**Table S2. Molecular markers and primer sequences used in this study.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Marker | Primer | Sequence (5'→3') | Annealing temperature (℃) | Reference |
| Mycobiont: |  |  |  |  |
| ITS | ITS4 | TCCTCCGCTTATTGATATGC | 55-60 | White et al. (1990) |
| ITS5 | GGAAGTAAAAGTCGTAACAAGG |
| LSU | LROR | ACCCGCTGAACTTAAGC | 55-60 | Vilgalys & Hester (1990) |
| LR5 | ATCCTGAGGGAAACTTC |
| nu-LSU-155-5 | GGGTCCGAGTTGTAATTTGT | Döring et al. (2000) |
| MtSSU | mrSSUl | AGCAGTGAGGAATATTGGTC' | 52 | Zoller et al. (1999) |
| mrSSU3R | ATGTGGCACGTCTATAGCCC |
| RPB1 | gRPB1-A | GA(G/T)TGTCC(T/G)GG(A/T)CATTTTGG | 56 | Stiller and Hall (1997) |
| fRPB-C | C(A/C/G/T)GC(A/T/G)AT(A/C/G/T)TC(A/G)TT(A/G)TCCAT(A/G)TA | Matheny et al. (2002) |
| RPB1-HETER-F | CGGACCCATATCAAGCTGTT | 55-50 (Touch down) | This study |
| RPB1-HETER-R | TGTCGCTACGTGAAATTGGA |
| RPB1-Rh-F | GCTTCATGACCAAAATCAAG |
| RPB1-Rh-R | GAAACTGCAGTAGTTGTTCG |
| Photobiont: |  |  |  |  |
| ITS | nr-SSU-1780-59 | CTGCGGAAGGATCATTGATTC | 50 | Piercey-Normore& DePriest (2001) |
| nr-LSU-0012-39 | AGTTCAGCGGGTGGTCTTG |
| AL1500bf | GATGCATTCAACGAGCCTA | 54 | Helms et al. (2001) |
| LR3 | ACCTGCGGAAGGATCATT | Friedl & Rokitta (1997) |
| rbcL | a-ch-rbcL-203 (f) | GAATCWTCWACWGGWACTTGGACWAC | 50 | Nelsen et al. (2011) |
| a-ch-rbcL-991(r) | CCTTCTARTTTACCWACAAC |
| PRASFll | ATGGTTCCACAAACAGAAAC | 47 | Nozaki et al. (1995) |
| PRASR2 | CAGTGAAACCACCAGTTAAATAG | Sherwood et al. (1990) |
| SSU | CV1 | TACCTGGTTGATCCTGCCAGTAG | 55 | Sawayama et al. (1995) |
| CV2 | CCAATCCCTAGTCGGCATCGT |
| a(treb)-nu-SSU-0078-5’-mpn | CATGTCTAAGTATAAACTGCT | 50 | Grande et al. (2014) |
| a(treb)-nu-SSU-0803-3’-mpn | TAGGCCAGAGTCCTATCGTGTTAT |
| Dip-18S-F | GTCAGAGGTGAAATTCTTGGATTTA | 55 | This study |
| Dip-18S-R | AAGGGCAGGGACGTAATCAACG |

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