

Supplementary material S1 Gene and primers used in the phylogenetic analyses.

| Gene (reference)       | Primer    | Sequence               | PCR condition  |
|------------------------|-----------|------------------------|--|
| <i>ITS</i>             | ITS1      | TCCGTAGGTGAACCTGCGG    | (1) Initialization at for 3 min at 94°C.   |
|                        | ITS4      | TCCTCCGCTTATTGATATGC   |  |
| <i>nrSSU</i>           | nrSSU-CoF | TCTCAAAGATTAAGCCATGC   | (2) 40 cycles of denaturation at 94°C for 45 s, annealing at 56 °C for 50 s, and extension at 72°C for 1 min.              |
|                        | nrSSU-CoR | TCACCAACGGAGACCTTG     |  |
|                        | LROR      | ACCCGCTGAACTTAAGC      |  |
| <i>nrLSU</i>           | LR5       | TCCTGAGGGAAACTTCG      | (3) Final elongation at 72°C for 10 min.   |
|                        |           |                        | (4) Storage at 12°C (Gonalves et al, 2021).  |
|                        | RPB1Cr    | CCNGCDATNTCRTRTCCATRTA | (1) Initialization at for 2 min at 94°C.   |
| <i>RPB<sub>1</sub></i> | CRPB1A    | CAYCCWGGYTTYATCAAGAA   | (2) 10 cycles of denaturation at 94°C for 30 s, annealing at 64 °C for 1 min, and extension at 72°C for 1 min.             |
|                        |           |                        | (3) followed by 35 cycles of denaturation at 94°C for 30 s, annealing at 54 °C for 1 min, and extension at 72°C for 1 min. |
|                        |           |                        | (4) Final elongation at 72°C for 10 min.   |
|                        |           |                        | (5) Storage at 12°C.   |
|                        |           |                        | (1) Initialization at for 3 min at 95°C.   |
| <i>RPB<sub>2</sub></i> | fRPB2-7cR | CCCATRGCCTTGTYRCCCAT   | (2) 40 cycles of denaturation at 95°C for 1 min, annealing at 52 °C for 2 min, and extension at 72°C for 90 s.             |
|                        | fRPB2-5F  | GAYGAYMGWGATCAYTTYGG   | (3) Final elongation at 72°C for 10 min.   |
|                        |           |                        | (4) Storage at 12°C.   |
|                        |           |                        |  |