

**Table S1:** Sequences used in the in silico analyses and Genbank code access.

| Specie                           | ITS         | LSU        |
|----------------------------------|-------------|------------|
| <i>Fonsecaea pedrosoi</i>        | NR_130652.1 | OK663662.1 |
| <i>Fonsecaea pedrosoi</i>        | FJ914990.1  | MH878034.1 |
| <i>Fonsecaea pedrosoi</i>        | KP132210.1  | MH877955.1 |
| <i>Fonsecaea pedrosoi</i>        | KP132209.1  | MH876658.1 |
| <i>Fonsecaea pedrosoi</i>        | KP132208.1  | MH875348.1 |
| <i>Fonsecaea pedrosoi</i>        | KP132207.1  | MH875345.1 |
| <i>Fonsecaea pedrosoi</i>        | KY312523    | MH875344.1 |
| <i>Fonsecaea pedrosoi</i>        | KY312524    | MH875343.1 |
| <i>Fonsecaea pedrosoi</i>        | KY312525    | MH875342.1 |
| <i>Fonsecaea pedrosoi</i>        | PP187001    | MH875209.1 |
| <i>Fonsecaea pedrosoi</i>        | PP187002    | MH875208.1 |
| <i>Fonsecaea pedrosoi</i>        | PP187003    | MH875207.1 |
| <i>Fonsecaea pedrosoi</i>        | PP187004    | *          |
| <i>Fonsecaea pedrosoi</i>        | KY312526    | *          |
| <i>Fonsecaea monophora</i>       | NR_131280.1 | MH878004.1 |
| <i>Fonsecaea monophora</i>       | FJ785471.1  | *          |
| <i>Fonsecaea monophora</i>       | KY432482.1  | MH875081.1 |
| <i>Fonsecaea monophora</i>       | KY432480.1  | FJ358247.1 |
| <i>Fonsecaea monophora</i>       | KY432479.1  | JQ906794.1 |
| <i>Fonsecaea monophora</i>       | KY312534    | JQ906792.1 |
| <i>Fonsecaea monophora</i>       | KY312538    | JN418763.1 |
| <i>Fonsecaea monophora</i>       | MF416920    | JN418761.1 |
| <i>Fonsecaea monophora</i>       | KX078396.1  | MH878004.1 |
| <i>Fonsecaea monophora</i>       | KX078395.1  | MH875202.1 |
| <i>Fonsecaea monophora</i>       | KX078394.1  | MH875081.1 |
| <i>Fonsecaea monophora</i>       | KX078393.1  | ON306951.1 |
| <i>Fonsecaea pugnacius</i>       | NR_155089.1 | *          |
| <i>Fonsecaea pugnacius</i>       | KR706554.1  | *          |
| <i>Fonsecaea pugnacius</i>       | KR706553.1  | *          |
| <i>Fonsecaea pugnacius</i>       | MH444809.1  | *          |
| <i>Fonsecaea nubica</i>          | NR_111333.1 | MK828350.1 |
| <i>Fonsecaea nubica</i>          | KU885982.1  | MK828349.1 |
| <i>Fonsecaea nubica</i>          | EU938592.1  | MK828348.1 |
| <i>Fonsecaea nubica</i>          | KY432481.1  | MK828347.1 |
| <i>Fonsecaea nubica</i>          | KP132199.1  | MK828346.1 |
| <i>Fonsecaea nubica</i>          | KP132198.1  | MK828345.1 |
| <i>Cladophialophora bantiana</i> | GQ258793.1  | OL348329.1 |
| <i>Cladophialophora bantiana</i> | KY432483.1  | MH877849.1 |

|                                   |             |            |
|-----------------------------------|-------------|------------|
| <i>Cladophialophora bantiana</i>  | KP131826.1  | MH874588.1 |
| <i>Cladophialophora bantiana</i>  | KP131825.1  | MH874436.1 |
| <i>Cladophialophora bantiana</i>  | KY312527    | AB363799.1 |
| <i>Exophiala dermatitidis</i>     | NR_121268.1 | OR529212.1 |
| <i>Exophiala dermatitidis</i>     | KP959250.1  | MH878056.1 |
| <i>Exophiala dermatitidis</i>     | KP959249.1  | MH878059.1 |
| <i>Exophiala dermatitidis</i>     | KP959248.1  | MH878058.1 |
| <i>Exophiala dermatitidis</i>     | KY312530    | MH878057.1 |
| <i>Exophiala dermatitidis</i>     | MH865405.1  | MH876931.1 |
| <i>Exophiala dermatitidis</i>     | MH865404.1  | MH876930.1 |
| <i>Rhinocladiella similis</i>     | NR_166008.1 | KU752195.1 |
| <i>Rhinocladiella similis</i>     | PP187007    | *          |
| <i>Rhinocladiella similis</i>     | MW447088.1  | *          |
| <i>Rhinocladiella similis</i>     | KP132564.1  | *          |
| <i>Rhinocladiella similis</i>     | KP132562.1  | *          |
| <i>Cladophialophora carrionii</i> | EU137294.2  | MH873312.1 |
| <i>Cladophialophora carrionii</i> | EU137309.1  | MH871463.1 |
| <i>Cladophialophora carrionii</i> | EU137290.1  | MH868814.1 |
| <i>Cladophialophora carrionii</i> | EU137304.1  | MH868813.1 |
| <i>Cladophialophora carrionii</i> | EU137303.1  | *          |
| <i>Cladophialophora carrionii</i> | EU137302.1  | *          |
| <i>Phialophora verrucosa</i>      | NR_146242.1 | MT023621.1 |
| <i>Phialophora verrucosa</i>      | KP132498.1  | MT023620.1 |
| <i>Phialophora verrucosa</i>      | DQ404353.1  | *          |
| <i>Rhinocladiella aquaspersa</i>  | GU017733.1  | MH876010.1 |
| <i>Rhinocladiella aquaspersa</i>  | GU053606.1  | MH877943.1 |
| <i>Rhinocladiella aquaspersa</i>  | MG996793.1  | MH872396.1 |
| <i>Rhinocladiella aquaspersa</i>  | GU017732.1  | MH864573.1 |
| <i>Rhinocladiella aquaspersa</i>  | MH445518.1  | *          |
| <i>Rhinocladiella aquaspersa</i>  | MH444803.1  | *          |
| <i>Fonsecaea multimorphosa</i>    | NR_111612.1 | *          |
| <i>Fonsecaea multimorphosa</i>    | EU938595.1  | *          |
| <i>Fonsecaea multimorphosa</i>    | MH864212.1  | *          |
| <i>Exophiala spinifera</i>        | NR_111131.1 | MH876941.1 |
| <i>Exophiala spinifera</i>        | AY156966.2  | MH876261.1 |
| <i>Exophiala spinifera</i>        | AY156970.1  | MH876260.1 |
| <i>Exophiala spinifera</i>        | AY156964.1  | MH876259.1 |
| <i>Exophiala spinifera</i>        | AY156962.1  | *          |
| <i>Cladophialophora immunda</i>   | NR_111283.1 | MH875705.1 |

|                                  |             |            |
|----------------------------------|-------------|------------|
| <i>Cladophialophora immunda</i>  | EU137318.1  | MH875704.1 |
| <i>Cladophialophora immunda</i>  | FJ385272.2  | MH875703.1 |
| <i>Phialophora americana</i>     | U31847.1    | MH871231.1 |
| <i>Phialophora americana</i>     | MT280660.1  | MH870708.1 |
| <i>Phialophora americana</i>     | MT280659.1  | MH859007.1 |
| <i>Cladophialophora boppii</i>   | NR_131297.1 | MH876019.1 |
| <i>Cladophialophora boppii</i>   | KP131827.1  | FJ358233.1 |
| <i>Veronaea botryosa</i>         | NR_103593.1 | OP377938.1 |
| <i>Veronaea botryosa</i>         | MG922570.1  | MH875937.1 |
| <i>Veronaea botryosa</i>         | KP187645.1  | MH875936.1 |
| <i>Veronaea botryosa</i>         | EU041816.1  | MH875352.1 |
| <i>Exophiala lecanii-corni</i>   | NR_145351.1 | MW807311.1 |
| <i>Exophiala lecanii-corni</i>   | MH063099.1  | MH867492.1 |
| <i>Exophiala lecanii-corni</i>   | MH063098.1  | FJ358243.1 |
| <i>Rhinocladiella mackenziei</i> | KP132553.1  | OQ804484.1 |
| <i>Rhinocladiella mackenziei</i> | KP132552.1  | EU041867.1 |
| <i>Rhinocladiella mackenziei</i> | MF401515.1  | EU041866.1 |
| <i>Rhinocladiella mackenziei</i> | EU041809.1  | EU041865.1 |
| <i>Exophiala jeanselmei</i>      | NR_111129.1 | MH873915.1 |
| <i>Exophiala jeanselmei</i>      | JN625228.1  | FJ358242.1 |
| <i>Exophiala jeanselmei</i>      | JX473278.1  | MT023628.1 |
| <i>Exophiala oligosperma</i>     | NR_111134.1 | MH876068.1 |
| <i>Exophiala oligosperma</i>     | KY290272.1  | MH868049.1 |