegensis</i> [10]   |
| 35 | <i>Dinophysis lativelata</i> *      | 2000–2003        | Great Lakes and the Chesapeake Bay | This study                                     |
| 36 | <i>Dinophysis norvegica</i>         | 1995             | Estuary and Gulf of St. Lawrence   | [10]                                           |
| 37 | <i>Diplopelta parva</i>             | 1987–1990        | Australian ports                   | [6]                                            |
|    |                                     | 1994             | Scottish ports                     | [5]                                            |

|           |                                         |                  |                                                     |                                                   |
|-----------|-----------------------------------------|------------------|-----------------------------------------------------|---------------------------------------------------|
|           |                                         | 2001 (published) | English and Welsh ports                             | [4]                                               |
|           |                                         | 2001–2002        | Great Lakes                                         | [2]                                               |
| 38        | <i>Diplopsalis lenticula</i>            | 1987–1990        | Australian ports                                    | [6]                                               |
|           |                                         | 2001 (published) | English and Welsh ports                             | [4]                                               |
| 39        | <i>Diplopsalopsis bomba</i>             | 2001 (published) | English and Welsh ports                             | Reported as <i>Diplopelta symmetrica</i> [4]      |
| 40        | <i>Diplopsalopsis orbicularis</i>       | 2007–2009        | Canada's east coast, west coast and the Great Lakes | Reported as <i>Diplopsalis orbicularis</i> [7]    |
|           |                                         | 1987–1990        | Australian ports                                    | Reported as <i>Diplopsalopsis orbicularis</i> [6] |
| <b>41</b> | <b><i>Dissodinium pseudolunula</i></b>  | <b>2000–2003</b> | <b>Great Lakes</b>                                  | <b>This study</b>                                 |
|           |                                         | 2000 (published) | English and Welsh ports                             | [8]                                               |
| <b>42</b> | <b><i>Duboscquodinium collinii</i>*</b> | <b>2000–2003</b> | <b>Great Lakes</b>                                  | <b>This study</b>                                 |
| <b>43</b> | <b><i>Euduboscquella cachoni</i>*</b>   | <b>2000–2003</b> | <b>Great Lakes</b>                                  | <b>This study</b>                                 |
| <b>44</b> | <b><i>Euduboscquella crenulata</i>*</b> | <b>2000–2003</b> | <b>Great Lakes and the Chesapeake Bay</b>           | <b>This study</b>                                 |
| 45        | <i>Fragilidium mexicanum</i>            | 2007–2009        | Canada's east coast, west coast and the Great Lakes | [7]                                               |
|           |                                         | 2007–2009        | East coast of Canada                                | [9]                                               |
| 46        | <i>Gonyaulax digitalis</i>              | 2007–2009        | East coast of Canada                                | [9]                                               |
|           |                                         | 2007–2009        | Canada's east coast, west coast and the Great Lakes | [7]                                               |
|           |                                         | 1987–1990        | Australian ports                                    | Reported as <i>Gonyaulax digitale</i> [6]         |
| 47        | <i>Gonyaulax elongata</i>               | 2007–2009        | Canada's east coast, west coast and the Great Lakes | [7]                                               |
|           |                                         | 2007–2009        | East coast of Canada                                | [9]                                               |
| 48        | <i>Gonyaulax membranacea</i>            | 2007–2009        | Canada's east coast, west coast and the Great Lakes | [7]                                               |
|           |                                         | 2007–2009        | East coast of Canada                                | [9]                                               |
| <b>49</b> | <b><i>Gonyaulax polygramma</i>*</b>     | <b>2000–2003</b> | <b>Great Lakes</b>                                  | <b>This study</b>                                 |
| 50        | <i>Gonyaulax scrippsae</i>              | 2007–2009        | Canada's east coast, west coast and the Great Lakes | [7]                                               |

|    |                              |                  |                                                     |                                                                                                                |
|----|------------------------------|------------------|-----------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
|    |                              | 1987–1990        | Australian ports                                    | [6]                                                                                                            |
|    |                              | 2007–2009        | East coast of Canada                                | [9]                                                                                                            |
|    |                              | 2002–2003        | Great Lakes                                         | [1]                                                                                                            |
|    |                              | 2001–2002        | Great Lakes                                         | [2]                                                                                                            |
|    |                              | 2001 (published) | English and Welsh ports                             | [4]                                                                                                            |
|    |                              | 1995             | Estuary and Gulf of St. Lawrence                    | [10]                                                                                                           |
| 51 | <i>Gonyaulax spinifera</i>   | <b>2000–2003</b> | <b>Great Lakes and the Chesapeake Bay</b>           | <b>This study</b>                                                                                              |
|    |                              | 2007–2009        | Canada's east coast, west coast and the Great Lakes | Reported as <i>Gonyaulax spinifera</i> complex [7]                                                             |
|    |                              | 2007–2009        | East coast of Canada                                | Reported as <i>Gonyaulax spinifera</i> complex [9]                                                             |
|    |                              | 1987–1990        | Australian ports                                    | [6]                                                                                                            |
|    |                              | 2001–2002        | Great Lakes                                         | [2]                                                                                                            |
|    |                              | 2001 (published) | English and Welsh ports                             | [4]                                                                                                            |
|    |                              | 2003–2006        | Port of Tampa and Port Manatee                      | [3]                                                                                                            |
|    |                              | 2002–2003        | Great Lakes                                         | [1]                                                                                                            |
|    |                              | 1994             | Scottish ports                                      | Reported as <i>Spiniferities bentori</i> , <i>Spiniferities bulloides</i> , <i>Spiniferities mirabilis</i> [5] |
| 52 | <i>Gonyaulax verior</i>      | 2002–2003        | Great Lakes                                         | [1]                                                                                                            |
|    |                              | 2001 (published) | English and Welsh ports                             | [4]                                                                                                            |
|    |                              | 2000 (published) | English and Welsh ports                             | [8]                                                                                                            |
|    |                              | 2001–2002        | Great Lakes                                         | [2]                                                                                                            |
| 53 | <i>Gymnodinium catenatum</i> | <b>2000–2003</b> | <b>Great Lakes</b>                                  | <b>This study</b>                                                                                              |
|    |                              | 2007–2009        | Canada's east coast, west coast and the Great Lakes | [7]                                                                                                            |
|    |                              | 2002–2003        | Great Lakes                                         | [1]                                                                                                            |
|    |                              | 2001–2002        | Great Lakes                                         | [2]                                                                                                            |
|    |                              | 2007–2009        | East coast of Canada                                | [9]                                                                                                            |
|    |                              | 1994             | Scottish ports                                      | [5]                                                                                                            |
| 54 | <i>Gymnodinium impudicum</i> | <b>2000–2003</b> | <b>Great Lakes</b>                                  | <b>This study</b>                                                                                              |
|    |                              | 2007–2009        | Canada's east coast, west coast and the Great Lakes | [7]                                                                                                            |

|    |                                       |                  |                                                     |                                                     |
|----|---------------------------------------|------------------|-----------------------------------------------------|-----------------------------------------------------|
| 55 | <i>Gymnodinium microreticulatum</i> * | 2000–2003        | Great Lakes                                         | This study                                          |
| 56 | <i>Gymnodinium nolleri</i>            | 2007–2009        | Canada's east coast, west coast and the Great Lakes | [7]                                                 |
|    |                                       | 2001 (published) | English and Welsh ports                             | [4]                                                 |
| 57 | <i>Gymnodinium simplex</i> *          | 2000–2003        | Great Lakes                                         | This study                                          |
| 58 | <i>Gyrodiniellum shiwhaense</i> *     | 2000–2003        | Great Lakes and the Chesapeake Bay                  | This study                                          |
| 59 | <i>Gyrodinium dominans</i> *          | 2000–2003        | Chesapeake Bay                                      | This study                                          |
| 60 | <i>Gyrodinium heterogrammum</i> *     | 2000–2003        | Great Lakes and the Chesapeake Bay                  | This study                                          |
| 61 | <i>Gyrodinium rubrum</i> *            | 2000–2003        | Great Lakes and the Chesapeake Bay                  | This study                                          |
| 62 | <i>Gyrodinium spirale</i>             | 2000–2003        | Great Lakes                                         | This study                                          |
|    |                                       | 2003–2006        | Port of Tampa and Port Manatee                      | [3]                                                 |
| 63 | <i>Gyrodinium undulans</i> *          | 2000–2003        | Great Lakes                                         | This study                                          |
| 64 | <i>Heterocapsa minima</i> *           | 2000–2003        | Great Lakes                                         | This study                                          |
| 65 | <i>Heterocapsa rotundata</i>          | 2000–2003        | Great Lakes                                         | This study                                          |
|    |                                       | Aug–2003         | Finland                                             | [11]                                                |
|    |                                       | 2001 (published) | English and Welsh ports                             | Reported as <i>Katodinium rotundatum</i> [4]        |
| 66 | <i>Heterocapsa triquetra</i>          | 2000–2003        | Great Lakes                                         | This study                                          |
|    |                                       | 1995             | Estuary and Gulf of St. Lawrence                    | [10]                                                |
|    |                                       | 2001 (published) | English and Welsh ports                             | [4]                                                 |
| 67 | <i>Islandinium tricingulatum</i> *    | 2000–2003        | Great Lakes and the Chesapeake Bay                  | This study                                          |
| 68 | <i>Karenia cristata</i> *             | 2000–2003        | Great Lakes                                         | This study                                          |
| 69 | <i>Karenia papilionacea</i> *         | 2000–2003        | Great Lakes                                         | This study                                          |
| 70 | <i>Karlodinium antarcticum</i> *      | 2000–2003        | Great Lakes                                         | This study                                          |
| 71 | <i>Kryptoperidinium foliaceum</i>     | Aug–2003         | Finland                                             | [11]                                                |
| 72 | <i>Levanderina fissa</i> *            | 2000–2003        | Great Lakes and the Chesapeake Bay                  | This study                                          |
| 73 | <i>Lingulodinium polyedra</i>         | 2001–2002        | Great Lakes                                         | Reported as <i>Gonyaulax polyedra</i> [2]           |
|    |                                       | 2002–2003        | Great Lakes                                         | Reported as <i>Gonyaula polydra</i> [1]             |
|    |                                       | 1994             | Scottish ports                                      | Reported as <i>Lingulodinium machaerophorum</i> [5] |
|    |                                       | 1987–1990        | Australian ports                                    | [6]                                                 |
|    |                                       | 2001 (published) | English and Welsh ports                             | [4]                                                 |
| 74 | <i>Lingulodinium polyedrum</i>        | 2007–2009        | East coast of Canada                                | [9]                                                 |

|    |                                      |                  |                                                     |                                                   |
|----|--------------------------------------|------------------|-----------------------------------------------------|---------------------------------------------------|
|    |                                      | 2007–2009        | Canada's east coast, west coast and the Great Lakes | [7]                                               |
|    |                                      | 2003–2006        | Port of Tampa and Port Manatee                      | [3]                                               |
| 75 | <i>Margalefidinium fulvescens*</i>   | 2000–2003        | Great Lakes                                         | This study                                        |
| 76 | <i>Margalefidinium polykrikoides</i> | 2000–2003        | Great Lakes                                         | This study                                        |
|    |                                      | 2007–2009        | East coast of Canada                                | Reported as <i>Cochlodinium polykrikoides</i> [9] |
|    |                                      | 2007–2009        | Canada's east coast, west coast and the Great Lakes | Reported as <i>Cochlodinium polykrikoides</i> [7] |
| 77 | <i>Naiadinium polonicum*</i>         | 2000–2003        | Great Lakes                                         | This study                                        |
| 78 | <i>Oblea rotunda</i>                 | 2000–2003        | Great Lakes                                         | This study                                        |
|    |                                      | Aug–2003         | Finland                                             | [11]                                              |
|    |                                      | 2001 (published) | English and Welsh ports                             | [4]                                               |
| 79 | <i>Palatinus apiculatus*</i>         | 2000–2003        | Great Lakes                                         | This study                                        |
| 80 | <i>Pelagodinium béii*</i>            | 2000–2003        | Great Lakes and the Chesapeake Bay                  | This study                                        |
| 81 | <i>Pellucidodinium psammophilum*</i> | 2000–2003        | Great Lakes                                         | This study                                        |
| 82 | <i>Pentapharsodinium dalei</i>       | 2000–2003        | Great Lakes and the Chesapeake Bay                  | This study                                        |
|    |                                      | 2007–2009        | East coast of Canada                                | [9]                                               |
|    |                                      | 2007–2009        | Canada's east coast, west coast and the Great Lakes | [7]                                               |
|    |                                      | 2000 (published) | English and Welsh ports                             | [8]                                               |
|    |                                      | 2001 (published) | English and Welsh ports                             | [4]                                               |
|    |                                      | 1994             | Scottish ports                                      | [5]                                               |
| 83 | <i>Pentapharsodinium tyrrhenicum</i> | 2000–2003        | Great Lakes                                         | This study                                        |
|    |                                      | 2001 (published) | English and Welsh ports                             | [4]                                               |
| 84 | <i>Peridiniopsis borgei*</i>         | 2000–2003        | Great Lakes                                         | This study                                        |
| 85 | <i>Peridinium cinctum</i>            | 1995             | Estuary and Gulf of St. Lawrence                    | [10]                                              |
| 86 | <i>Polarella glacialis*</i>          | 2000–2003        | Great Lakes                                         | This study                                        |
| 87 | <i>Polykrikos geminatum*</i>         | 2000–2003        | Great Lakes                                         | This study                                        |

|    |                                  |                  |                                                     |                                                    |
|----|----------------------------------|------------------|-----------------------------------------------------|----------------------------------------------------|
| 88 | <i>Polykrikos hartmannii</i>     | 1994             | Scottish ports                                      | Reported as <i>Pheopolykrikos hartmannii</i> [5]   |
|    |                                  | 2001 (published) | English and Welsh ports                             | Reported as <i>Pheopolykrikos hartmannii</i> [4]   |
|    |                                  | 1987–1990        | Australian ports                                    | Reported as <i>Pheopolykrikos hartmannii</i> [6]   |
| 89 | <i>Polykrikos kofoidii</i>       | <b>2000–2003</b> | <b>Great Lakes and the Chesapeake Bay</b>           | <b>This study</b>                                  |
|    |                                  | 2007–2009        | Canada's east coast, west coast and the Great Lakes | [7]                                                |
|    |                                  | 1987–1990        | Australian ports                                    | [6]                                                |
| 90 | <i>Polykrikos schwartzii</i>     | 2007–2009        | East coast of Canada                                | [9]                                                |
|    |                                  | 2007–2009        | Canada's east coast, west coast and the Great Lakes | [7]                                                |
|    |                                  | 2002–2003        | Great Lakes                                         | [1]                                                |
|    |                                  | 1987–1990        | Australian ports                                    | [6]                                                |
|    |                                  | 2000 (published) | English and Welsh ports                             | [8]                                                |
|    |                                  | 2001–2002        | Great Lakes                                         | [2]                                                |
|    |                                  | 1994             | Scottish ports                                      | [5]                                                |
|    |                                  | 2001 (published) | English and Welsh ports                             | [4]                                                |
| 91 | <i>Preperidinium meunieri</i>    | 1995             | Estuary and Gulf of St. Lawrence                    | Reported as <i>Diplopeltopsis minor</i> [10]       |
|    |                                  | 2007–2009        | East coast of Canada                                | [9]                                                |
|    |                                  | 2007–2009        | Canada's east coast, west coast and the Great Lakes | [7]                                                |
|    |                                  | 2001 (published) | English and Welsh ports                             | Reported as <i>Preperidinium meuneri</i> [4]       |
|    |                                  | 1987–1990        | Australian ports                                    | Reported as <i>Zygabikodinium lenticulatum</i> [6] |
|    |                                  | 2000 (published) | England and Wales                                   | Reported as <i>Zygabikodinium lenticulatum</i> [8] |
| 92 | <i>Prorocentrum micans</i>       | <b>2000–2003</b> | <b>Great Lakes</b>                                  | <b>This study</b>                                  |
|    |                                  | 1995             | Estuary and Gulf of St. Lawrence                    | [10]                                               |
| 93 | <i>Protoceratium reticulatum</i> | 2001 (published) | English and Welsh ports                             | Reported as <i>Gonyaulax grindleyi</i> [4]         |
|    |                                  | 2001–2002        | Great Lakes                                         | Reported as <i>Gonyaulax grindleyi</i> [2]         |
|    |                                  | 1987–1990        | Australian ports                                    | [6]                                                |
|    |                                  | 2000 (published) | English and Welsh ports                             | [8]                                                |
|    |                                  | 2003–2006        | Port of Tampa and Port Manatee                      | [3]                                                |

|    |                                   |                  |                                                     |                                                    |
|----|-----------------------------------|------------------|-----------------------------------------------------|----------------------------------------------------|
| 94 | <i>Protoperidinium americanum</i> | 2007–2009        | Canada's east coast, west coast and the Great Lakes | [7]                                                |
|    |                                   | 2007–2009        | East coast of Canada                                | [9]                                                |
|    |                                   | 1994             | Scottish ports                                      | Reported as <i>Operculodinium centrocarpum</i> [5] |
|    |                                   | 2007–2009        | East coast of Canada                                | [9]                                                |
|    |                                   | 2007–2009        | Canada's east coast, west coast and the Great Lakes | [7]                                                |
| 95 | <i>Protoperidinium avellana</i>   | 1987–1990        | Australian ports                                    | [6]                                                |
|    |                                   | 2000 (published) | England and Wales                                   | [8]                                                |
|    |                                   | 2001 (published) | English and Welsh ports                             | [4]                                                |
|    |                                   | 2001–2002        | Great Lakes                                         | [2]                                                |
|    |                                   | 1987–1990        | Australian ports                                    | [6]                                                |
|    |                                   | 1994             | Scottish ports                                      | [5]                                                |
|    |                                   | 2007–2009        | East coast of Canada                                | [9]                                                |
| 96 | <i>Protoperidinium claudicans</i> | 2007–2009        | Canada's east coast, west coast and the Great Lakes | [7]                                                |
|    |                                   | 2001–2002        | Great Lakes                                         | [2]                                                |
|    |                                   | 2001–2002        | Great Lakes                                         | [2]                                                |
|    |                                   | 2007–2009        | Canada's east coast, west coast and the Great Lakes | [7]                                                |
| 97 | <i>Protoperidinium compressum</i> | 2007–2009        | East coast of Canada                                | [9]                                                |
|    |                                   | 2000 (published) | England and Wales                                   | [8]                                                |
|    |                                   | 1994             | Scottish ports                                      | [5]                                                |
|    |                                   | 2001 (published) | English and Welsh ports                             | [4]                                                |
|    |                                   | 2007–2009        | Canada's east coast, west coast and the Great Lakes | [7]                                                |
| 98 | <i>Protoperidinium conicoides</i> | 2007–2009        | East coast of Canada                                | [9]                                                |
|    |                                   | 1987–1990        | Australian ports                                    | [6]                                                |
|    |                                   | 2001–2002        | Great Lakes                                         | [2]                                                |
|    |                                   | 2007–2009        | East coast of Canada                                | [9]                                                |
|    |                                   | 2001 (published) | English and Welsh ports                             | [4]                                                |

|     |                                      |                  |                                                     |                                                  |
|-----|--------------------------------------|------------------|-----------------------------------------------------|--------------------------------------------------|
|     |                                      | 2007–2009        | Canada's east coast, west coast and the Great Lakes | [7]                                              |
| 99  | <i>Protoperidinium conicum</i>       | 2002–2003        | Great Lakes                                         | [1]                                              |
|     |                                      | 1987–1990        | Australian ports                                    | [6]                                              |
|     |                                      | 2000 (published) | English and Welsh ports                             | [8]                                              |
|     |                                      | 2001–2002        | Great Lakes                                         | [2]                                              |
|     |                                      | 1994             | Scottish ports                                      | [5]                                              |
|     |                                      | 1995             | Estuary and Gulf of St. Lawrence                    | [10]                                             |
|     |                                      | 2001 (published) | English and Welsh ports                             | [4]                                              |
|     |                                      | 2007–2009        | Canada's east coast, west coast and the Great Lakes | [7]                                              |
|     |                                      | 2007–2009        | East coast of Canada                                | [9]                                              |
| 100 | <i>Protoperidinium crassipes</i>     | 1995             | Estuary and Gulf of St. Lawrence                    | Reported as <i>Peridinium crassipes</i> [10]     |
| 101 | <i>Protoperidinium denticulatum</i>  | 1987–1990        | Australian ports                                    | [6]                                              |
|     |                                      | 2007–2009        | East coast of Canada                                | [9]                                              |
|     |                                      | 2007–2009        | Canada's east coast, west coast and the Great Lakes | [7]                                              |
|     |                                      | 2001–2002        | Great Lakes                                         | [2]                                              |
| 102 | <i>Protoperidinium divaricatum</i>   | 2001 (published) | English and Welsh ports                             | [4]                                              |
|     |                                      | 2001–2002        | Great Lakes                                         | [2]                                              |
| 103 | <i>Protoperidinium divergens</i>     | 2003–2006        | Port of Tampa and Port Manatee                      | [3]                                              |
|     |                                      | 1995             | Estuary and Gulf of St. Lawrence                    | [10]                                             |
|     |                                      | 1987–1990        | Australian ports                                    | [6]                                              |
| 104 | <i>Protoperidinium excentricum</i>   | 2002–2003        | Great Lakes                                         | [1]                                              |
|     |                                      | 1987–1990        | Australian ports                                    | [6]                                              |
|     |                                      | 2001–2002        | Great Lakes                                         | [2]                                              |
|     |                                      | 2001 (published) | English and Welsh ports                             | [4]                                              |
| 105 | <i>Protoperidinium expansum</i>      | 1987–1990        | Australian ports                                    | [6]                                              |
| 106 | <i>Protoperidinium groenlandicum</i> | Aug–2003         | Finland                                             | Reported as <i>Peridinium groenlandicum</i> [11] |
| 107 | <i>Protoperidinium latissimum</i>    | 2007–2009        | East coast of Canada                                | [9]                                              |

|     |                                    |                  |                                                     |            |
|-----|------------------------------------|------------------|-----------------------------------------------------|------------|
|     |                                    | 2007–2009        | Canada's east coast, west coast and the Great Lakes | [7]        |
| 108 | <i>Protoperidinium leonis</i>      | 2007–2009        | Canada's east coast, west coast and the Great Lakes | [7]        |
|     |                                    | 2002–2003        | Great Lakes                                         | [1]        |
|     |                                    | 1987–1990        | Australian ports                                    | [6]        |
|     |                                    | 2000 (published) | English and Welsh ports                             | [8]        |
|     |                                    | 2001–2002        | Great Lakes                                         | [2]        |
|     |                                    | 1994             | Scottish ports                                      | [5]        |
|     |                                    | 2007–2009        | East coast of Canada                                | [9]        |
|     |                                    | 2001 (published) | English and Welsh ports                             | [4]        |
| 109 | <i>Protoperidinium minutum</i>     | 2007–2009        | Canada's east coast, west coast and the Great Lakes | [7]        |
|     |                                    | 2000 (published) | English and Welsh ports                             | [8]        |
|     |                                    | 2001–2002        | Great Lakes                                         | [2]        |
|     |                                    | 2001 (published) | English and Welsh ports                             | [4]        |
|     |                                    | 1994             | Scottish ports                                      | [5]        |
| 110 | <i>Protoperidinium monovelum</i> * | 2000–2003        | Great Lakes                                         | This study |
| 111 | <i>Protoperidinium nudum</i>       | 2007–2009        | East coast of Canada                                | [9]        |
|     |                                    | 2007–2009        | Canada's east coast, west coast and the Great Lakes | [7]        |
|     |                                    | 2001–2002        | Great Lakes                                         | [2]        |
|     |                                    | 1987–1990        | Australian ports                                    | [6]        |
| 112 | <i>Protoperidinium oblongum</i>    | 2002–2003        | Great Lakes                                         | [1]        |
|     |                                    | 1987–1990        | Australian ports                                    | [6]        |
|     |                                    | 2000 (published) | England and Wales                                   | [8]        |
|     |                                    | 2001–2002        | Great Lakes                                         | [2]        |
|     |                                    | 1994             | Scottish ports                                      | [5]        |
|     |                                    | 2003–2006        | Port of Tampa and Port Manatee                      | [3]        |
|     |                                    | 2001 (published) | English and Welsh ports                             | [4]        |

|     |                                              |                  |                                                     |                                                   |
|-----|----------------------------------------------|------------------|-----------------------------------------------------|---------------------------------------------------|
|     |                                              | 2007–2009        | Canada's east coast, west coast and the Great Lakes | [7]                                               |
|     |                                              | 2007–2009        | East coast of Canada                                | [9]                                               |
| 113 | <i>Protoperidinium obtusum</i>               | 2007–2009        | Canada's east coast, west coast and the Great Lakes | [7]                                               |
| 114 | <i>Protoperidinium pellucidum</i>            | 1995             | Estuary and Gulf of St. Lawrence                    | [10]                                              |
| 115 | <i>Protoperidinium pentagonum</i>            | 1987–1990        | Australian ports                                    | [6]                                               |
|     |                                              | 2000 (published) | England and Wales                                   | [8]                                               |
|     |                                              | 1994             | Scottish ports                                      | [5]                                               |
|     |                                              | 2001 (published) | English and Welsh ports                             | [4]                                               |
|     |                                              | 2007–2009        | Canada's east coast, west coast and the Great Lakes | [7]                                               |
|     |                                              | 2007–2009        | East coast of Canada                                | [9]                                               |
| 116 | <i>Protoperidinium punctulatum</i>           | 1987–1990        | Australian ports                                    | [6]                                               |
|     |                                              | 2001–2002        | Great Lakes                                         | [2]                                               |
| 117 | <b><i>Protoperidinium steidingeriae</i>*</b> | <b>2000–2003</b> | <b>Great Lakes</b>                                  | <b>This study</b>                                 |
| 118 | <i>Protoperidinium stellatum</i>             | 2007–2009        | East coast of Canada                                | [9]                                               |
|     |                                              | 2007–2009        | Canada's east coast, west coast and the Great Lakes | [7]                                               |
| 119 | <i>Protoperidinium subinerme</i>             | 2003–2006        | Port of Tampa and Port Manatee                      | [3]                                               |
|     |                                              | 1987–1990        | Australian ports                                    | [6]                                               |
|     |                                              | 2001–2002        | Great Lakes                                         | [2]                                               |
|     |                                              | 2001 (published) | English and Welsh ports                             | [4]                                               |
|     |                                              | 2007–2009        | East coast of Canada                                | [9]                                               |
|     |                                              | 2002–2003        | Great Lakes                                         | Reported as <i>Protoperidinium sublinerme</i> [1] |
| 120 | <i>Protoperidinium thorianum</i>             | 2001–2002        | Great Lakes                                         | [2]                                               |
|     |                                              | 2007–2009        | Canada's east coast, west coast and the Great Lakes | [7]                                               |
| 121 | <i>Pyrocystis lunula</i>                     | 1987–1990        | Australian ports                                    | [6]                                               |
| 122 | <i>Pyrocystis pseudonociluca</i>             | 2001 (published) | English and Welsh ports                             | Reported as <i>Pyrocystis noctiluca</i> [4]       |

|     |                                   |                  |                                                     |                                                 |
|-----|-----------------------------------|------------------|-----------------------------------------------------|-------------------------------------------------|
| 123 | <i>Pyrodictum bahamense</i>       | 2007–2009        | Canada's east coast, west coast and the Great Lakes | [7]                                             |
| 124 | <i>Pyrophacus horologicum</i>     | 2001 (published) | English and Welsh ports                             | [4]                                             |
| 125 | <i>Pyrophacus steinii</i>         | 2003–2006        | Port of Tampa and Port Manatee                      | [3]                                             |
|     |                                   | 2007–2009        | Canada's east coast, west coast and the Great Lakes | [7]                                             |
|     |                                   | 2007–2009        | East coast of Canada                                | [9]                                             |
|     |                                   | 2001 (published) | English and Welsh ports                             | [4]                                             |
| 126 | <i>Qia lebouriae</i>              | 1987–1990        | Australian ports                                    | Reported as <i>Diplopsalis lebourae</i> [6]     |
| 127 | <i>Scrippsiella acuminata</i>     | 2000–2003        | <b>Great Lakes and the Chesapeake Bay</b>           | <b>This study</b>                               |
|     |                                   | 1987–1990        | Australian ports                                    | Reported as <i>Peridinium faeroense</i> [6]     |
|     |                                   | 2007–2009        | Canada's east coast, west coast and the Great Lakes | Reported as <i>Scrippsiella trochoidea</i> [7]  |
|     |                                   | 2002–2003        | Great Lakes                                         | Reported as <i>Scrippsiella trochoidea</i> [1]  |
|     |                                   | 1987–1990        | Australian ports                                    | Reported as <i>Scrippsiella trochoidea</i> [6]  |
|     |                                   | 2000 (published) | England and Wales                                   | Reported as <i>Scrippsiella trochoidea</i> [8]  |
|     |                                   | 2001–2002        | Great Lakes                                         | Reported as <i>Scrippsiella trochoidea</i> [2]  |
|     |                                   | 1994             | Scottish ports                                      | Reported as <i>Scrippsiella trochoidea</i> [5]  |
|     |                                   | 2007–2009        | East coast of Canada                                | Reported as <i>Scrippsiella trochoidea</i> [9]  |
|     |                                   | 1995             | Estuary and Gulf of St. Lawrence                    | Reported as <i>Scrippsiella trochoidea</i> [10] |
|     |                                   | 2001 (published) | English and Welsh ports                             | Reported as <i>Scrippsiella trochoidea</i> [4]  |
| 128 | <i>Scrippsiella crystallina</i>   | 2001–2002        | Great Lakes                                         | [2]                                             |
|     |                                   | 2001 (published) | English and Welsh ports                             | [4]                                             |
|     |                                   | 1994             | Scottish ports                                      | [5]                                             |
| 129 | <i>Scrippsiella donghaiensis*</i> | 2000–2003        | <b>Great Lakes</b>                                  | <b>This study</b>                               |
| 130 | <i>Scrippsiella lachrymosa</i>    | 2000 (published) | England and Wales                                   | [8]                                             |
|     |                                   | 1994             | Scottish ports                                      | [5]                                             |
|     |                                   | 2001 (published) | English and Welsh ports                             | [4]                                             |
|     |                                   | 2007–2009        | Canada's east coast, west coast and the Great Lakes | [7]                                             |

|     |                                 |                  |                                           |                                           |
|-----|---------------------------------|------------------|-------------------------------------------|-------------------------------------------|
|     |                                 | 2001–2002        | Great Lakes                               | [2]                                       |
| 131 | <i>Scrippsiella precaria</i>    | 1987–1990        | Australian ports                          | [6]                                       |
|     |                                 | 1994             | Scottish ports                            | [5]                                       |
| 132 | <i>Scrippsiella rotunda</i>     | 1994             | Scottish ports                            | [5]                                       |
|     |                                 | 2001 (published) | English and Welsh ports                   | [4]                                       |
| 133 | <i>Scrippsiella sweeneyae</i> * | 2000–2003        | <b>Great Lakes</b>                        | <b>This study</b>                         |
| 134 | <i>Scrippsiella trifida</i>     | 1994             | Scottish ports                            | [5]                                       |
|     |                                 | 2001 (published) | English and Welsh ports                   | [4]                                       |
| 135 | <i>Takayama acrotrocha</i> *    | 2000–2003        | <b>Great Lakes</b>                        | <b>This study</b>                         |
| 136 | <i>Takayama helix</i> *         | 2000–2003        | <b>Great Lakes</b>                        | <b>This study</b>                         |
| 137 | <i>Tovellia sanguinea</i> *     | 2000–2003        | <b>Great Lakes</b>                        | <b>This study</b>                         |
| 138 | <i>Tripos fusus</i>             | 1995             | Estuary and Gulf of St. Lawrence          | Reported as <i>Ceratium fusus</i> [10]    |
| 139 | <i>Tripos longipes</i>          | 1995             | Estuary and Gulf of St. Lawrence          | Reported as <i>Ceratium longipes</i> [10] |
| 140 | <i>Tyrannodinium edax</i> *     | 2000–2003        | <b>Great Lakes and the Chesapeake Bay</b> | <b>This study</b>                         |
| 141 | <i>Vulcanodinium rugosum</i>    | Jul–2004         | Port Tampa Bay, Florida, USA              | [12]                                      |
| 142 | <i>Woloszynskia pascheri</i> *  | 2000–2003        | <b>Great Lakes and the Chesapeake Bay</b> | <b>This study</b>                         |

The synonyms of the species were checked according to the information provided by AlgaeBase (<http://www.algaebase.org>). Species reported in this study were in bold. Species first reported in ballast tank sediments in this study were marked with an asterisk.

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Table S9. Dinoflagellate species reported in ships' ballast water.

| No. | Species                            | Sampling Time   | Sampling Port                         | References                                     |
|-----|------------------------------------|-----------------|---------------------------------------|------------------------------------------------|
| 1   | <i>Akashiwo sanguinea</i>          | 2007–2009       | South Korean ports                    | [1]                                            |
|     |                                    | 1997–2006       | Bilbao Harbour, Spain                 | [2]                                            |
|     |                                    | 2002–2004       | Ports on the U.S. East and West Coast | Reported as <i>Akashiwo sanguineum</i> [3]     |
|     |                                    | 2007–2009       | West and east coasts of Canada        | Reported as <i>Akashiwo sanguineum</i> [4]     |
| 2   | <i>Alexandrium balechii</i>        | 2003–2006       | Port of Tampa and Port Manatee        | [5]                                            |
| 3   | <i>Alexandrium minutum</i>         | 2007–2009       | West and east coasts of Canada        | [4]                                            |
|     |                                    | 1997–2006       | Bilbao Harbour, Spain                 | [2]                                            |
|     |                                    | 2015            | Adriatic ports                        | [6]                                            |
| 4   | <i>Alexandrium monilatum</i>       | 2007/05–2010/03 | Port of Houston, Texas (USA)          | [7]                                            |
| 5   | <i>Alexandrium ostenfeldii</i>     | 2007–2009       | West and east coasts of Canada        | [4]                                            |
| 6   | <i>Alexandrium pacificum</i>       | 1996–1997       | Hongkong, China                       | Reported as <i>Alexandrium catenella</i> [8]   |
|     |                                    | 2007–2008       | Patagonian ports, Argentina           | Reported as <i>Alexandrium catenella</i> [9]   |
| 7   | <i>Alexandrium pseudogonyaulax</i> | 2007–2009       | Ports of eastern Canada               | [10]                                           |
|     |                                    | 2007–2009       | West and east coasts of Canada        | [4]                                            |
| 8   | <i>Alexandrium tamarense</i>       | 2007–2009       | Ports of eastern Canada               | [10]                                           |
|     |                                    | 2007–2008       | Patagonian ports, Argentina           | [9]                                            |
|     |                                    | 2007–2009       | West and east coasts of Canada        | [4]                                            |
|     |                                    | 2013–2014       | Port of Annaba, Algeria               | [11]                                           |
| 9   | <i>Amphidinium acutum</i>          | 2003            | Slovenian Sea                         | [12]                                           |
| 10  | <i>Amphidinium sphenoides</i>      | 2007–2009       | Ports of eastern Canada               | [10]                                           |
|     |                                    | 2007–2009       | West and east coasts of Canada        | [4]                                            |
| 11  | <i>Amylax triacantha</i>           | 2007–2009       | West and east coasts of Canada        | [4]                                            |
|     |                                    | 2007–2009       | Ports of eastern Canada               | [10]                                           |
| 12  | <i>Apocalathium aciculiferum</i>   | 2002–2004       | Ports on the U.S. East and West Coast | Reported as <i>Peridinium aciculiferum</i> [3] |

|    |                                  |                       |                                                     |                                                  |
|----|----------------------------------|-----------------------|-----------------------------------------------------|--------------------------------------------------|
| 13 | <i>Apocalathium malmogiense</i>  | 1998/07/22–1998/08/27 | Open Atlantic Coast of Europe                       | Reported as <i>Scrippsiella hangoi</i> [13]      |
| 14 | <i>Archaeoperidinium minutum</i> | 2007–2009             | Ports of eastern Canada                             | Reported as <i>Protoperidinium minutum</i> [10]  |
|    |                                  | 2007–2009             | West and east coasts of Canada                      | Reported as <i>Protoperidinium minutum</i> [4]   |
| 15 | <i>Barrufeta resplendens</i>     | 2007–2009             | West and east coasts of Canada                      | Reported as <i>Gyrodinium resplendens</i> [4]    |
| 16 | <i>Ceratium fusus</i>            | 1996–1997             | Hongkong, China                                     | Reported as <i>Ceratium fusus</i> [8]            |
| 17 | <i>Ceratium arcticum</i>         | 2007–2009             | Ports of eastern Canada                             | Reported as <i>Neoceratium arcticum</i> [10]     |
| 18 | <i>Ceratium contrarium</i>       | 1995                  | Estuary and Gulf of St. Lawrence                    | [14]                                             |
| 19 | <i>Ceratium declinatum</i>       | 1995                  | Estuary and Gulf of St. Lawrence                    | [14]                                             |
| 20 | <i>Ceratium falcatum</i>         | 1995                  | Estuary and Gulf of St. Lawrence                    | [14]                                             |
| 21 | <i>Ceratium furca</i>            | 2010                  | Ulsan and Onsan ports, Korea                        | [15]                                             |
|    |                                  | 2002–2004             | Ports on the U.S. East and West Coast               | [3]                                              |
|    |                                  | 2003                  | Slovenian Sea                                       | [12]                                             |
|    |                                  | 2003–2006             | Port of Tampa and Port Manatee                      | [5]                                              |
|    |                                  | 1995                  | Estuary and Gulf of St. Lawrence                    | [14]                                             |
|    |                                  | 2007–2009             | South Korean ports                                  | [1]                                              |
|    |                                  | 2010–2012             | France                                              | [16]                                             |
|    |                                  | 1990–1991             | Laurentian Great Lakes and upper St. Lawrence River | [17]                                             |
|    |                                  | 2007–2008             | Patagonian ports, Argentina                         | [9]                                              |
|    |                                  | 2007–2008             | Patagonian ports, Argentina                         | [9]                                              |
| 22 | <i>Ceratium gibberum</i>         | 1995                  | Estuary and Gulf of St. Lawrence                    | [14]                                             |
|    |                                  | 2007–2008             | Patagonian ports, Argentina                         | [9]                                              |
|    |                                  | 2007–2009             | West and east coasts of Canada                      | [4]                                              |
| 23 | <i>Ceratium hirundinella</i>     | 2013–2014             | Strait of Gibraltar and Deception Bay, Canada       | Reported as <i>Neoceratium hyrundinella</i> [18] |
|    |                                  | 2007–2009             | West and east coasts of Canada                      | [4]                                              |
| 24 | <i>Ceratium horridum</i>         | 2003                  | Slovenian Sea                                       | [12]                                             |
|    |                                  | 1995                  | Estuary and Gulf of St. Lawrence                    | [14]                                             |
|    |                                  | 2007–2009             | South Korean ports                                  | [1]                                              |
|    |                                  | 2007–2008             | Patagonian ports, Argentina                         | [9]                                              |
| 25 | <i>Ceratium inflatum</i>         | 2007–2009             | Ports of eastern Canada                             | Reported as <i>Neoceratium inflatum</i> [10]     |
| 26 | <i>Ceratium lineatum</i>         | 2007–2009             | Ports of eastern Canada                             | Reported as <i>Neoceratium lineatum</i> [10]     |
| 27 | <i>Ceratium longirostrum</i>     | 1995                  | Estuary and Gulf of St. Lawrence                    | [14]                                             |

|    |                                     |                       |                                                     |                                                   |
|----|-------------------------------------|-----------------------|-----------------------------------------------------|---------------------------------------------------|
|    |                                     | 2007–2009             | Ports of eastern Canada                             | Reported as <i>Neoceratium longirostrum</i> [10]  |
| 28 | <i>Ceratium massiliense</i>         | 1995                  | Estuary and Gulf of St. Lawrence                    | [14]                                              |
|    |                                     | 2007–2008             | Patagonian ports, Argentina                         | [9]                                               |
| 29 | <i>Ceratium symmetricum</i>         | 1995                  | Estuary and Gulf of St. Lawrence                    | [14]                                              |
| 30 | <i>Ceratium trichoceros</i>         | 2003–2006             | Port of Tampa and Port Manatee                      | [5]                                               |
|    |                                     | 1995                  | Estuary and Gulf of St. Lawrence                    | [14]                                              |
| 31 | <i>Ceratium tripos</i>              | 2002–2004             | Ports on the U.S. East and West Coast               | [3]                                               |
|    |                                     | 1995                  | Estuary and Gulf of St. Lawrence                    | [14]                                              |
|    |                                     | 2007–2009             | South Korean ports                                  | [1]                                               |
|    |                                     | 2010–2012             | France                                              | [16]                                              |
|    |                                     | 2007–2008             | Patagonian ports, Argentina                         | [9]                                               |
| 32 | <i>Corythodinium diploconus</i>     | 2007–2009             | West and east coasts of Canada                      | [4]                                               |
|    |                                     | 2007–2009             | Ports of eastern Canada                             | [10]                                              |
| 33 | <i>Corythodinium curvicaudatum</i>  | 2007–2009             | West and east coasts of Canada                      | [4]                                               |
|    |                                     | 2007–2009             | Ports of eastern Canada                             | [10]                                              |
| 34 | <i>Corythodinium diploconus</i>     | 1990–1991             | Laurentian Great Lakes and upper St. Lawrence River | Reported as <i>Corythodinium diplococcus</i> [17] |
| 35 | <i>Corythodinium frenguelli</i>     | 2007–2009             | West and east coasts of Canada                      | Reported as <i>Oxytoxum frenguelli</i> [4]        |
| 36 | <i>Corythodinium michaelisarsii</i> | 2007–2009             | West and east coasts of Canada                      | Reported as <i>Oxytoxum michaelisarsii</i> [4]    |
| 37 | <i>Cucumeridinium coeruleum</i>     | 2002–2004             | Ports on the U.S. East and West Coast               | Reported as <i>Balechina coerulea</i> [3]         |
| 38 | <i>Dinophysis acuminata</i>         | 2007–2008             | Patagonian ports, Argentina                         | [9]                                               |
|    |                                     | 2002–2004             | Ports on the U.S. East and West Coast               | [3]                                               |
|    |                                     | 2010–2012             | France                                              | [16]                                              |
|    |                                     | 1998/07/22–1998/08/27 | Open Atlantic Coast of Europe                       | [13]                                              |
|    |                                     | 1990–1991             | Laurentian Great Lakes and upper St. Lawrence River | [17]                                              |
|    |                                     | 2007                  | Vladivostok Port                                    | [19]                                              |
|    |                                     | 2004/2005/2007        | Novorossiysk, Russia                                | [20]                                              |
|    |                                     | 2007–2008             | Patagonian ports, Argentina                         | [9]                                               |
|    |                                     | 2007–2008             | Patagonian ports, Argentina                         | [9]                                               |
|    |                                     | 1997–2006             | Bilbao Harbour, Spain                               | [2]                                               |

|    |                             |           |                                                     |                                               |
|----|-----------------------------|-----------|-----------------------------------------------------|-----------------------------------------------|
| 39 | <i>Dinophysis acuta</i>     | 2007–2009 | West and east coasts of Canada                      | [4]                                           |
|    |                             | 2007–2009 | Ports of eastern Canada                             | [10]                                          |
|    |                             | 2008      | Tunisian harbours of La Goulette and Bizerte        | [21]                                          |
|    |                             | 2013–2014 | Port of Annaba, Algeria                             | [11]                                          |
|    |                             | 2007–2008 | Patagonian ports, Argentina                         | Reported as <i>Dinophysis lachmanni</i> [9]   |
|    |                             | 2013–2014 | Strait of Gibraltar and Deception Bay, Canada       | [18]                                          |
|    |                             | 2010–2012 | France                                              | [16]                                          |
|    |                             | 1997–2006 | Bilbao Harbour, Spain                               | [2]                                           |
|    |                             | 2007–2009 | West and east coasts of Canada                      | [4]                                           |
|    |                             | 2007–2009 | Ports of eastern Canada                             | [10]                                          |
| 40 | <i>Dinophysis caudata</i>   | 2007–2009 | West and east coasts of Canada                      | Reported as <i>Dinophysis dens</i> [4]        |
|    |                             | 2007–2009 | Ports of eastern Canada                             | Reported as <i>Dinophysis dens</i> [10]       |
|    |                             | 2002–2004 | Ports on the U.S. East and West Coast               | [3]                                           |
|    |                             | 2010–2012 | France                                              | [16]                                          |
|    |                             | 2007–2008 | Patagonian ports, Argentina                         | [9]                                           |
|    |                             | 1997–2006 | Bilbao Harbour, Spain                               | [2]                                           |
|    |                             | 1996–1997 | Hongkong, China                                     | [8]                                           |
|    |                             | 2007–2009 | West and east coasts of Canada                      | [4]                                           |
|    |                             | 2007–2009 | Ports of eastern Canada                             | [10]                                          |
|    |                             | 2015      | Adriatic ports                                      | [6]                                           |
| 41 | <i>Dinophysis contract</i>  | 2007–2009 | Ports of eastern Canada                             | Reported as <i>Phalacroma contractum</i> [10] |
|    |                             | 2007–2009 | West and east coasts of Canada                      | [4]                                           |
| 42 | <i>Dinophysis fortii</i>    | 1997–2006 | Bilbao Harbour, Spain                               | [2]                                           |
|    |                             | 2010–2012 | France                                              | [16]                                          |
|    |                             | 2007–2009 | West and east coasts of Canada                      | [4]                                           |
| 43 | <i>Dinophysis norvegica</i> | 2007–2009 | Ports of eastern Canada                             | [10]                                          |
|    |                             | 2013–2014 | Strait of Gibraltar and Deception Bay, Canada       | [18]                                          |
|    |                             | 1995      | Estuary and Gulf of St. Lawrence                    | [14]                                          |
|    |                             | 1990–1991 | Laurentian Great Lakes and upper St. Lawrence River | [17]                                          |
|    |                             | 2007–2009 | West and east coasts of Canada                      | [4]                                           |

|    |                                 |           |                                                     |                                               |
|----|---------------------------------|-----------|-----------------------------------------------------|-----------------------------------------------|
|    |                                 | 2007–2009 | Ports of eastern Canada                             | [10]                                          |
| 44 | <i>Dinophysis odiosa</i>        | 2007–2009 | West and east coasts of Canada                      | [4]                                           |
|    |                                 | 2007–2009 | Ports of eastern Canada                             | [10]                                          |
| 45 | <i>Dinophysis ovum</i>          | 2007–2009 | Ports of eastern Canada                             | [10]                                          |
|    |                                 | 1990–1991 | Laurentian Great Lakes and upper St. Lawrence River | [17]                                          |
|    |                                 | 2007–2009 | West and east coasts of Canada                      | [4]                                           |
| 46 | <i>Dinophysis parva</i>         | 2007–2009 | West and east coasts of Canada                      | [4]                                           |
| 47 | <i>Dinophysis pulchella</i>     | 2007–2009 | West and east coasts of Canada                      | Reported as <i>Phalacroma pulchellum</i> [4]  |
|    |                                 | 2007–2009 | Ports of eastern Canada                             | Reported as <i>Phalacroma pulchellum</i> [10] |
| 48 | <i>Dinophysis sacculus</i>      | 2010–2012 | France                                              | [16]                                          |
|    |                                 | 2015      | Adriatic ports                                      | [6]                                           |
| 49 | <i>Dinophysis simplex</i>       | 2007–2009 | Ports of eastern Canada                             | [10]                                          |
|    |                                 | 2007–2009 | West and east coasts of Canada                      | [4]                                           |
| 50 | <i>Dinophysis tripos</i>        | 1990–1991 | Laurentian Great Lakes and upper St. Lawrence River | [17]                                          |
|    |                                 | 2007–2008 | Patagonian ports, Argentina                         | [9]                                           |
|    |                                 | 2007–2009 | West and east coasts of Canada                      | [4]                                           |
|    |                                 | 2007–2009 | Ports of eastern Canada                             | [10]                                          |
| 51 | <i>Dinophysis acuminata</i>     | 2003      | Slovenian Sea                                       | [12]                                          |
|    |                                 | 2013–2014 | Port of Annaba, Algeria                             | [11]                                          |
| 52 | <i>Diplopsalis lenticula</i>    | 2007–2009 | South Korean ports                                  | [1]                                           |
|    |                                 | 2007–2009 | West and east coasts of Canada                      | [4]                                           |
|    |                                 | 2007–2009 | Ports of eastern Canada                             | [10]                                          |
| 53 | <i>Diplopsalopsis bomba</i>     | 2007–2009 | West and east coasts of Canada                      | [4]                                           |
|    |                                 | 2007–2009 | Ports of eastern Canada                             | [10]                                          |
| 54 | <i>Dissodinium pseudocalani</i> | 1995      | Estuary and Gulf of St. Lawrence                    | [14]                                          |
| 55 | <i>Dissodinium pseudolunula</i> | 1995      | Estuary and Gulf of St. Lawrence                    | [14]                                          |
|    |                                 | 1990–1991 | Laurentian Great Lakes and upper St. Lawrence River | [17]                                          |
|    |                                 | 2007–2009 | West and east coasts of Canada                      | [4]                                           |

|    |                              |                 |                                               |                                            |
|----|------------------------------|-----------------|-----------------------------------------------|--------------------------------------------|
| 56 | <i>Exuviella pusilla</i>     | 2007/05–2010/03 | Port of Houston, Texas (USA)                  | [7]                                        |
| 57 | <i>Gambierdiscus toxicus</i> | 2002–2004       | Ports on the U.S. East and West Coast         | [3]                                        |
| 58 | <i>Goniodoma sphaericum</i>  | 2007–2009       | West and east coasts of Canada                | [4]                                        |
|    |                              | 2007–2009       | Ports of eastern Canada                       | [10]                                       |
| 59 | <i>Gonyaulax alaskensis</i>  | 2007–2009       | West and east coasts of Canada                | [4]                                        |
|    |                              | 2007–2009       | Ports of eastern Canada                       | [10]                                       |
| 60 | <i>Gonyaulax diegensis</i>   | 2007–2009       | South Korean ports                            | [1]                                        |
|    |                              | 2007–2009       | West and east coasts of Canada                | [4]                                        |
|    |                              | 2007–2009       | Ports of eastern Canada                       | [10]                                       |
| 61 | <i>Gonyaulax digitalis</i>   | 2007–2009       | Ports of eastern Canada                       | [10]                                       |
|    |                              | 2003–2006       | Port of Tampa and Port Manatee                | [5]                                        |
|    |                              | 2007–2008       | Patagonian ports, Argentina                   | [9]                                        |
|    |                              | 2007–2009       | West and east coasts of Canada                | [4]                                        |
| 62 | <i>Gonyaulax fragilis</i>    | 2015            | Adriatic ports                                | [6]                                        |
| 63 | <i>Gonyaulax polygramma</i>  | 2003–2006       | Port of Tampa and Port Manatee                | [5]                                        |
|    |                              | 2007–2009       | West and east coasts of Canada                | [4]                                        |
|    |                              | 2007–2009       | Ports of eastern Canada                       | [10]                                       |
| 64 | <i>Gonyaulax rostratum</i>   | 1995            | Estuary and Gulf of St. Lawrence              | Reported as <i>Gonyauln rostratum</i> [14] |
| 65 | <i>Gonyaulax scrippsae</i>   | 2007–2009       | West and east coasts of Canada                | [4]                                        |
|    |                              | 2007–2009       | Ports of eastern Canada                       | [10]                                       |
| 66 | <i>Gonyaulax spinifera</i>   | 2007–2009       | Ports of eastern Canada                       | [10]                                       |
|    |                              | 2013–2014       | Strait of Gibraltar and Deception Bay, Canada | [18]                                       |
|    |                              | 2002–2004       | Ports on the U.S. East and West Coast         | [3]                                        |
|    |                              | 2003–2006       | Port of Tampa and Port Manatee                | [5]                                        |
|    |                              | 2007–2009       | West and east coasts of Canada                | [4]                                        |
|    |                              | 2013–2014       | Port of Annaba, Algeria                       | [11]                                       |
| 67 | <i>Gonyaulax verior</i>      | 2007–2009       | Ports of eastern Canada                       | [10]                                       |
|    |                              | 2007–2009       | West and east coasts of Canada                | [4]                                        |
| 68 | <i>Gymnodinium albulum</i>   | 1996/04–1996/09 | Israeli Mediterranean ports                   | [22]                                       |
| 69 | <i>Gymnodinium aureolum</i>  | 2007–2009       | West and east coasts of Canada                | [4]                                        |
|    |                              | 2007–2009       | Ports of eastern Canada                       | [10]                                       |

|    |                              |                 |                                                              |      |
|----|------------------------------|-----------------|--------------------------------------------------------------|------|
| 70 | <i>Gymnodinium catenatum</i> | 2013–2014       | Port of Annaba, Algeria                                      | [11] |
| 71 | <i>Gymnodinium galeatum</i>  | 2007–2009       | Ports of eastern Canada                                      | [10] |
|    |                              | 2007–2009       | West and east coasts of Canada                               | [4]  |
| 72 | <i>Gymnodinium simplex</i>   | 2007            | Vladivostok Port                                             | [19] |
|    |                              | 2004/2005/2007  | Novorossiysk, Russia                                         | [20] |
| 73 | <i>Gymnodinium variabile</i> | 2007–2009       | West and east coasts of Canada                               | [4]  |
|    |                              | 2007–2009       | Ports of eastern Canada                                      | [10] |
| 74 | <i>Gyrodinium crassum</i>    | 2007–2009       | Ports of eastern Canada                                      | [10] |
|    |                              | 2007–2009       | West and east coasts of Canada                               | [4]  |
| 75 | <i>Gyrodinium dominans</i>   | 2008/06–2009/05 | Texas coast and opens into the Gulf of Mexico, United States | [23] |
| 76 | <i>Gyrodinium estuariale</i> | 2007–2009       | West and east coasts of Canada                               | [4]  |
| 77 | <i>Gyrodinium fusiforme</i>  | 2013–2014       | Strait of Gibraltar and Deception Bay, Canada                | [18] |
|    |                              | 2007            | Vladivostok Port                                             | [19] |
|    |                              | 2004/2005/2007  | Novorossiysk, Russia                                         | [20] |
| 78 | <i>Gyrodinium fusus</i>      | 2007–2009       | Ports of eastern Canada                                      | [10] |
|    |                              | 2007–2009       | West and east coasts of Canada                               | [4]  |
| 79 | <i>Gyrodinium lachryma</i>   | 1990–1991       | Laurentian Great Lakes and upper St. Lawrence River          | [17] |
|    |                              | 2007            | Vladivostok Port                                             | [19] |
|    |                              | 2004/2005/2007  | Novorossiysk, Russia                                         | [20] |
| 80 | <i>Gyrodinium pepo</i>       | 2007–2009       | West and east coasts of Canada                               | [4]  |
|    |                              | 2007–2009       | Ports of eastern Canada                                      | [10] |
| 81 | <i>Gyrodinium pingue</i>     | 2007–2009       | West and east coasts of Canada                               | [4]  |
|    |                              | 2003–2006       | Port of Tampa and Port Manatee                               | [5]  |
| 82 | <i>Gyrodinium spirale</i>    | 2007–2009       | Ports of eastern Canada                                      | [10] |
|    |                              | 2007–2009       | West and east coasts of Canada                               | [4]  |
|    |                              | 2007–2008       | Patagonian ports, Argentina                                  | [9]  |
| 83 | <i>Heterocapsa minima</i>    | 2015            | Adriatic ports                                               | [6]  |
| 84 | <i>Heterocapsa niei</i>      | 2015            | Adriatic ports                                               | [6]  |
| 85 | <i>Heterocapsa rotundata</i> | 2002–2004       | Ports on the U.S. East and West Coast                        | [3]  |

|    |                                   |                       |                                                              |                                               |
|----|-----------------------------------|-----------------------|--------------------------------------------------------------|-----------------------------------------------|
|    |                                   | 2007/05–2010/03       | Port of Houston, Texas (USA)                                 | [7]                                           |
|    |                                   | 2008/06–2009/05       | Texas coast and opens into the Gulf of Mexico, United States | [23]                                          |
| 86 | <i>Heterocapsa triquetra</i>      | 2013–2014             | Strait of Gibraltar and Deception Bay, Canada                | [18]                                          |
|    |                                   | 2007–2009             | Ports of eastern Canada                                      | [10]                                          |
|    |                                   | 2002–2004             | Ports on the U.S. East and West Coast                        | [3]                                           |
|    |                                   | 1998/07/22–1998/08/27 | Open Atlantic Coast of Europe                                | [13]                                          |
|    |                                   | 2007–2009             | West and east coasts of Canada                               | [4]                                           |
|    |                                   | 2007–2008             | Patagonian ports, Argentina                                  | [9]                                           |
|    |                                   | 1997–2006             | Bilbao Harbour, Spain                                        | [2]                                           |
| 87 | <i>Islandinium minutum</i>        | 2013–2014             | Port of Annaba, Algeria                                      | [11]                                          |
| 88 | <i>Karenia mikimotoi</i>          | 1997–2006             | Bilbao Harbour, Spain                                        | [2]                                           |
| 89 | <i>Karenia papilionacea</i>       | 1997–2006             | Bilbao Harbour, Spain                                        | [2]                                           |
| 90 | <i>Karlodinium australe</i>       | 2002–2004             | Ports on the U.S. East and West Coast                        | [3]                                           |
| 91 | <i>Karlodinium decipiens</i>      | 1997–2006             | Bilbao Harbour, Spain                                        | [2]                                           |
| 92 | <i>Karlodinium veneficum</i>      | 2002–2004             | Ports on the U.S. East and West Coast                        | [3]                                           |
|    |                                   | 1997–2006             | Bilbao Harbour, Spain                                        | [2]                                           |
|    |                                   | 2003–2006             | Port of Tampa and Port Manatee                               | [5]                                           |
| 93 | <i>Kofoedinium velloides</i>      | 2007–2009             | West and east coasts of Canada                               | [4]                                           |
|    |                                   | 2007–2009             | Ports of eastern Canada                                      | [10]                                          |
| 94 | <i>Kryptoperidinium foliaceum</i> | 2003–2006             | Port of Tampa and Port Manatee                               | [5]                                           |
| 95 | <i>Lebouridinium glaucum</i>      | 2003–2006             | Port of Tampa and Port Manatee                               | Reported as <i>Katodinium glaucum</i> [5]     |
|    |                                   | 2007                  | Vladivostok Port                                             | Reported as <i>Katodinium glaucum</i> [19]    |
|    |                                   | 2004/2005/2007        | Novorossiysk, Russia                                         | Reported as <i>Katodinium glaucum</i> [20]    |
|    |                                   | 2007–2009             | West and east coasts of Canada                               | Reported as <i>Katodinium glaucum</i> [4]     |
| 96 | <i>Lingulodinium polyedrum</i>    | 2002–2004             | Ports on the U.S. East and West Coast                        | [3]                                           |
|    |                                   | 1997–2006             | Bilbao Harbour, Spain                                        | [2]                                           |
|    |                                   | 2003–2006             | Port of Tampa and Port Manatee                               | [5]                                           |
|    |                                   | 2007–2009             | West and east coasts of Canada                               | [4]                                           |
|    |                                   | 2007–2009             | West and east coasts of Canada                               | Reported as <i>Lingulodinium polyedra</i> [4] |
|    |                                   | 2013–2014             | Port of Annaba, Algeria                                      | [11]                                          |

|     |                                 |                       |                                                     |                                         |
|-----|---------------------------------|-----------------------|-----------------------------------------------------|-----------------------------------------|
| 97  | <i>Noctiluca scintillans</i>    | 2004/2005/2007        | Novorossiysk, Russia                                | [20]                                    |
|     |                                 | 2007–2008             | Patagonian ports, Argentina                         | [9]                                     |
|     |                                 | 1997–2006             | Bilbao Harbour, Spain                               | [2]                                     |
|     |                                 | 2004 – 2005           | Port of Novorossiysk in Russia                      | [24]                                    |
|     |                                 | 2006–2008             | Canadian ports                                      | [25]                                    |
|     |                                 | 2013–2014             | Port of Annaba, Algeria                             | [11]                                    |
|     |                                 | 2015                  | Adriatic ports                                      | [6]                                     |
| 98  | <i>Oblea baculifera</i>         | 2007–2008             | Patagonian ports, Argentina                         | [9]                                     |
| 99  | <i>Oblea rotunda</i>            | 2007–2009             | Ports of eastern Canada                             | [10]                                    |
|     |                                 | 1998/07/22–1998/08/27 | Open Atlantic Coast of Europe                       | [13]                                    |
|     |                                 | 2007–2009             | West and east coasts of Canada                      | [4]                                     |
|     |                                 | 2007                  | Vladivostok Port                                    | Reported as <i>Oblea rotundata</i> [19] |
|     |                                 | 2004/2005/2007        | Novorossiysk, Russia                                | Reported as <i>Oblea rotundata</i> [20] |
| 100 | <i>Ornithocercus magnificus</i> | 2002–2004             | Ports on the U.S. East and West Coast               | [3]                                     |
| 101 | <i>Ostreopsis siamensis</i>     | 1997–2006             | Bilbao Harbour, Spain                               | [2]                                     |
| 102 | <i>Oxyrrhis marina</i>          | 2002–2004             | Ports on the U.S. East and West Coast               | [3]                                     |
| 103 | <i>Oxytoxum caudatum</i>        | 2015                  | Adriatic ports                                      | [6]                                     |
| 104 | <i>Oxytoxum laticeps</i>        | 2007–2009             | Ports of eastern Canada                             | [10]                                    |
|     |                                 | 1990–1991             | Laurentian Great Lakes and upper St. Lawrence River | [17]                                    |
|     |                                 | 2007–2009             | West and east coasts of Canada                      | [4]                                     |
| 105 | <i>Oxytoxum longiceps</i>       | 2015                  | Adriatic ports                                      | [6]                                     |
| 106 | <i>Oxytoxum michaelsarsii</i>   | 2007–2009             | Ports of eastern Canada                             | [10]                                    |
| 107 | <i>Oxytoxum milneri</i>         | 1990–1991             | Laurentian Great Lakes and upper St. Lawrence River | [17]                                    |
|     |                                 |                       |                                                     |                                         |
| 108 | <i>Oxytoxum scolopax</i>        | 2007–2009             | West and east coasts of Canada                      | [4]                                     |
|     |                                 | 2007–2009             | Ports of eastern Canada                             | [10]                                    |
| 109 | <i>Oxytoxum viride</i>          | 2015                  | Adriatic ports                                      | [6]                                     |
| 110 | <i>Peridiniella danica</i>      | 2002–2004             | Ports on the U.S. East and West Coast               | [3]                                     |
| 111 | <i>Peridinium ovatum</i>        | 1990–1991             | Laurentian Great Lakes and upper St. Lawrence River | [17]                                    |

|     |                                  |                 |                                                     |                                                  |
|-----|----------------------------------|-----------------|-----------------------------------------------------|--------------------------------------------------|
| 112 | <i>Peridinium pellucidum</i>     | 1990–1991       | Laurentian Great Lakes and upper St. Lawrence River | [17]                                             |
| 113 | <i>Peridinium quadridentatum</i> | 2007–2009       | West and east coasts of Canada                      | Reported as <i>Peridinium quinquecorne</i> [4]   |
| 114 | <i>Peridinium volzii</i>         | 2007–2009       | West and east coasts of Canada                      | [4]                                              |
| 115 | <i>Peridinium willei</i>         | 2007–2009       | West and east coasts of Canada                      | [4]                                              |
| 116 | <i>Pfiesteria piscicida</i>      | May–03          | Burnie, Tasmania                                    | [26]                                             |
|     |                                  | 2007/05–2010/03 | Port of Houston, Texas (USA)                        | Reported as <i>Pfiesteria piscida</i> [7]        |
|     |                                  | 2002/06–2002/07 | Chesapeake Bay                                      | [27]                                             |
| 117 | <i>Phalacroma mitra</i>          | 2007–2009       | West and east coasts of Canada                      | [4]                                              |
|     |                                  | 2007–2009       | Ports of eastern Canada                             | [10]                                             |
| 118 | <i>Phalacroma oxytoxoides</i>    | 2007–2009       | West and east coasts of Canada                      | Reported as <i>Oxyphysis oxytoxoides</i> [4]     |
|     |                                  | 2007–2008       | Patagonian ports, Argentina                         | Reported as <i>Oxyphysis oxytoxoides</i> [9]     |
|     |                                  | 2015            | Adriatic ports                                      | [6]                                              |
| 119 | <i>Phalacroma rotundatum</i>     | 1997–2006       | Bilbao Harbour, Spain                               | Reported as <i>Dinophysis rotundata</i> [2]      |
|     |                                  | 2007–2009       | West and east coasts of Canada                      | Reported as <i>Dinophysis rotundata</i> [4]      |
|     |                                  | 2002–2004       | Ports on the U.S. East and West Coast               | [3]                                              |
|     |                                  | 1995            | Estuary and Gulf of St. Lawrence                    | [14]                                             |
|     |                                  | 2007–2009       | West and east coasts of Canada                      | [4]                                              |
|     |                                  | 2007–2009       | Ports of eastern Canada                             | [10]                                             |
| 120 | <i>Podolampas palmipes</i>       | 2002–2004       | Ports on the U.S. East and West Coast               | [3]                                              |
|     |                                  | 2007–2009       | West and east coasts of Canada                      | [4]                                              |
|     |                                  | 2007–2009       | Ports of eastern Canada                             | [10]                                             |
|     |                                  | 2003–2006       | Port of Tampa and Port Manatee                      | [5]                                              |
| 121 | <i>Podolampas spinifera</i>      | 2007–2009       | West and east coasts of Canada                      | [4]                                              |
|     |                                  | 2007–2009       | Ports of eastern Canada                             | [10]                                             |
| 122 | <i>Polykrikos hartmannii</i>     | 2003–2006       | Port of Tampa and Port Manatee                      | Reported as <i>Pheopolykrikos hartmannii</i> [5] |
| 123 | <i>Polykrikos kofoidii</i>       | 2003–2006       | Port of Tampa and Port Manatee                      | [5]                                              |
|     |                                  | 1990–1991       | Laurentian Great Lakes and upper St. Lawrence River | [17]                                             |
|     |                                  | 2007–2009       | Ports of eastern Canada                             | [10]                                             |
|     |                                  | 2013–2014       | Port of Annaba, Algeria                             | [11]                                             |

|     |                               |                       |                                                     |                                               |
|-----|-------------------------------|-----------------------|-----------------------------------------------------|-----------------------------------------------|
|     | (vegetative cell and cyst)    | 2007–2009             | West and east coasts of Canada                      | [4]                                           |
| 124 | <i>Polykrikos schwartzi</i>   | 2007–2009             | Ports of eastern Canada                             | [10]                                          |
|     | (cyst)                        | 2007–2009             | West and east coasts of Canada                      | [4]                                           |
| 125 | <i>Preperidinium meunieri</i> | 2007–2009             | West and east coasts of Canada                      | [4]                                           |
|     |                               | 2007–2009             | Ports of eastern Canada                             | [10]                                          |
| 126 | <i>Prorocentrum balticum</i>  | 2007–2009             | West and east coasts of Canada                      | [4]                                           |
|     |                               | 1996–1997             | Hongkong, China                                     | [8]                                           |
| 127 | <i>Prorocentrum cordatum</i>  | 2007                  | Vladivostok Port                                    | [19]                                          |
|     |                               | 2004/2005/2007        | Novorossiysk, Russia                                | [20]                                          |
|     |                               | 2015                  | Adriatic ports                                      | [6]                                           |
|     |                               | 2002–2004             | Ports on the U.S. East and West Coast               | Reported as <i>Prorocentrum minimum</i> [3]   |
|     |                               | 2007–2009             | South Korean ports                                  | Reported as <i>Prorocentrum minimum</i> [1]   |
|     |                               | 1998/07/22–1998/08/27 | Open Atlantic Coast of Europe                       | Reported as <i>Prorocentrum minimum</i> [13]  |
|     |                               | 1996–1997             | Hongkong, China                                     | Reported as <i>Prorocentrum minimum</i> [8]   |
|     |                               | 1997–2006             | Bilbao Harbour, Spain                               | Reported as <i>Prorocentrum minimum</i> [2]   |
| 128 | <i>Prorocentrum dactylus</i>  | 2015                  | Adriatic ports                                      | [6]                                           |
| 129 | <i>Prorocentrum gracile</i>   | 2007–2009             | Ports of eastern Canada                             | [10]                                          |
|     |                               | 2007–2009             | South Korean ports                                  | [1]                                           |
|     |                               | 1990–1991             | Laurentian Great Lakes and upper St. Lawrence River | [17]                                          |
|     |                               | 1997–2006             | Bilbao Harbour, Spain                               | [2]                                           |
|     |                               | 2008                  | Tunisian harbours of La Goulette and Bizerte        | [21]                                          |
|     |                               | 2007–2009             | West and east coasts of Canada                      | [4]                                           |
|     |                               | 2015                  | Adriatic ports                                      | [6]                                           |
|     |                               | 2007–2009             | West and east coasts of Canada                      | Reported as <i>Prorocentrum sigmoides</i> [4] |
|     |                               | 1996–1997             | Hongkong, China                                     | Reported as <i>Prorocentrum sigmoides</i> [8] |
| 130 | <i>Prorocentrum lima</i>      | 2007–2009             | Ports of eastern Canada                             | [10]                                          |
|     |                               | 1995                  | Estuary and Gulf of St. Lawrence                    | [14]                                          |
|     |                               | 2007–2009             | West and east coasts of Canada                      | [4]                                           |
| 131 | <i>Prorocentrum mexicanum</i> | 2007–2009             | Ports of eastern Canada                             | [10]                                          |
|     |                               | 2007–2009             | West and east coasts of Canada                      | [4]                                           |

|     |                                   |                            |                                                     |                                |      |
|-----|-----------------------------------|----------------------------|-----------------------------------------------------|--------------------------------|------|
| 132 | <i>Prorocentrum micans</i>        | 2003                       | Slovenian Sea                                       | [12]                           |      |
|     |                                   | 2013–2014                  | Strait of Gibraltar and Deception Bay, Canada       | [18]                           |      |
|     |                                   | 2002–2004                  | Ports on the U.S. East and West Coast               | [3]                            |      |
|     |                                   | 2003–2006                  | Port of Tampa and Port Manatee                      | [5]                            |      |
|     |                                   | 2007–2009                  | South Korean ports                                  | [1]                            |      |
|     |                                   | 2010–2012                  | France                                              | [16]                           |      |
|     |                                   | 1990–1991                  | Laurentian Great Lakes and upper St. Lawrence River | [17]                           |      |
|     |                                   | 2007–2008                  | Patagonian ports, Argentina                         | [9]                            |      |
|     |                                   | 1997–2006                  | Bilbao Harbour, Spain                               | [2]                            |      |
|     |                                   | 1996–1997                  | Hongkong, China                                     | [8]                            |      |
|     |                                   | 2007–2009                  | West and east coasts of Canada                      | [4]                            |      |
|     |                                   | 2007–2009                  | Ports of eastern Canada                             | [10]                           |      |
|     |                                   | 2013–2014                  | Port of Annaba, Algeria                             | [11]                           |      |
|     |                                   | 2015                       | Adriatic ports                                      | [6]                            |      |
| 133 | <i>Prorocentrum scutellum</i>     | 1990–1991                  | Laurentian Great Lakes and upper St. Lawrence River | [17]                           |      |
|     |                                   | 2007–2008                  | Patagonian ports, Argentina                         | [9]                            |      |
|     |                                   | 2013–2014                  | Port of Annaba, Algeria                             | [11]                           |      |
| 134 | <i>Prorocentrum triestinum</i>    | 1997–2006                  | Bilbao Harbour, Spain                               | [2]                            |      |
|     |                                   | 2015                       | Adriatic ports                                      | [6]                            |      |
| 135 | <i>Prorocentrum gracile</i>       | 2003                       | Slovenian Sea                                       | [12]                           |      |
| 136 | <i>Protoceratium reticulatum</i>  | 2013–2014                  | Strait of Gibraltar and Deception Bay, Canada       | [18]                           |      |
|     |                                   | 1997–2006                  | Bilbao Harbour, Spain                               | [2]                            |      |
|     |                                   | 2013–2014                  | Port of Annaba, Algeria                             | [11]                           |      |
|     |                                   | (vegetative cell and cyst) | 2007–2009                                           | Ports of eastern Canada        | [10] |
|     |                                   | (vegetative cell and cyst) | 2007–2009                                           | West and east coasts of Canada | [4]  |
| 137 | <i>Protoperidinium americanum</i> | 2007–2009                  | West and east coasts of Canada                      | [4]                            |      |
|     |                                   | 2007–2009                  | Ports of eastern Canada                             | [10]                           |      |

|     |                                   |                |                                               |      |
|-----|-----------------------------------|----------------|-----------------------------------------------|------|
| 138 | <i>Protoperidinium bipes</i>      | 2007           | Vladivostok Port                              | [19] |
|     |                                   | 2004/2005/2007 | Novorossiysk, Russia                          | [20] |
|     |                                   | 2007–2009      | West and east coasts of Canada                | [4]  |
|     |                                   | 2007–2009      | Ports of eastern Canada                       | [10] |
| 139 | <i>Protoperidinium brevipes</i>   | 2002–2004      | Ports on the U.S. East and West Coast         | [3]  |
|     |                                   | 2007–2009      | West and east coasts of Canada                | [4]  |
|     |                                   | 2007–2009      | Ports of eastern Canada                       | [10] |
| 140 | <i>Protoperidinium brochii</i>    | 2013–2014      | Port of Annaba, Algeria                       | [11] |
| 141 | <i>Protoperidinium capurroi</i>   | 2007–2008      | Patagonian ports, Argentina                   | [9]  |
| 142 | <i>Protoperidinium cerasus</i>    | 2007–2009      | West and east coasts of Canada                | [4]  |
|     |                                   | 2007–2009      | Ports of eastern Canada                       | [10] |
|     |                                   | 2013–2014      | Port of Annaba, Algeria                       | [11] |
| 143 | <i>Protoperidinium claudicans</i> | 1995           | Estuary and Gulf of St. Lawrence              | [14] |
|     |                                   | 2007–2009      | South Korean ports                            | [1]  |
|     |                                   | 2007–2009      | West and east coasts of Canada                | [4]  |
|     |                                   | 2007–2009      | Ports of eastern Canada                       | [10] |
| 144 | <i>Protoperidinium conicoides</i> | 2007–2009      | West and east coasts of Canada                | [4]  |
|     |                                   | 2007–2009      | Ports of eastern Canada                       | [10] |
| 145 | <i>Protoperidinium conicum</i>    | 2007–2009      | Ports of eastern Canada                       | [10] |
|     |                                   | 2010           | Ulsan and Onsan ports, Korea                  | [15] |
|     |                                   | 2013–2014      | Strait of Gibraltar and Deception Bay, Canada | [18] |
|     |                                   | 2002–2004      | Ports on the U.S. East and West Coast         | [3]  |
|     |                                   | 2003–2006      | Port of Tampa and Port Manatee                | [5]  |
|     |                                   | 2007–2009      | South Korean ports                            | [1]  |
|     |                                   | 2007–2008      | Patagonian ports, Argentina                   | [9]  |
|     |                                   | 2007–2009      | West and east coasts of Canada                | [4]  |
| 146 | <i>Protoperidinium crassipes</i>  | 2013–2014      | Port of Annaba, Algeria                       | [11] |
|     |                                   | 2003–2006      | Port of Tampa and Port Manatee                | [5]  |
|     |                                   | 2007–2008      | Patagonian ports, Argentina                   | [9]  |
|     |                                   | 2007–2009      | West and east coasts of Canada                | [4]  |
|     |                                   | 2007–2009      | Ports of eastern Canada                       | [10] |

|     |                                     |           |                                       |      |
|-----|-------------------------------------|-----------|---------------------------------------|------|
|     |                                     | 2015      | Adriatic ports                        | [6]  |
| 147 | <i>Protoperidinium curtipes</i>     | 1995      | Estuary and Gulf of St. Lawrence      | [14] |
|     |                                     | 2007–2009 | West and east coasts of Canada        | [4]  |
|     |                                     | 2007–2009 | Ports of eastern Canada               | [10] |
| 148 | <i>Protoperidinium curvipes</i>     | 2007–2009 | West and east coasts of Canada        | [4]  |
|     |                                     | 2013–2014 | Port of Annaba, Algeria               | [11] |
| 149 | <i>Protoperidinium decipiens</i>    | 2007–2009 | Ports of eastern Canada               | [10] |
|     |                                     | 2007–2009 | West and east coasts of Canada        | [4]  |
| 150 | <i>Protoperidinium denticulatum</i> | 1995      | Estuary and Gulf of St. Lawrence      | [14] |
|     |                                     | 2007–2008 | Patagonian ports, Argentina           | [9]  |
|     |                                     | 2007–2009 | West and east coasts of Canada        | [4]  |
|     |                                     | 2007–2009 | Ports of eastern Canada               | [10] |
| 151 | <i>Protoperidinium depressum</i>    | 2002–2004 | Ports on the U.S. East and West Coast | [3]  |
|     |                                     | 2003–2006 | Port of Tampa and Port Manatee        | [5]  |
|     |                                     | 1995      | Estuary and Gulf of St. Lawrence      | [14] |
|     |                                     | 2007–2009 | West and east coasts of Canada        | [4]  |
|     |                                     | 2007–2009 | Ports of eastern Canada               | [10] |
|     |                                     | 2007–2008 | Patagonian ports, Argentina           | [9]  |
| 152 | <i>Protoperidinium diabolus</i>     | 2007–2009 | Ports of eastern Canada               | [10] |
|     |                                     | 2007–2009 | West and east coasts of Canada        | [4]  |
| 153 | <i>Protoperidinium divaricatum</i>  | 2007–2008 | Patagonian ports, Argentina           | [9]  |
| 154 | <i>Protoperidinium divergens</i>    | 2007–2009 | Ports of eastern Canada               | [10] |
|     |                                     | 1995      | Estuary and Gulf of St. Lawrence      | [14] |
|     |                                     | 2007–2009 | South Korean ports                    | [1]  |
|     |                                     | 2007–2009 | West and east coasts of Canada        | [4]  |
|     |                                     | 2013–2014 | Port of Annaba, Algeria               | [11] |
| 155 | <i>Protoperidinium excentricum</i>  | 2007–2008 | Patagonian ports, Argentina           | [9]  |
|     |                                     | 2007–2009 | West and east coasts of Canada        | [4]  |
| 156 | <i>Protoperidinium expansum</i>     | 2007–2008 | Patagonian ports, Argentina           | [9]  |
| 157 | <i>Protoperidinium globulus</i>     | 2007–2009 | Ports of eastern Canada               | [10] |
|     |                                     | 2007–2009 | West and east coasts of Canada        | [4]  |

|     |                                    |           |                                                     |                                           |
|-----|------------------------------------|-----------|-----------------------------------------------------|-------------------------------------------|
| 158 | <i>Protoperidinium granii</i>      | 2007–2009 | Ports of eastern Canada                             | [10]                                      |
|     |                                    | 2007–2009 | West and east coasts of Canada                      | [4]                                       |
|     |                                    | 2013–2014 | Port of Annaba, Algeria                             | [11]                                      |
| 159 | <i>Protoperidinium laticeps</i>    | 2007–2009 | Ports of eastern Canada                             | [10]                                      |
|     |                                    | 2007–2009 | West and east coasts of Canada                      | [4]                                       |
| 160 | <i>Protoperidinium leonis</i>      | 1990–1991 | Laurentian Great Lakes and upper St. Lawrence River | Reported as <i>Peridinium leonis</i> [17] |
|     |                                    | 1995      | Estuary and Gulf of St. Lawrence                    | [14]                                      |
|     |                                    | 2007–2008 | Patagonian ports, Argentina                         | [9]                                       |
|     |                                    | 2007–2009 | West and east coasts of Canada                      | [4]                                       |
|     |                                    | 2007–2009 | Ports of eastern Canada                             | [10]                                      |
|     |                                    | 2013–2014 | Port of Annaba, Algeria                             | [11]                                      |
|     |                                    | 2007–2009 | Ports of eastern Canada                             | [10]                                      |
| 161 | <i>Protoperidinium mariebourae</i> | 2007–2009 | West and east coasts of Canada                      | [4]                                       |
|     |                                    | 2007–2009 | Ports of eastern Canada                             | [10]                                      |
| 162 | <i>Protoperidinium mite</i>        | 2007–2009 | West and east coasts of Canada                      | [4]                                       |
|     |                                    | 2007–2009 | West and east coasts of Canada                      | [4]                                       |
| 163 | <i>Protoperidinium nudum</i>       | 2007–2009 | West and east coasts of Canada                      | [4]                                       |
| 164 | <i>Protoperidinium oblongum</i>    | 2007–2009 | Ports of eastern Canada                             | [10]                                      |
|     |                                    | 2007–2009 | West and east coasts of Canada                      | [4]                                       |
| 165 | <i>Protoperidinium obtusum</i>     | 2007–2008 | Patagonian ports, Argentina                         | [9]                                       |
|     |                                    | 2007–2008 | Patagonian ports, Argentina                         | [9]                                       |
|     |                                    | 2007–2009 | West and east coasts of Canada                      | [4]                                       |
|     |                                    | 2007–2009 | Ports of eastern Canada                             | [10]                                      |
| 166 | <i>Protoperidinium oceanicum</i>   | 1995      | Estuary and Gulf of St. Lawrence                    | [14]                                      |
|     |                                    | 2007–2009 | West and east coasts of Canada                      | [4]                                       |
|     |                                    | 2007–2009 | Ports of eastern Canada                             | [10]                                      |
|     |                                    | 2013–2014 | Port of Annaba, Algeria                             | [11]                                      |
| 167 | <i>Protoperidinium ovatum</i>      | 2007–2009 | Ports of eastern Canada                             | [10]                                      |
|     |                                    | 1995      | Estuary and Gulf of St. Lawrence                    | [14]                                      |
|     |                                    | 2007–2009 |                                                     | [1]                                       |
|     |                                    | 2007–2009 | West and east coasts of Canada                      | [4]                                       |

|     |                                      |                |                                              |      |
|-----|--------------------------------------|----------------|----------------------------------------------|------|
| 168 | <i>Protoperidinium pallidum</i>      | 2007–2009      | Ports of eastern Canada                      | [10] |
|     |                                      | 2002–2004      | Ports on the U.S. East and West Coast        | [3]  |
|     |                                      | 1995           | Estuary and Gulf of St. Lawrence             | [14] |
|     |                                      | 2007           | Vladivostok Port                             | [19] |
|     |                                      | 2004/2005/2007 | Novorossiysk, Russia                         | [20] |
|     |                                      | 2007–2009      | West and east coasts of Canada               | [4]  |
|     |                                      | 2007–2009      | South Korean ports                           | [1]  |
| 169 | <i>Protoperidinium parapyriforme</i> | 2007–2008      | Patagonian ports, Argentina                  | [9]  |
| 170 | <i>Protoperidinium pellucidum</i>    | 2007–2009      | Ports of eastern Canada                      | [10] |
|     |                                      | 2002–2004      | Ports on the U.S. East and West Coast        | [3]  |
|     |                                      | 2003           | Slovenian Sea                                | [12] |
|     |                                      | 2003–2006      | Port of Tampa and Port Manatee               | [5]  |
|     |                                      | 2007–2009      | South Korean ports                           | [1]  |
|     |                                      | 2007           | Vladivostok Port                             | [19] |
|     |                                      | 2004/2005/2007 | Novorossiysk, Russia                         | [20] |
|     |                                      | 2008           | Tunisian harbours of La Goulette and Bizerte | [21] |
|     |                                      | 2007–2009      | West and east coasts of Canada               | [4]  |
|     |                                      | 2013–2014      | Port of Annaba, Algeria                      | [11] |
| 171 | <i>Protoperidinium pentagonum</i>    | 2002–2004      | Ports on the U.S. East and West Coast        | [3]  |
|     |                                      | 1995           | Estuary and Gulf of St. Lawrence             | [14] |
|     |                                      | 2007–2008      | Patagonian ports, Argentina                  | [9]  |
|     |                                      | 2007–2009      | West and east coasts of Canada               | [4]  |
|     |                                      | 2013–2014      | Port of Annaba, Algeria                      | [11] |
| 172 | <i>Protoperidinium punctulatum</i>   | 2007–2009      | West and east coasts of Canada               | [4]  |
|     |                                      | 2007–2008      | Patagonian ports, Argentina                  | [9]  |
|     |                                      | 2007–2008      | Patagonian ports, Argentina                  | [9]  |
| 173 | <i>Protoperidinium pyriforme</i>     | 2007–2009      | Ports of eastern Canada                      | [10] |
|     |                                      | 2007–2009      | West and east coasts of Canada               | [4]  |
| 174 | <i>Protoperidinium quarnerense</i>   | 2007–2009      | West and east coasts of Canada               | [4]  |
| 175 | <i>Protoperidinium rosaceum</i>      | 2007–2008      | Patagonian ports, Argentina                  | [9]  |
| 176 | <i>Protoperidinium saltans</i>       | 2007–2009      | West and east coasts of Canada               | [4]  |

|     |                                     |                |                                               |                                                 |
|-----|-------------------------------------|----------------|-----------------------------------------------|-------------------------------------------------|
|     |                                     | 2007–2009      | Ports of eastern Canada                       | [10]                                            |
| 177 | <i>Protoperidinium sphaeroideum</i> | 2007–2009      | Ports of eastern Canada                       | [10]                                            |
|     |                                     | 2007–2009      | West and east coasts of Canada                | [4]                                             |
| 178 | <i>Protoperidinium steinii</i>      | 2007–2009      | Ports of eastern Canada                       | [10]                                            |
|     |                                     | 2013–2014      | Strait of Gibraltar and Deception Bay, Canada | [18]                                            |
|     |                                     | 2003           | Slovenian Sea                                 | [12]                                            |
|     |                                     | 2007–2009      | West and east coasts of Canada                | [4]                                             |
|     |                                     | 2013–2014      | Port of Annaba, Algeria                       | [11]                                            |
|     |                                     | 2015           | Adriatic ports                                | [6]                                             |
| 179 | <i>Protoperidinium subcrassipes</i> | 2007–2008      | Patagonian ports, Argentina                   | [9]                                             |
| 180 | <i>Protoperidinium subinermis</i>   | 2007–2009      | Ports of eastern Canada                       | [10]                                            |
|     |                                     | 2013–2014      | Strait of Gibraltar and Deception Bay, Canada | [18]                                            |
|     |                                     | 2007–2009      | West and east coasts of Canada                | [4]                                             |
| 181 | <i>Protoperidinium thorianum</i>    | 2007–2009      | West and east coasts of Canada                | [4]                                             |
|     |                                     | 2007–2009      | Ports of eastern Canada                       | [10]                                            |
| 182 | <i>Protoperidinium thulesense</i>   | 2007–2009      | West and east coasts of Canada                | [4]                                             |
|     |                                     | 2007–2009      | Ports of eastern Canada                       | [10]                                            |
| 183 | <i>Protoperidinium tristylum</i>    | 2007–2009      | Ports of eastern Canada                       | [10]                                            |
|     |                                     | 2007–2009      | West and east coasts of Canada                | [4]                                             |
| 184 | <i>Protoperidinium verrucosum</i>   | 2007           | Vladivostok Port                              | [19]                                            |
|     |                                     | 2004/2005/2007 | Novorossiysk, Russia                          | [20]                                            |
| 185 | <i>Pyrocystis lunula</i>            | 2015           | Adriatic ports                                | [6]                                             |
| 186 | <i>Pyrophacus horologium</i>        | 1995           | Estuary and Gulf of St. Lawrence              | [14]                                            |
|     |                                     | 2007–2009      | West and east coasts of Canada                | [4]                                             |
|     |                                     | 2007–2009      | Ports of eastern Canada                       | [10]                                            |
| 187 | <i>Pyrophacus steinii</i>           | 2003–2006      | Port of Tampa and Port Manatee                | [5]                                             |
|     |                                     | 2007–2009      | South Korean ports                            | [1]                                             |
| 188 | <i>Scrippsiella acuminata</i>       | 2007–2009      | Ports of eastern Canada                       | Reported as <i>Scrippsiella trochoidea</i> [10] |
|     |                                     | 2013–2014      | Strait of Gibraltar and Deception Bay, Canada | Reported as <i>Scrippsiella trochoidea</i> [18] |
|     |                                     | 2002–2004      | Ports on the U.S. East and West Coast         | Reported as <i>Scrippsiella trochoidea</i> [3]  |
|     |                                     | 2007–2009      | South Korean ports                            | Reported as <i>Scrippsiella trochoidea</i> [1]  |

|     |                               |           |                                                     |                                                 |
|-----|-------------------------------|-----------|-----------------------------------------------------|-------------------------------------------------|
|     |                               | 1990–1991 | Laurentian Great Lakes and upper St. Lawrence River | Reported as <i>Scrippsiella trochoidea</i> [17] |
|     |                               | 2007–2008 | Patagonian ports, Argentina                         | Reported as <i>Scrippsiella trochoidea</i> [9]  |
|     |                               | 2007–2009 | West and east coasts of Canada                      | Reported as <i>Scrippsiella trochoidea</i> [4]  |
|     |                               | 1996–1997 | Hongkong, China                                     | Reported as <i>Scrippsiella trochoidea</i> [8]  |
|     |                               | 2013–2014 | Port of Annaba, Algeria                             | Reported as <i>Scrippsiella trochoidea</i> [11] |
|     |                               | 2015      | Adriatic ports                                      | Reported as <i>Scrippsiella trochoidea</i> [6]  |
| 189 | <i>Spiraulax kofoidii</i>     | 2007–2009 | West and east coasts of Canada                      | [4]                                             |
|     |                               | 2007–2009 | Ports of eastern Canada                             | [10]                                            |
| 190 | <i>Torodinium robustum</i>    | 2007–2009 | West and east coasts of Canada                      | [4]                                             |
| 191 | <i>Triadinium polyedricum</i> | 2007–2009 | West and east coasts of Canada                      | Reported as <i>Goniodoma polyedricum</i> [4]    |
|     |                               | 2007–2009 | Ports of eastern Canada                             | Reported as <i>Goniodoma polyedricum</i> [10]   |
| 192 | <i>Tripos arcticus</i>        | 2007–2008 | Patagonian ports, Argentina                         | Reported as <i>Ceratium arcticum</i> [9]        |
|     |                               | 1995      | Estuary and Gulf of St. Lawrence                    | Reported as <i>Ceratium arcticum</i> [14]       |
|     |                               | 2007–2009 | West and east coasts of Canada                      | [4]                                             |
| 193 | <i>Tripos arietinu</i>        | 2007–2009 | Ports of eastern Canada                             | Reported as <i>Neoceratium arietinum</i> [10]   |
| 194 | <i>Tripos arietinum</i>       | 1995      | Estuary and Gulf of St. Lawrence                    | Reported as <i>Ceratium arietinum</i> [14]      |
| 195 | <i>Tripos arietinus</i>       | 2007–2009 | West and east coasts of Canada                      | [4]                                             |
| 196 | <i>Tripos azoricu</i>         | 2007–2009 | Ports of eastern Canada                             | Reported as <i>Neoceratium azoricum</i> [10]    |
| 197 | <i>Tripos azoricum</i>        | 2007–2008 | Patagonian ports, Argentina                         | Reported as <i>Ceratium azoricum</i> [9]        |
|     |                               | 1995      | Estuary and Gulf of St. Lawrence                    | Reported as <i>Ceratium azoricum</i> [14]       |
| 198 | <i>Tripos azoricus</i>        | 2007–2009 | West and east coasts of Canada                      | [4]                                             |
| 199 | <i>Tripos balechii</i>        | 2007–2009 | West and east coasts of Canada                      | [4]                                             |
| 200 | <i>Tripos candelabrum</i>     | 2002–2004 | Ports on the U.S. East and West Coast               | Reported as <i>Ceratium candelabrum</i> [3]     |
|     |                               | 2007–2008 | Patagonian ports, Argentina                         | Reported as <i>Ceratium candelabrum</i> [9]     |
|     |                               | 2007–2009 | Ports of eastern Canada                             | Reported as <i>Neoceratium candelabrum</i> [10] |
| 201 | <i>Tripos candelabrus</i>     | 2007–2009 | West and east coasts of Canada                      | [4]                                             |
|     |                               | 2015      | Adriatic ports                                      | [6]                                             |
| 202 | <i>Tripos carriensis</i>      | 2015      | Adriatic ports                                      | [6]                                             |
| 203 | <i>Tripos compressum</i>      | 2007–2009 | Ports of eastern Canada                             | Reported as <i>Neoceratium compressum</i> [10]  |
| 204 | <i>Tripos compressus</i>      | 2007–2009 | West and east coasts of Canada                      | [4]                                             |

|     |                           |           |                                                     |                                                 |
|-----|---------------------------|-----------|-----------------------------------------------------|-------------------------------------------------|
| 205 | <i>Tripes concilians</i>  | 1995      | Estuary and Gulf of St. Lawrence                    | Reported as <i>Ceratium concilians</i> [14]     |
| 206 | <i>Tripes contortum</i>   | 1995      | Estuary and Gulf of St. Lawrence                    | Reported as <i>eratium contortum</i> [14]       |
| 207 | <i>Tripes declinatum</i>  | 2013–2014 | Port of Annaba, Algeria                             | [11]                                            |
| 208 | <i>Tripes dens</i>        | 2007–2008 | Patagonian ports, Argentina                         | Reported as <i>Ceratium dens</i> [9]            |
| 209 | <i>Tripes divaricatum</i> | 2007–2009 | Ports of eastern Canada                             | Reported as <i>Neoceratium divaricatum</i> [10] |
| 210 | <i>Tripes euarcuatum</i>  | 1995      | Estuary and Gulf of St. Lawrence                    | Reported as <i>Ceratium euarcuatum</i> [14]     |
| 211 | <i>Tripes extensum</i>    | 1995      | Estuary and Gulf of St. Lawrence                    | Reported as <i>Ceratium extensum</i> [14]       |
|     |                           | 2013–2014 | Port of Annaba, Algeria                             | [11]                                            |
| 212 | <i>Tripes furca</i>       | 2013–2014 | Strait of Gibraltar and Deception Bay, Canada       | Reported as <i>Neoceratium furca</i> [18]       |
|     |                           | 2007–2009 | Ports of eastern Canada                             | Reported as <i>Neoceratium furca</i> [10]       |
|     |                           | 2007–2009 | West and east coasts of Canada                      | [4]                                             |
|     |                           | 2013–2014 | Port of Annaba, Algeria                             | [11]                                            |
|     |                           | 2015      | Adriatic ports                                      | [6]                                             |
| 213 | <i>Tripes fusus</i>       | 2010      | Ulsan and Onsan ports, Korea                        | Reported as <i>Ceratium fusus</i> [15]          |
|     |                           | 2002–2004 | Ports on the U.S. East and West Coast               | Reported as <i>Ceratium fusus</i> [3]           |
|     |                           | 2003      | Slovenian Sea                                       | Reported as <i>Ceratium fusus</i> [12]          |
|     |                           | 1995      | Estuary and Gulf of St. Lawrence                    | Reported as <i>Ceratium fusus</i> [14]          |
|     |                           | 2007–2009 | South Korean ports                                  | Reported as <i>Ceratium fusus</i> [1]           |
|     |                           | 2010–2012 | France                                              | Reported as <i>Ceratium fusus</i> [16]          |
|     |                           | 1990–1991 | Laurentian Great Lakes and upper St. Lawrence River | Reported as <i>Ceratium fusus</i> [17]          |
|     |                           | 2007–2008 | Patagonian ports, Argentina                         | Reported as <i>Ceratium fusus</i> [9]           |
|     |                           | 2013–2014 | Strait of Gibraltar and Deception Bay, Canada       | Reported as <i>Neoceratium fusus</i> [18]       |
|     |                           | 2007–2009 | Ports of eastern Canada                             | Reported as <i>Neoceratium fusus</i> [10]       |
|     |                           | 2007–2009 | West and east coasts of Canada                      | [4]                                             |
|     |                           | 2013–2014 | Port of Annaba, Algeria                             | [11]                                            |
|     |                           | 2015      | Adriatic ports                                      | [6]                                             |
| 214 | <i>Tripes gibberus</i>    | 2007–2009 | West and east coasts of Canada                      | [4]                                             |
| 215 | <i>Tripes gravidum</i>    | 1995      | Estuary and Gulf of St. Lawrence                    | Reported as <i>Ceratium gravidum</i> [14]       |
| 216 | <i>Tripes hexacanthum</i> | 1995      | Estuary and Gulf of St. Lawrence                    | Reported as <i>Ceratium hexacanthum</i> [14]    |

|     |                            |           |                                                     |                                              |
|-----|----------------------------|-----------|-----------------------------------------------------|----------------------------------------------|
|     |                            | 1990–1991 | Laurentian Great Lakes and upper St. Lawrence River | Reported as <i>Ceratium hexacanthum</i> [17] |
| 217 | <i>Tripes hircus</i>       | 2003–2006 | Port of Tampa and Port Manatee                      | Reported as <i>Ceratium hircus</i> [5]       |
| 218 | <i>Tripes horridum</i>     | 2007–2009 | Ports of eastern Canada                             | Reported as <i>Neoceratium horridum</i> [10] |
| 219 | <i>Tripes horridus</i>     | 2007–2009 | West and east coasts of Canada                      | [4]                                          |
|     |                            | 2013–2014 | Port of Annaba, Algeria                             | Reported as <i>Tripes horridum</i> [11]      |
| 220 | <i>Tripes inflatus</i>     | 1995      | Estuary and Gulf of St. Lawrence                    | Reported as <i>Ceratium inflatum</i> [14]    |
|     |                            | 1990–1991 | Laurentian Great Lakes and upper St. Lawrence River | Reported as <i>Ceratium inflatum</i> [17]    |
|     |                            | 2007–2009 | West and east coasts of Canada                      | [4]                                          |
| 222 | <i>Tripes kofoidii</i>     | 2007–2009 | South Korean ports                                  | Reported as <i>Ceratium kofoidii</i> [1]     |
| 221 | <i>Tripes kofoidii</i>     | 2007–2009 | Ports of eastern Canada                             | Reported as <i>Neoceratium kofoidii</i> [10] |
|     |                            | 2007–2009 | West and east coasts of Canada                      | [4]                                          |
| 222 | <i>Tripes lineatum</i>     | 2007–2008 | Patagonian ports, Argentina                         | Reported as <i>Ceratium lineatum</i> [9]     |
|     |                            | 2007–2009 | South Korean ports                                  | Reported as <i>Ceratium lineatum</i> [1]     |
|     |                            | 2010–2012 | France                                              | Reported as <i>Ceratium lineatum</i> [16]    |
|     |                            | 1990–1991 | Laurentian Great Lakes and upper St. Lawrence River | Reported as <i>Ceratium lineatum</i> [17]    |
| 223 | <i>Tripes lineatus</i>     | 2007–2009 | West and east coasts of Canada                      | [4]                                          |
|     |                            | 2013–2014 | Port of Annaba, Algeria                             | Reported as <i>Tripes lineatum</i> [11]      |
| 224 | <i>Tripes longipes</i>     | 1995      | Estuary and Gulf of St. Lawrence                    | Reported as <i>Ceratium longipes</i> [14]    |
|     |                            | 2007–2009 | Ports of eastern Canada                             | Reported as <i>Neoceratium longipes</i> [10] |
|     |                            | 2007–2009 | West and east coasts of Canada                      | [4]                                          |
| 225 | <i>Tripes longirostrus</i> | 2007–2009 | West and east coasts of Canada                      | [4]                                          |
| 226 | <i>Tripes lunula</i>       | 2002–2004 | Ports on the U.S. East and West Coast               | Reported as <i>Ceratium lunula</i> [3]       |
|     |                            | 2013–2014 | Port of Annaba, Algeria                             | [11]                                         |
| 227 | <i>Tripes macroceros</i>   | 2002–2004 | Ports on the U.S. East and West Coast               | Reported as <i>Ceratium macroceros</i> [3]   |
|     |                            | 1995      | Estuary and Gulf of St. Lawrence                    | Reported as <i>Ceratium macroceros</i> [14]  |
|     |                            | 2007–2009 | South Korean ports                                  | Reported as <i>Ceratium macroceros</i> [1]   |
|     |                            | 2010–2012 | France                                              | Reported as <i>Ceratium macroceros</i> [16]  |
|     |                            | 2007–2008 | Patagonian ports, Argentina                         | Reported as <i>Ceratium macroceros</i> [9]   |

|     |                               |           |                                                     |                                                 |
|-----|-------------------------------|-----------|-----------------------------------------------------|-------------------------------------------------|
|     |                               | 1995      | Estuary and Gulf of St. Lawrence                    | Reported as <i>Ceratium macroceros</i> [14]     |
|     |                               | 2007–2009 | Ports of eastern Canada                             | Reported as <i>Neoceratium macroceros</i> [10]  |
|     |                               | 2007–2009 | West and east coasts of Canada                      | [4]                                             |
| 228 | <i>Tripes minutum</i>         | 1990–1991 | Laurentian Great Lakes and upper St. Lawrence River | Reported as <i>Ceratium minutum</i> [17]        |
|     |                               | 2007–2009 | Ports of eastern Canada                             | Reported as <i>Neoceratium minutum</i> [10]     |
| 229 | <i>Tripes minutus</i>         | 2007–2009 | West and east coasts of Canada                      | [4]                                             |
| 230 | <i>Tripes muelleri</i>        | 2007–2009 | Ports of eastern Canada                             | Reported as <i>Neoceratium tripes</i> [10]      |
|     |                               | 2007–2009 | West and east coasts of Canada                      | [4]                                             |
|     |                               | 2013–2014 | Port of Annaba, Algeria                             | Reported as <i>Tripes tripes</i> [11]           |
| 231 | <i>Tripes pentagonum</i>      | 2007–2008 | Patagonian ports, Argentina                         | Reported as <i>Ceratium pentagonum</i> [9]      |
|     |                               | 1995      | Estuary and Gulf of St. Lawrence                    | Reported as <i>Ceratium pentagonum</i> [14]     |
|     |                               | 1990–1991 | Laurentian Great Lakes and upper St. Lawrence River | Reported as <i>Ceratium pentagonum</i> [17]     |
|     |                               | 2007–2009 | Ports of eastern Canada                             | Reported as <i>Neoceratium pentagonum</i> [10]  |
| 232 | <i>Tripes pentagonus</i>      | 2007–2009 | West and east coasts of Canada                      | [4]                                             |
| 233 | <i>Tripes platycorne</i>      | 2007–2009 | Ports of eastern Canada                             | Reported as <i>Neoceratium platycorne</i> [10]  |
| 234 | <i>Tripes platycornis</i>     | 2007–2009 | West and east coasts of Canada                      | Regarded as <i>Tripes platycorne</i> [4]        |
| 235 | <i>Tripes pulchellum</i>      | 2007–2009 | Ports of eastern Canada                             | Reported as <i>Neoceratium pulchellum</i> [10]  |
| 236 | <i>Tripes pulchellus</i>      | 2007–2009 | West and east coasts of Canada                      | [4]                                             |
| 237 | <i>Tripes teres</i>           | 2007–2009 | Ports of eastern Canada                             | Reported as <i>Neoceratium teres</i> [10]       |
|     |                               | 2007–2009 | West and east coasts of Canada                      | [4]                                             |
| 238 | <i>Tryblionella compressa</i> | 2007–2009 | Ports of eastern Canada                             | Reported as <i>Prorocentrum compressum</i> [10] |
|     |                               | 2003–2006 | Port of Tampa and Port Manatee                      | Reported as <i>Prorocentrum compressum</i> [5]  |
|     |                               | 1995      | Estuary and Gulf of St. Lawrence                    | Reported as <i>Prorocentrum compressum</i> [14] |
|     |                               | 2007–2008 | Patagonian ports, Argentina                         | Reported as <i>Prorocentrum compressum</i> [9]  |
|     |                               | 2007–2009 | West and east coasts of Canada                      | Reported as <i>Prorocentrum compressum</i> [4]  |
|     |                               | 2015      | Adriatic ports                                      | Reported as <i>Prorocentrum compressum</i> [6]  |

The synonyms of the species were checked according to the information provided by AlgaeBase (<http://www.algaebase.org>).

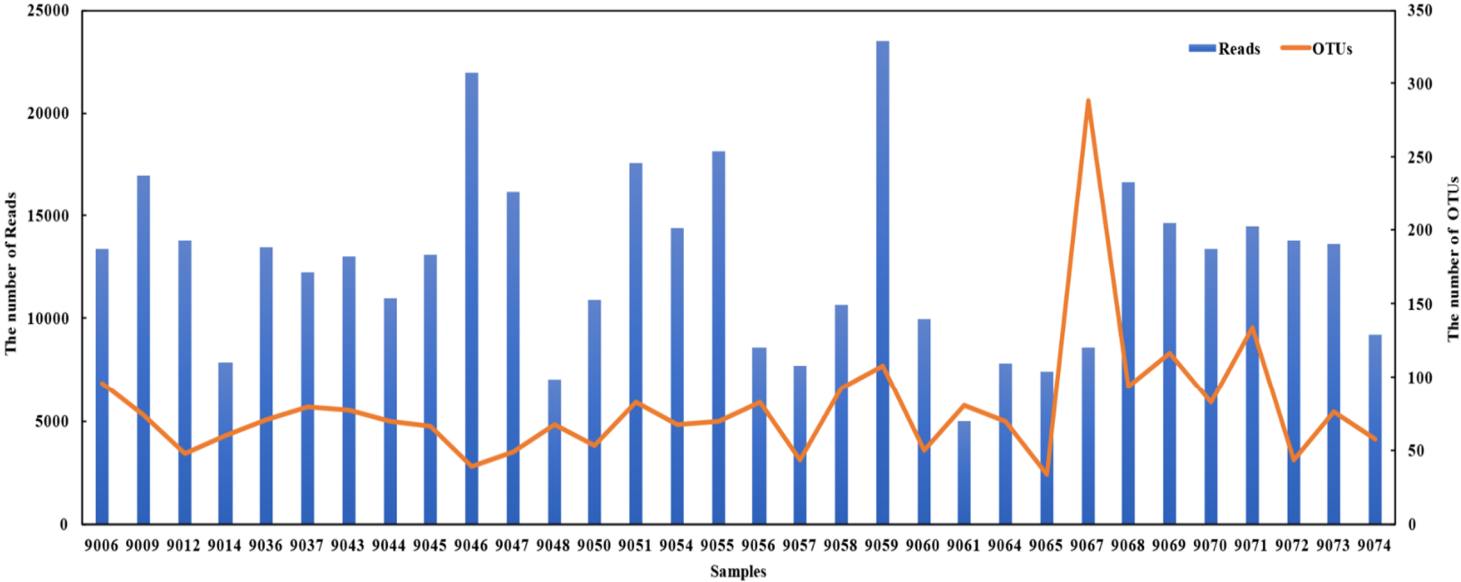
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**Figure S2.** The total number of operational taxonomic units (OTUs) and reads annotated as dinoflagellates in the 32 samples.