## S1 Table. List of *Volvox* species/strains included in the phylogenetic analyses of ITS-2 sequences (with DDBJ/EMBL/GENBANK accession numbers; Fig. 3) and/or morphological observations (Fig. 1; S1 Fig.).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Species | Strain designation | Origin | Sexual type1 | Accession no. | Reference |
| *V. africanus* | 2013-0703-VO4  (=NIES-3780) | Lake Biwa, Japan | Monoecious with males, homothallic | LC0901592 | The present study |
| *V. africanus* | VO4-F1-1  (=NIES-3784) | F1 progeny strain of 2013-0703-VO4 | Monoecious with males, homothallic |  | The present study |
| “*V. africanus*” | Mo-1-Ea  (= UTEX3 1889) | A shallow pond near Rocheport, MO, USA | Dioecious, homothallic | U67008 | [1, 2] |
| “*V. africanus*” | Ecca Pass 3  (=UTEX 1892) | Ecca Pass near Grahamstown, South Africa | Monoecious,homothallic | U67011 | [1, 2] |
| “*V. africanus*” | India 65-26  (=UTEX 1893) | A dry pond at Nadi near Santipura, West Bengal, India | Monoecious with males, homothallic | AF182440 | [1, 2] |
| *V. reticuliferus* | 2013-0703-VO1  (=NIES-3781) | Lake Biwa, Japan | Dioecious, heterothallic, male | LC0901602 | The present study |
| *V. reticuliferus* | 2013-0703-VO2  (=NIES-3782) | Lake Biwa, Japan | Dioecious, heterothallic, female | LC0901612 | The present study |
| *V. reticuliferus* | 2013-0703-VO3  (=NIES-3783) | Lake Biwa, Japan | Dioecious, heterothallic, male | LC0901622 | The present study |
| *V. reticuliferus* | VO123-F1-6  (=NIES-3785) | F1 progeny strain of 2013-0703-VO1 x VO2 x VO3 | Dioecious, heterothallic, female |  | The present study |
| *V. reticuliferus* | VO123-F1-7  (=NIES-3786) | F1 progeny strain of 2013-0703-VO1 x VO2 x VO3 | Dioecious, heterothallic, male |  | The present study |
| *V. reticuliferus* | “*V. africanus*” Darra 4 (= UTEX 1890) | A small pond in Darra, Queensland, Australia | Dioecious, heterothallic, male | AB771951 | [1, 3]  The present study |
| *V. reticuliferus* | “*V. africanus*”　Darra 6 (= UTEX 1891, NIES4-863) | A small pond in Darra, Queensland, Australia | Dioecious, heterothallic, female | AB771952 | [1, 3]  The present study |
| *V. reticuliferus* | “*V. africanus*”　UTEX 2907 | Unknown | Unknown | LC0901632 | The present study |
| *V. ovalis* | NIES-2569 |  |  | AB592343 |  |
| *V. tertius* | NIES-544 |  |  | AB592344 |  |
| *V. spermato-*  *sphaera* | UTEX 2273 |  |  | U67026 |  |
| *V. dissipatrix* | UTEX 1871 |  |  | U67020 |  |

1Based on Starr [1].

2Sequenced in the present study.

3Culture Collection of Algae at the University of Texas at Austin [4].

4Microbial Culture Collection at the National Institute for Environmental Studies [5].

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