

Appendix A

Culture media and molecular reagents

Glucose yeast extract peptone broth (GYP)

Dissolve 10 g of glucose (Fisher Chemicals), yeast extract (Bio Basic Inc.) and 5 g of peptone (Bio Basic Inc.) in 1000 ml seawater, and autoclave at 121°C, 15 minutes.

Corn meal agar (CMA)

Dissolve 17 g of CMA (Difco) in 1000 ml seawater, and autoclaved at 121°C, 15 minutes.

TE buffer (Tris-EDTA buffer)

Add 1 ml of stock solution 1M Tris HCl stock, pH 8.0 (Research Organics), and 0.2 ml of stock solution 0.5 M EDTA, pH 8.0 (Bio Basic Inc) in approximately 50 ml distilled water, add to 100 ml final volume and autoclave at 121°C, 15 minutes. This will come up with final concentration of 10 mM Tris HCl, pH 8.0 and 1mM EDTA, pH 8.0.

50 X TAE buffer (Tris Acetate EDTA buffer)

Add Tris base (Bio Basic Inc) 242 g, glacial acetic acid (Merck) 57.1 ml and 0.5 M EDTA, pH 8.0 100 ml to approximately 500 distilled water, add to 1000 ml final volume.

7.5 M Ammonium acetate

Dissolve 11.562 g ammonium acetate (Bio Basic Inc) in 20 ml nanopure water, and autoclave at 121°C, 15 minutes.

CTAB lysis buffer

Add 28 ml of stock solution 5M NaCl (Merck), 20 ml of stock solution 10% CTAB, 2 ml of of stock solution 5M Tris HCl, and 5 ml of of stock solution 0.5M EDTA, adjust pH 8.4, add to 100 ml final volume, and autoclave at 121°C, 15 minutes. This will come up to the final concentration of 100 mM Tris-HCl, 1.4 M NaCl, 25 mM EDTA and 2% CTAB.

Agarose gel (1%)

Add 1 g of agarose (Bio Basic Inc) in 100 ml 1X TAE buffer. The mixture was heated in the microwave at maximum speed until the agarose powder was dissolved. The molten agarose gel was poured into the gel tray with combs.

Agarose gel running condition

The 1-2 μ l 6X loading dye was mixed with 1-5 μ l DNA or PCR product, then loaded into the wells of 1% gel in the gel tank and was electrophoresed at 80-100 volt with maximum current. The electrophoresis process was run for 30-45 minutes.

Visualization of DNA

The agarose gel was stained in the ethidium bromide solution (Fluka) (final concentration 2.5×10^{-5} mg/ml) for 10-15 minutes. The DNA was observed under the UV light in the Gel Doc and Densitometer (Syngene). The band was noted and photographs taken.

Appendix B

DNA Sequencing

1. Amplification of the rRNA gene

The PCR reaction was set up by mixing 11 μ l of DNA template (200-500 ng), 1 μ l of primer (10 μ M), 6 μ l of BigDye Terminator Cycle Sequencing kit (Applied Biosystems, PE), and 20 μ l of nanopure water with the following profile:

1 cycle	96°C	1 min
25 cycles	96°C	20 sec
	50°C / 55°C	7 sec
	60°C	4 min

2. Precipitation of the amplified sequencing reaction

The amplified DNA was precipitated with 2 μ l of sodium acetate (3M, pH 4.6 or 5.2) and 50 μ l of absolute ethanol, left on ice for 15 minutes and centrifuged for 15 minutes at 14,000 rpm at 4°C. The liquid was removed carefully and washed with chilled 70% ethanol before centrifugation at 14,000 rpm for 5 minutes at 4°C. The ethanol was removed and the DNA pellet was air dried for 5-10 minutes.

3. DNA resuspension and denaturation

The DNA was resuspended 2 μ l loading dye which contain 5 volumes of deionized formamide (Amresco) and 50 mg/ml dextran blue (Sigma) in 1 volume of

25 mM EDTA (pH 8.0). The DNA sample was denatured for 2 minutes at 100°C and quenched on ice immediately before loading the sample into the sequencing gel.

4. Preparation of sequencing polyacrylamide gel

4.1 Preparation of 10 X TBE Preparation: dissolve 54 g of Tris (AMRESCO), 27.5 g of Boric acid (Riedel-de Haën), 3.72 g of Na₂EDTA₂H₂O (AMRESCO) in 300 ml nanopure water, and make up to 500 ml.

4.2 Gel Mix Preparation: Add 17.28 g of Urea, 6 ml of 40% acrylamide (RapidGel- XL-40% Concentrate from USB), 4.8 ml of 10 X TBE, and 23.76 ml nanopure water. Allow the gel mix to fall to room temperature. Supply 240 µl of APS (Ammonium persulfate) and 33.6 µl TEMED (Amresco). Inject the gel mix between two pieces of glass fixed in a cassette with a comb inserted between the glasses, allow the gel to set for 2 hours.

5. Sequencer set up

The gel was fixed into the Perkin-Elmer ABI PRISM^R 377 DNA sequencer. The upper and lower buffer tanks were filled with 1X TBE buffer. The gel was pre-run for half an hour. Finally, the DNA sequencing samples were loaded into the wells of the gel.

6. Sequencing results

The sequencing signals were adjusted and checked manually for the misinterpretation of the software. The sequences were assembled by the Sequence NavigatorTM software (Applied Biosystems).

Appendix C

Table 1A. Ribosomal RNA sequences obtained from the GenBank

Species	GenBank accession numbers	
	SSU	LSU
Chaetosphaeriales		
<i>Carpoligna pleurothecii</i> F.A. Fern. and Huhndorf, AFTOL-ID	—	AY544685
<i>Carpoligna pleurothecii</i> F.A. Fern. and Huhndorf, SHM 2492	—	AF064646
Diaporthales		
<i>Amphiporthe castanea</i> (Tul. and C. Tul.) M.E. Barr	—	AF277128
<i>Apiognomonina suprasedata</i> S. Kaneko and Ts. Kobay.	—	AF277127
<i>Apioplagoistoma aceriferum</i> (Cooke) M.E. Barr	AF277111	AF277129
<i>Cryphonectria cubensis</i> (Bruner) Hodges	L42439	—
<i>Cryphonectria havanensis</i> (Bruner) M.E. Barr	L42440	—
<i>Diaporthe phaseolarum</i> (Cook and Ellis) Sacc.	L36985	U47830
<i>Endothia gyrosa</i> (Schwein.) Fr.	U78540	—
<i>Plagiostoma conradii</i> (Ellis) M.E. Barr	—	AF408381
Dothideales		
<i>Dothidea hippophaëos</i> (Pass.) Fuckel	U42475	—
<i>Dothidea insculpta</i> Wallr.	U42474	—
Erysiphales		
<i>Blumeria graminis</i> (D.C.) Speer	L26253	—
<i>Blumeria</i> sp.	AF204228	—
<i>Phyllactinia guttata</i> (Wallr.) Lév.	AF021796	—
Halosphaeriales		
<i>Aniptodera chesapeakeensis</i> Shearer and M. Mill.	AF050483	U46882
<i>Aniptodera lignatilis</i> K.D. Hyde	—	AY227115
<i>Antennospora quadricornuta</i> (Cribb and J.W. Cribb) T.W. Johnson	—	AY090890
<i>Arenariomyces trifurcates</i> Höhnk	—	U46883
<i>Ascosacculus aquaticus</i> (K.D.Hyde) J.Campb. J.L. Anderson and Shearer	—	AY227136
<i>Ascosacculus heteroguttulata</i> (S.W. Wong, K.D. Hyde and E.B.G. Jones) J.Campb. J.L. Anderson and Shearer	—	AY227136
<i>Ascosalsum viscidulum</i> (J. and E. Kohlm.) J.Campb. J.L. Anderson and Shearer	—	AY150223
<i>Ascosalsum cincinatulum</i> (Shearer and J.L.Crane) J.Campb. J.L. Anderson and Shearer	—	AY150220
<i>Ceriosporopsis halima</i> Linder	U47843	U47844
<i>Ceriosporopsis halima</i> Linder, LP45	—	AY490788
<i>Corollospora filiformis</i> Nakagiri	—	AF491256
<i>Corollospora maritima</i> Werderm.	—	U46884

Table 1A. (Continued)

Species	GenBank accession numbers	
	SSU	LSU
<i>Cucullosporella mangrovei</i> (K.D. Hyde and E.B.G. Jones) K.D. Hyde and E.B.G. Jones	—	AY150219
<i>Haligena salina</i> C.A. Farrant and E.B.G. Jones	—	AY094182
<i>Halosarpheia fibrosa</i> Kohlm. and E. Kohlm.	AF352078	AF396872
<i>Halosarpheia marina</i> (Cribb and J.W. Cribb) Kohlm.	—	AY227125
<i>Halosarpheia trullifera</i> (Kohlm.) E.B.G. Jones, S.T. Moss and Cuomo	—	AF396875
<i>Halosarpheia unicellularis</i> Abdel-Wahab and E.B.G. Jones	—	AF396876
<i>Halosarpheia</i> sp. A481	—	AY227119
<i>Halosphaeria appendiculata</i> Linder	U46872	U46885
<i>Halosphaeriopsis mediosetigera</i> (Cribb and J.W. Cribb) T.W. Johnson	—	U46887
<i>Lignincola laevis</i> Höhnk	U46873	—
<i>Magnisphaera spartinae</i> (E.B.G. Jones) J. Campb., J. L., Anderson and Shearer	—	AY150221
<i>Magnisphaera stevemossago</i> (E.B.G. Jones) J. Campb., J. L., Anderson and Shearer	—	AY227135
<i>Marinospora longissima</i> (Kohlm.) Cavaliere	—	AF491266
<i>Monodictys pelagica</i> (T. Johnson) E.B.G. Jones	—	AF491275
<i>Nais inornata</i> Kohlm.	AF050482	—
<i>Natantispora lotica</i> (Shearer) J. Campb., J.L. Anderson and Shearer	—	AF396873
<i>Natantispora retorquens</i> (Shearer and J.L. Crane) J. Campb., J.L. Anderson and Shearer	AF050486	—
<i>Neptunella longirostris</i> (Cribb and J. W. Cribb) K.L. Pang and E.B.G. Jones	—	AF539472
<i>Nereiospora comata</i> (Kohlm.) E.B.G. Jones, R.G. Johnson and S.T. Moss	—	AF491267
<i>Nereiospora cristata</i> (Kohlm.) E.B.G. Jones, R.G. Johnson and S.T. Moss	—	AF491268
<i>Nereiospora</i> sp. PP5602	—	AF491269
<i>Nimboospora effusa</i> Jørgen Koch	U46877	U46892
<i>Nohea umiumi</i> Kohlm. and Volkm.-Kohlm.	U46878	U46893
<i>Okeanomyces cuculatus</i> (Kohlm.) K.L.Pang and E.B.G. Jones	—	AY490787
<i>Ophiodeira monosemeia</i> Kohlm. and Volkm.-Kohlm.	—	U46894
<i>Panorbis viscosus</i> (I. Schmidt) J. Campb., J.L. Anderson and Shearer, A231-2B	—	AY227132
<i>Panorbis viscosus</i> (I. Schmidt) J. Campb., J.L. Anderson and Shearer, K5380A	—	AY227133
<i>Periconia prolifica</i> Anastasiou	—	AY090891
<i>Phaeonectriella lignicola</i> R.A. Eaton and E.B.G. Jones	—	AY150224
<i>Saagaromyces abonnis</i> (Kohlm.) K.L. Pang and E.B.G. Jones	—	AF539469
<i>Saagaromyces glitra</i> (J.L.Crane and Shearer) K.L. Pang and E.B.G. Jones	—	AF539475
<i>Saagaromyces ratnagiriensis</i> (S.D. Patil and Borse) K.L. Pang and E.B.G. Jones	—	AF539470
<i>Sigmoidea marina</i> Haythorn and E.B.G. Jones	—	AY762985
<i>Sigmoidea parvula</i> A. Zuccaro	—	AY762987
<i>Tirisporea unicaudata</i> E.B.G. Jones and Vrijmoed	—	AY150225
<i>Varicosporina ramulosa</i> Meyers and Kohlm.	—	U44092

Table 1A. (Continued)

Species	GenBank accession numbers	
	SSU	LSU
Helotiales		
<i>Chalara affinis</i> Sacc. and Berl., CBS 562.77	—	AF222446
<i>Chalara angustata</i> T. Kowalski and Halmschl.	—	AF222448
<i>Leotia lubrica</i> (Scop.) Pers., AFTOL-ID	—	AY544644
Hypocreales		
<i>Acremonium chrysogenum</i> (Thirum. and Sukapure) W. Gams	U43971	—
<i>Acremonium murorum</i> (Corda) W. Gams	—	U43966
<i>Aphysostroma stercorarium</i> Barrasa, A.T. Martínez and G. Moreno	AF543769	U47820
<i>Balansia henningsiana</i> (A. Møller) Diehl	AY489683	AY545727
<i>Balansia obtecta</i> Diehl	—	U17395
<i>Bionectria</i> cf. <i>aureofulva</i>	—	AF193227
<i>Bionectria compactiuscula</i> Schroers	—	AY283557
<i>Bionectria ochroleuca</i> 1 (Schwein.) Schroers and Samuels	—	AY686634
<i>Bionectria ochroleuca</i> 2 (Schwein.) Schroers and Samuels	—	AY283558
<i>Bionectria ochroleuca</i> 3 (Schwein.) Schroers and Samuels	AB003950	—
<i>Calonectria kyotensis</i> Terash.	AY321197	—
<i>Chaetopsina fulva</i> Rambelli	AB003786	—
<i>Cladobotryum obclavatum</i>	AF049145	—
<i>Cylindrocladium floridanum</i> Sobers and C.P. Seym.	—	U17408
<i>Drechmeria coniospora</i> (Drechsler) W. Gams and H.-B. Jansson	AF106012	—
<i>Emericellopsis minima</i> Stolk	U44043	—
<i>Emericellopsis terricola</i> J.F.H. Beyma	U44112	U57082
<i>Epichloë typhina</i> (Pers.) Tul. and C. Tul.	AB105953	U17396
<i>Gibberella avenacia</i> R.J. Cook	AF141946	—
<i>Gibberella fujikuroi</i> (Sawada) Wollenw.	AB071860	—
<i>Gibberella pulicaris</i> (Fr.) Sacc.	AF149875	—
<i>Hapsidospora irregularis</i> Malloch and Cain	AF096177	—
<i>Heleococcum japonicum</i> Tubaki	—	U17429
<i>Hobsonia christiansenii</i> B.L. Brady and D. Hawksw.	AF289656	—
<i>Hydropisphaera erubescens</i> (Roberge ex Desm.) Rossman and Samuels	—	AF193228
<i>Hydropisphaera peziza</i> (Tode) Dumort.	—	AF193232
<i>Hypocrea citrina</i> (Pers.) Fr.	AY779279	—
<i>Hypocrea jecorina</i> Berk. and Broome	AF548103	—
<i>Hypocrea lutea</i> (Tode) Petch	—	U00739
<i>Hypocrea schweinitzii</i> (Fr.) Sacc.	AF164357	U47833
<i>Hypocrella</i> sp. GJS 89-104	U32409	—
<i>Hypomyces aurantius</i> (Pers.) Fuckel	—	U00742
<i>Hypomyces australis</i> (Mont.) Höhn.	—	U00743
<i>Hypomyces chrysospermus</i> Tul. and C. Tul.	M89993	—
<i>Hypomyces polyporinus</i> Peck	AF543771	—
<i>Hypomyces subiculosus</i> (Berk. and M.A. Curtis) Höhn.	—	AY283564
<i>Illosporium carneum</i> Fr.	AF289655	—
<i>Kallichroma glabrum</i> (Kohlm.) Kohlm. and Volkm.-Kohlm.	—	AF193233
<i>Kallichroma tethys</i> 1 (Kohlm. and E. Kohlm.) Kohlm. and Volkm.-Kohlm.	—	AF193234
<i>Kallichroma tethys</i> 2 (Kohlm. and E. Kohlm.) Kohlm. and Volkm.-Kohlm.	—	AF193235

Table 1A. (Continued)

Species	GenBank accession numbers	
	SSU	LSU
<i>Kallichroma tethys</i> 3 (Kohlm. and E. Kohlm.) Kohlm. and Volkm.-Kohlm., BCC13048	AY722099	—
<i>Leuconectria clusiae</i> (Samuels and Rogerson) Rossman, Samuels and Lowen	—	U17412
<i>Nectria cinnabarina</i> (Tode) Fr.	AB003949	AF193237
<i>Nectria haematococca</i> Berk. and Broome	AF141952	AY489729
<i>Nectria lugdunensis</i> J. Webster	AY204604	—
<i>Nectria pseudotrichia</i> (Schwein.) Berk. and M.A. Curtis	—	U17410
<i>Nectria radicolica</i> Gerlach and L. Nilsson	—	U17415
<i>Nectriopsis squamulosa</i> Ellis	—	U17423
<i>Neocosmospora endophytica</i> Polishook, Bills and Rossman	—	U17411
<i>Neocosmospora vasinfecta</i> E.F. Sm.	U44117	AY381154
<i>Neomunkia sydowii</i> Petr.	—	AY327047
<i>Neotyphodium coenophialum</i> (Morgan-Jones and W. Gams) Glenn, C.W. Bacon and Hanlin	—	U57681
<i>Nigrosabulum globosum</i> Malloch and Cain	AF096180	—
<i>Nomuraea rileyi</i> (Farl.) Samson	AB100361	—
<i>Ochronectria calami</i> (Henn. and E. Nyman) Rossman and Samuels	—	AF193243
<i>Ophionectria trichospora</i> (Berk. and Broome) Sacc.	AF543766	—
<i>Persiciospora africana</i> J.C. Krug	AY015620	—
<i>Podostroma cordyceps</i> (Penz. and Sacc.) Yoshim. Doi	AY245667	—
<i>Scopinella solani</i> (Zukal) Malloch	AY015621	—
<i>Selinia pulchra</i> (G. Winter) Sacc.	—	AF193246
<i>Sphaerostibella aureonitens</i> (Tul. and C. Tul.) Seifert, Samuels and W. Gams	U32415	U00755
<i>Sphaerostibella berkeleyana</i> (Plowr. and Cooke) Samuels and Cand.	—	U00756
<i>Stanjemonium fuscescens</i> W. Gams, Schroers and Abdullah	—	AF049168
<i>Stanjemonium grisellum</i> W. Gams, Schroers and M. Chr.	—	AF049171
<i>Stanjemonium ochroroseum</i> W. Gams, Schroers and M. Chr.	AF049152	AF049172
<i>Torrubiella luteorostrata</i> Zimm.	AY526469	—
<i>Valetoniellopsis laxa</i> Samuels and M.E. Barr	AY015624	AY015635
Ceratostomataceae, Hypocreales		
<i>Sphaerodes compressa</i> (Udagawa and Cain) P.F. Cannon and D. Hawksw.	AY015622	—
<i>Sphaerodes fimicola</i> (E.C. Hansen) P.F. Cannon and D. Hawksw.	AY015617	AY015628
<i>Melanospora breviostris</i> (Fuckel) Höhn.	AY015616	—
<i>Melanospora fallax</i> Zukal	U47842	—
<i>Melanospora singaporensis</i> Morinaga, Minoura and Udagawa	AY015618	AY015629
<i>Melanospora tiffanii</i> Kowalski	AY015619	AY015630
<i>Melanospora zamiae</i> 1 Corda	AY057905	—
<i>Melanospora zamiae</i> 2 Corda	AY046578	—
<i>Melanospora zamiae</i> 3 Corda	U78356	—

Table 1A. (Continued)

Species	GenBank accession numbers	
	SSU	LSU
Lulworthiales		
<i>Kohlmeyeriella tubulata</i> (Kohlm.) E.B.G. Jones, R.G. Johnson and S.T. Moss	—	AF491265
<i>Lindra medusa</i> (Ellis and Everh.) Cribb and J.W. Cribb	AF195636	AF195637
<i>Lindra thallasiae</i> Orpurt, Meyers, Boral and Simms	AF195634	AF195635
<i>Lulworthia fucicola</i> G.K. Sutherl.	AF050481	—
<i>Lulworthia grandispora</i> Meyers	AF047582	AF047583
<i>Lulworthia</i> sp., JK4843	AF195640	—
<i>Lulworthia</i> sp., JK5393	AF195638	—
Magnaporthaceae, Sordariomycetes incertae sedis		
<i>Ophioceras commune</i> Shearer, J.L. Crane and W. Chen, A46-2A	AF050469	—
<i>Ophioceras commune</i> Shearer, J.L. Crane and W. Chen, 772-1B	AF050470	—
<i>Ophioceras cummune</i> Shearer, J.L. Crane and W. Chen, CS408-2	AF050471	—
<i>Ophioceras tenuisporum</i> Shearer, J.L. Crane and W. Chen	AF050475	AY346295
<i>Ophioceras fusiforme</i> Shearer, J.L. Crane and W. Chen	AF050473	—
<i>Ophioceras leptosporum</i> (S.H. Iqbal) J. Walker	AF050474	—
<i>Ophioceras arcuatisporum</i> Shearer, J.L. Crane and W. Chen, A9-1	AF050472	—
<i>Ophioceras arcuatisporum</i> Shearer, J.L. Crane and W. Chen, A167	AF050468	—
<i>Gaeumannomyces graminis</i> (Sacc.) Arx and D.L. Olivier	AF050488	—
<i>Pseudohalonectria falcata</i> Shearer	AF050477	—
<i>Pseudohalonectria lignicola</i> Minoura and T. Muroi	U31812	AY346299
<i>Ophioceras</i> sp.	AF050467	—
Meliolales		
<i>Meliola juddiana</i> F. Stevens	AF021793	—
<i>Meliola niessleana</i> G. Winter	AF021794	—
Microascales		
<i>Enterocarpus grenotii</i> Locq.-Lin.	—	AF275533
<i>Kernia geniculotricha</i> Seth	—	AF275532
<i>Kernia hippocrepida</i> Malloch and Cain	—	AF275531
<i>Microascus cirrosus</i> Curzi	M89994	AF275539
<i>Microascus exsertus</i> Skou	—	AF275535
<i>Microascus giganteus</i> Malloch	—	AF275540
<i>Microascus trigonospora</i> C.W. Emmons and B.O. Dodge	—	U47835
<i>Petriella guttulata</i> G.L. Barron and Cain	—	AF275534
<i>Petriella musispora</i> Malloch	—	AF275537
<i>Petriella setifera</i> (J.C. Schmidt) Curzi	U43908	U48421
<i>Polystigma ochraceum</i> Westend.	AF276299	—
<i>Pseudallescheria africana</i> (Arx and G. Franz) McGinnis, A.A. Padhye and Ajello	—	AF275541
<i>Pseudallescheria angusta</i> (Malloch and Cain) McGinnis, A.A. Padhye and Ajello	—	AF275538

Table 1A. (Continued)

Species	GenBank accession numbers	
	SSU	LSU
<i>Pseudallescheria boydii</i> (Shear) McGinnis, A.A. Padhye and Ajello	M89782	—
<i>Pseudallescheria ellipsoidea</i> (Arx and Fassat.) McGinnis, A.A. Padhye and Ajello	U43911	—
<i>Verticillium albo-atrum</i> Reinke and Berthold	AF108493	—
<i>Verticillium dahliae</i> var. <i>longisporum</i> C. Stark	AF153421	—
<i>Verticillium nigrescens</i> Pethybr.	AF108500	—
Microascales <i>incertae sedis</i>		
<i>Ceratocystis eucalypti</i> Z.Q. Yuan and Kile	—	AF222482
<i>Ceratocystis fagacearum</i> (Bretz) J. Hunt	—	AF222483
<i>Ceratocystis fimbriata</i> Ellis. and Halst.	U32418	U47822
<i>Ceratocystis virescens</i> R.W. Davidson	U32410	U47824
<i>Gondwanamyces capense</i> (M.J. Wingf. and P.S. van Wyk) G.J. Marais and M.J. Wingf.	—	AF221012
<i>Gondwanamyces proteae</i> (M.J. Wingf., P.S. van Wyk and Marasas) G.J. Marais and M.J. Wingf.	—	AF221011
Neolectales		
<i>Neolecta irregularis</i> (Peck) Korf and J.K. Rogers	Z47721	—
<i>Neolecta vitellina</i> (Bres.) Korf and J.K. Rogers	Z27393	—
Ophiostomatales		
<i>Fragosphaeria purpurea</i> Shear	AF096176	AF096191
<i>Ophiostoma bicolor</i> R.W. Davidson and D.E. Wells	AB007666	—
<i>Ophiostoma cucullatum</i> H. Solheim	AY497513	—
<i>Ophiostoma europioides</i> (E.F. Wright and Cain) H. Solheim	AB007667	—
<i>Ophiostoma penicillatum</i> (Grosmann) Siemaszko	AB007668	—
<i>Ophiostoma pilliferum</i> Syd. and P. Syd.	U20377	U47837
<i>Ophiostoma ulmi</i> (Buisman) Nannf.	M83261	—
Pezizales		
<i>Helvella lacunosa</i> Afzel.	U42654	U42681
<i>Morchella conica</i> Pers.	—	AJ698468
<i>Morchella elata</i> Fr.	—	AJ698469
<i>Morchella esculenta</i> (L.) Pers.	U42642	AF279398
Phyllachorales		
<i>Colletotrichum acutata</i> J.H. Simmonds	—	AF275542
<i>Colletotrichum caudatum</i> Peck	—	Z18985
<i>Colletotrichum destructivum</i> O'Gara	—	AB106158
<i>Colletotrichum fuscum</i> Laubert	—	Z18986
<i>Colletotrichum gloeosporioides</i> (Penz.) Penz. and Sacc.	AY083798	Z18999
<i>Colletotrichum graminicola</i> (Ces.) G.W. Wilson	—	Z18984
<i>Colletotrichum higginsianum</i> Sacc.	—	AB106156
<i>Colletotrichum lagenarium</i> (Pass.) Ellis and Halst.	—	Z18979
<i>Colletotrichum lindemuthianum</i> (Sacc. and Magnus) Briosi and Cavara	—	Z18975
<i>Colletotrichum linicola</i> Pethybr. and Laff.	—	AB106151
<i>Colletotrichum musae</i> (Berk. and M.A. Curtis) von Arx	—	Z18976

Table 1A. (Continued)

Species	GenBank accession numbers	
	SSU	LSU
<i>Colletotrichum orbiculare</i> (Berk. and Mont.) von Arx	—	Z19001
<i>Colletotrichum trifolii</i> Bain	—	Z18991
<i>Colletotrichum</i> sp.	AB076801	—
<i>Glomerella acutata</i> Guerber and J.C. Correll	—	AF275542
<i>Glomerella cingulata</i> 1 (Stoneman) Spauld. and H. Schrenk	U48427	U17403
<i>Glomerella cingulata</i> 2 (Stoneman) Spauld. and H. Schrenk	—	U48428
<i>Glomerella graminicola</i> D.J. Politis	—	AJ565912
<i>Glomerella phacidiomorpha</i> (Ces.) Petr.	—	AF275496
<i>Glomerella septospora</i> Sivan. and W.H. Hsieh	U78779	—
<i>Glomerella tucumanensis</i> (Speg.) von Arx and E. Müll.	—	AF275543
<i>Plectosphaerella cucumerina</i> 1 (Lindf.) W. Gams	AF176951	AF222497
<i>Plectosphaerella cucumerina</i> 2 (Lindf.) W. Gams	AF222522	—
<i>Polystigma ochraceum</i> (Wahlenb.) Sacc	AF276299	—
<i>Verticillium albo-atrum</i> Reinke and Berthold	AF108493	—
<i>Verticillium nigrescens</i> Pethybr.	AF108500	—
Pleosporales		
<i>Leptosphaeria doliolum</i> (Pers.) Ces. and De Not.	U43457	—
<i>Leptosphaeria maculans</i> (Desm.) Ces. and De Not.	U04238	—
<i>Leptosphaeria microscopica</i> P. Karst.	U04235	—
<i>Lophiostoma caulium</i> (Fr.) Ces. and De Not.	—	U43469
<i>Ophiobolus fulgidus</i> (Cooke and Peck) Sacc.	U43454	U43472
<i>Pleospora betae</i> (Berl.) Nevod.	—	U43483
<i>Trematosphaeria heterospora</i> (De Not.) G. Winter	AF346429	—
Sordariales		
<i>Ascitendus triseptatus</i> J. Campb. and Shearer	—	AY094186
<i>Camarops microspora</i> (P. Karst.) Shear	AY083800	—
<i>Cercophora septentrionalis</i> N. Lundq.	U32400	U47823
<i>Chaetomium cupreum</i> L.M. Ames	—	AF286400
<i>Chaetomium elatum</i> Kunze and J.C. Schmidt	M83257	—
<i>Chaetomium globosum</i> Kunze	U85087	AF286403
<i>Chaetomium sphaerale</i> Chivers	—	AF286407
<i>Neurospora crassa</i> Shear and B.O. Dodge	X04971	M38154
<i>Sordaria fimicola</i> (Roberge ex Desm.) Ces. and De Not.	X69851	—
<i>Submersisphaeria aquatica</i> K.D. Hyde	—	AY094193
Xylariales		
<i>Acanthorhynchus vaccinii</i> Shear	—	AY075112
<i>Amphisphaeria umbrina</i> (Fr.) De Not.	—	AF452029
<i>Apioclypea</i> sp.	—	AY083836
<i>Appendicospora</i> sp.	—	AY083833
<i>Arecophila bambusae</i> Umali and K.D. Hyde	—	AF452038
<i>Ascolacicola austriaca</i> Réblová, Winka and Jakl.	—	AF261067
<i>Bartalinia bischoffiae</i> Nag Raj	—	AF382367
<i>Bartalinia lateripes</i> (Ellis and Everh.) Nag Raj	—	AF382368
<i>Cainia graminis</i> (Niessl) Arx and E. Müll.	—	AF431949
<i>Clypeosphaeria phillyreae</i> Sousa da Câmara	—	AF452043
<i>Clypeosphaeria uniseptata</i> K.M. Tsui, K.D. Hyde and Hodgkiss	—	AY083830
<i>Cryptosphaeria eunomia</i> var. <i>eunomia</i> (Fr.) Fuckel	—	AY083826

Table 1A. (Continued)

Species	GenBank accession numbers	
	SSU	LSU
<i>Daldinia concentrica</i> (Bolton: Fr.) Ces and De Not.	U32402	U47828
<i>Diamantina citrina</i> A.N. Mill., Laessøe and Huhndorf	—	AY346278
<i>Diatrype disciformis</i> (Hoffm.) Fr.	—	U47829
<i>Discosia</i> sp.	—	AF382381
<i>Discostroma</i> sp.	—	AF382380
<i>Dyrithiopsis lakefuxianensis</i> R. Jeewon, L. Cai, E.C.Y. Liew, K.Q. Zhang and K.D. Hyde	—	AF452047
<i>Eutypa</i> sp., HKUCC337	—	AY083825
<i>Eutypella</i> sp.	—	AY234936
<i>Fasciatispora petrakii</i> (Mhaskar and V.G. Rao) K.D. Hyde	—	AY083828
<i>Graphostroma platystoma</i> (Schwein.) Piroz.	—	AY083827
<i>Halorosellinia oceanica</i> (S. Schatz) Whalley, E.B.G. Jones, K.D. Hyde and Laessøe	—	AY083822
<i>Hyponectria buxi</i> (DC.) Sacc.	AF130976	AY083834
<i>Hyponectria</i> sp.	—	AF452040
<i>Iodosphaeria aquatica</i> K.D. Hyde	—	AF452044
<i>Lanceispora</i> sp. 1	—	AF452034
<i>Lanceispora</i> sp. 2	—	AF452035
<i>Lasiobertia</i> sp., SMH2065	—	AY346288
<i>Lasiosphaeria ovina</i> (Pers.) Ces. and De Not.	—	AF064643
<i>Leiosphaerella</i> sp.	—	AF452037
<i>Lepteutypa cupressi</i> (Natrass, C. Booth and B. Sutton) H.J. Swart	—	AF382379
<i>Libertella blepharis</i> A.L. Sm.	—	Y621003
<i>Microdochium nivale</i> (Fr.) Samuels and I.C. Hallett	—	AF024596
<i>Monochaetia karstenii</i> Sacc. and P. Syd.) B. Sutton	—	AF382371
<i>Monographella nivalis</i> (Schaffnit) E. Müll.	—	AF452030
<i>Obolarina dryophila</i> (Tul. and C. Tul.) Pouzar	Z49784	—
<i>Oxydothis frondicola</i> K.D. Hyde	—	AY083835
<i>Pestalotiopsis palmarum</i> (Cooke) Steyaert	—	AF382361
<i>Pestalosphaeria</i> sp.	—	AF452031
<i>Pestalotia photiniae</i> Thüm.	—	AF382363
<i>Pidoplitchkoviella terricola</i> Kiril.	—	AF096197
<i>Rosellinia necatrix</i> Berl. and Prill.	—	AY083824
<i>Seimatosporium grevilleae</i> (Loos) Shoemaker	—	AF382372
<i>Seiridium cardinale</i> (W.W. Wagener) B. Sutton and I.A.S. Gibson	—	AF382377
<i>Seynesia erumpens</i> (Berk. and M.A. Curtis) Petr.	—	AF279410
<i>Truncatella angustata</i> Pers.) S. Hughes	—	AF382383
<i>Truncatella conorum-piceae</i> (Tubeuif) Steyaert	—	AF382384
<i>Xylaria carpophila</i> (Pers.) Fr.	Z49785	—
<i>Xylaria curta</i> Fr.	U32417	U47840
<i>Xylaria hypoxylon</i> (L.) Grev.	U20378	AF132333
<i>Xylaria</i> sp.	AB014042	—

Table 1A. (Continued)

Species	GenBank accession numbers	
	SSU	LSU
Sordariomycetes <i>Incertae sedis</i>		
<i>Ascotaiwania hughesii</i> Fallah, J.L. Crane and Shearer, P2-6	—	AY094189
<i>Ascotaiwania mitriformis</i> Ranghoo and K.D. Hyde	—	AF132324
<i>Ascotaiwania persoonii</i> Fallah, J.L. Crane and Shearer, A57-14C	—	AY094190
<i>Ascotaiwania sawada</i> H.S. Chang and S.Y. Hsieh	—	AF132323
Basidiomycota, Sporidiobolales		
<i>Sporobolomyces blumeae</i> M. Takash. and Nakase	AB030321	—

Table 2A. Beta-tubulin and ITS1-5.8S-ITS2 sequences obtained from the GenBank

Species	ITS1-5.8S-ITS2	beta-tubulin
<i>Bionectria apocyni</i> (Peck) Schroers and Samuels, CBS 130.87	AF210688	AF358168
<i>Bionectria byssicola</i> (Berk. and Broome) Schroers and Samuels, CBS 914.97	AF358252	AF210868
<i>Calonectria ovata</i> D. Victor and Crous, UFV90	AF210884	AF210868
<i>Ceratocystis adiposa</i> (E.J. Butler) C. Moreau	AF275545	—
<i>Ceratocystis albofundus</i> M.J. Wingf., De Beer and M.J. Morris	AF264910	—
<i>Clonostachys agrawalii</i> Kushwaha) Schroers, CBS 533.81	AF358241	AF358187
<i>Colletotrichum destructivum</i> O'Gara	AJ558108	—
<i>Colletotrichum</i> sp.	AJ558111	—
<i>Cylindrocladium theae</i> (Petch) Subram., UFV 16	AF231962	AF232862
<i>Epichloë amarillans</i> J.F. White	AF385206	—
<i>Gaeumannomyces graminis</i> var. <i>tritici</i> J. Walker, 9840	AF508788	—
<i>Hypocrea koningii</i> Lieckf., Samuels et W. Gams, GJS 89-122	AY380902	—
<i>Hypocrea stilbohypoxyli</i> , GJS 96-30a	AY380916	—
<i>Myrothecium atroviride</i> (Berk. and Broome) M.C. Tulloch, wb256	AF455507	—
<i>Myrothecium roridum</i> Tode	AY303605	—
<i>Phialophora</i> sp., P2/P9	U17216	—
<i>Stachybotrys kampalensis</i> Hansf.	AY180263	AY180252
<i>Stachybotrys nephrospora</i> Hansf.	AF081476	—
<i>Stachybotrys</i> sp., SAP155	AF422987	—

Publications and International Presentations

1. **Jariya Sakayaroj**, E.B. Gareth Jones, Ittichai Chatmala and Souwalak Phongpaichit. 2004. Marine Fungi. In: Thai Fungal Diversity, edited by E.B.G. Jones, M. Tantichareon and K.D. Hyde Bangkok, Thailand, pp. 107-117.
2. **Jariya Sakayaroj**, Lai Ka Pang, Souwalak Phongpaichit and E.B. Gareth Jones. 2005. A phylogenetic study of the genus *Haligena* (Halosphaeriales, Ascomycota). Mycologia. **(In press, accepted 23 March 2005)**.
3. **Jariya Sakayaroj**, Lai Ka Pang, E.B. Gareth Jones, Souwalak Phongpaichit, Lilian L. Vrijmoed and Mohamed A. Abdel-Wahab. 2005. A systematic reassessment of the marine ascomycetes: *Torpedospora* and *Swampomyces*. Botanica Marina **(In press, submitted January 2005)**.
4. **Jariya Sakayaroj**, Souwalak Phongpaichit and E.B. Gareth Jones. 2002. Molecular phylogenetic relationship of the genus *Haligena* (Halosphaeriales) based on ribosomal DNA sequences. The 3rd Asia-Pacific Mycological Conference on Biodiversity and Biotechnology (AMC 2002). Kunming, China. 4-8 November, 2002. **(Best oral presentation award)**.
5. **Jariya Sakayaroj**, Lai Ka Pang, E. B. Gareth. Jones, Lilian L. P. Vrijmoed, Mohamed A. Abdel-Wahab and Souwalak Phongpaichit, S. 2004. A systematics reassessment of the marine ascomycetes: *Torpedospora* and *Swampomyces*. The IV Asia-Pacific Mycological Congress & The IX International Marine and Freshwater Mycology Symposium. 14-19 November 2004, Chiangmai, Thailand. **(Peter**

Molitoris Prize for the best oral presentation in marine mycology, provided by City University of Hong Kong).

6. Souwalak Phongpaichit, **Jariya Sakayaroj**, Ittichai Chatmala and E. B. Gareth Jones. 2002. Biodiversity of higher marine fungi in Thailand. The 3rd Asia-Pacific Mycological Conference on Biodiversity and Biotechnology (AMC 2002). Kunming, China. 4-8 November, 2002. **(Poster presentation).**

7. Ittichai Chatmala, **Jariya Sakayaroj**, Souwalak Phongpaichit and E. B. Gareth Jones. 2003. Molecular techniques and their use in determining fungal phylogeny and identification of non-sporulating and unculturable fungi. BioThailand 2003, Technology for Life 17-20 July 2003, Pattaya, Thailand, National Center for Genetic Engineering and Biotechnology (BIOTEC) **(poster presentation).**