

Supplementary Table S1. Examples of case studies documenting Zygomycota infections.

Taxon	Disease
Mucorales	
<i>Apophysomyces elegans</i>	post-trauma [1], rhino-orbito-cerebral [2], renal [3]
<i>Apophysomyces ossiformis</i>	no reports
<i>Apophysomyces variabilis</i>	post-trauma [4]
<i>Apophysomyces trapeziformis</i>	post-trauma necrotizing [5][4]
<i>Cokeromyces recurvatus</i>	pneumonia [6], , diarrhea [7] [8]
<i>Cunninghamella echinulata</i>	sinus [9]
<i>Cunninghamella elegans</i> (syn. <i>Cunninghamella bertholletiae</i>)	pneumonia [10], systemic [11], cutaneous [12], rhino-orbital [13], endocardiovascular, and peritoneal [14]
<i>Lichtheimia corymbifera</i> (syn. <i>Absidia corymbifera</i> , <i>Mycocladus corymbifera</i>)	pneumonia [15], burns [16]
<i>Mucor circinelloides</i>	cutaneous [17][18], (with diabetes)
<i>Mucor ellipsoideus</i>	[19]
<i>Mucor hiemalis</i>	cutaneous [[20], [21]]
<i>Mucor indicus</i>	post-trauma GI-tract [22], systemic [23]
<i>Mucor irregularis</i> (syn. <i>Rhizomucor variabilis</i>)	rhinofacial [24, 25] , cutaneou s [26]
<i>Mucor racemosus</i>	
<i>Mucor ramosissimus</i>	cutaneous [27]
<i>Mucor velutinosus</i>	disseminated [28], [19]
<i>Rhizomucor miehei</i>	

<i>Rhizomucor pusillus</i> (syn. <i>Mucor pusillus</i>)	systemic [29]
<i>Rhizopus arrhizus</i> (syn. <i>Mucor rouxianus</i> ; <i>R. oryzae</i> ; <i>R. racemosus</i>)	
<i>Rhizopus microsporus</i> var. <i>azygosporus</i> (syn. <i>Rhizopus azygosporus</i>)	gastrointestinal [30], neonatal [31]
<i>Rhizopus microsporus</i> var. <i>microsporus</i>	
<i>Rhizopus microsporus</i> var. <i>oligosporus</i>	sinus ? [32]
<i>Rhizopus microsporus</i> var. <i>rhizopodiformis</i> (<i>Mucor rhizopodiformis</i> ; <i>Rhizopus rhizopodiformis</i>)	disseminated [32], liver [33]
<i>Rhizopus schipperae</i>	
<i>Rhizopus stolnifer</i>	
<i>Saksenaea vasiformis</i>	post-trauma
<i>Saksenaea erythrospora</i>	post-trauma [34]
<i>Syncephalastrum racemosum</i> (syn. <i>Syncephalastrum cinereum</i> , <i>Syncephalastrum elegans</i> , <i>Syncephalastrum fuliginosum</i> , <i>Syncephalastrum javanicum</i> , <i>Syncephalastrum nigricans</i>)	Cutaneous [35]
Entomophthorales	
<i>Basidiobolus ranarum</i> (syn. <i>Basidiobolus meristosporus</i> , <i>Basidiobolus haptosporus</i> , <i>Basidiobolus heterosporus</i>)	gastrointestinal [36] cutaneous [37], subcutaneous [38], disseminated [39]
<i>Conidiobolus coronatus</i> (syn. <i>Boudierella</i>	Rhinofacial subcutaneous [40],

<i>coronata</i> , <i>Conidiobolus villosus</i> , <i>Delacroixia coronata</i> , <i>Entomophthora coronata</i>)	
<i>Conidiobolus lamprauges</i>	Disseminated [41]
Mortierellales	
<i>Mortierella wolfii</i>	
<i>Mortierella polycephala</i>	pulmonary infections in cattle [42]

Supplementary references:

1. Andresen D, Donaldson A, Choo L, Knox A, Klaassen M, Ursic C, Vonthethoff L, Krilis S, Konecny P (2005) Multifocal cutaneous mucormycosis complicating polymicrobial wound infections in a tsunami survivor from Sri Lanka. *Lancet* 365:876–878.
2. Liang KP, Tleyjeh IM, Wilson WR, Roberts GD TZ (2006) Rhino-orbitocerebral mucormycosis caused by *Apophysomyces elegans*. *J Clin Microbiol* 44:892–8.
3. Marak RSK, Misra R, Ansari MS, Dixit A, Poornima, Prasad KN, Dhole TN (2010) Successful medical management of renal zygomycosis: a summary of two cases and a review of the Indian literature. *Med Mycol* 48:1088–95.
4. Dela Cruz WP, Calvano TP, Griffith ME, White CE, Kim SH, Sutton DA, Thompson EH, Fu J, Wickes BL, Guarro J, Hospenthal DR (2012) Invasive *Apophysomyces variabilis* infection in a burn patient. *J Clin Microbiol* 50:2814–7.
5. Etienne KA, Gillece J, Hilsabeck R, Schupp JM, Colman R, Lockhart SR, Gade L, Thompson EH, Sutton DA, Neblett-Fanfair R, Park BJ, Turabelidze G, Keim P, Brandt ME, Deak E, Engelthaler DM (2012) Whole genome sequence typing to investigate the *Apophysomyces* outbreak following a tornado in Joplin, Missouri, 2011. *PLoS One* 7:e49989.
6. Ryan LJ, Ferrieri P, Powell RD, Paddock CD, Zaki SR, Pambuccian SE (2011) Fatal *Cokeromyces recurvatus* pneumonia: report of a case highlighting the potential for histopathologic misdiagnosis as coccidioides. *Int J Surg Pathol* 19:373–6.
7. Tsai TW, Hammond LA, Rinaldi M, Martin K, Tio F, Maples J, Freytes CO, Roodman GD (1997) *Cokeromyces recurvatus* infection in a bone marrow transplant recipient. *Bone Marrow Transplant* 19:301–2.
8. Alvarez OA, Maples JA, Tio FO, Lee M (1995) Severe diarrhea due to *Cokeromyces recurvatus* in a bone marrow transplant recipient. *Am J Gastroenterol* 90:1350–1.
9. Leblanc RE, Meriden Z, Sutton DA, Thompson EH, Neofytos D, Zhang SX (2013) *Cunninghamella echinulata* causing fatally invasive fungal sinusitis. *Diagn Microbiol Infect Dis* 76:506–509.
10. Gupta R, Goel N, Gupta A, Gupta KB, Chaudhary U, Sood S (2011) A rare fungal infiltration of lungs in a healthy young girl. *Case Rep Pulmonol* 2011:917089.
11. Hsieh T-T, Tseng H-K, Sun P-L, Wu Y-H, Chen G-S (2013) Disseminated zygomycosis caused by *Cunninghamella bertholletiae* in patient with hematological malignancy and review of published case reports. *Mycopathologia* 175:99–106.
12. Motohashi K, Ito S, Hagihara M, Maruta A, Ishigatsubo Y, Kanamori H (2009) Cutaneous zygomycosis caused by *Cunninghamella bertholletiae* in a patient with chronic myelogenous leukemia in blast crisis. *Am J Hematol* 84:447–8.
13. Righi E, Giacomazzi CG, Lindstrom V, Albarello A, Soro O, Miglino M, Perotti M, Varnier OE, Gobbi M, Viscoli C, Bassetti M (2008) A case of *Cunninghamella bertholletiae* rhino-cerebral infection in a leukaemic patient and review of recent published studies. *Mycopathologia* 165:407–10.
14. Gomes MZR, Lewis RE, Kontoyiannis DP (2011) Mucormycosis caused by unusual mucormycetes, non-Rhizopus, -Mucor, and -Lichtheimia species. *Clin Microbiol Rev* 24:411–45.

15. Kleinotiene G, Posiunas G, Raistenskis J, Zurauskas E, Stankeviciene S, Daugelaviciene V, Machaczka M (2013) Liposomal amphotericin B and surgery as successful therapy for pulmonary *Lichtheimia corymbifera* zygomycosis in a pediatric patient with acute promyelocytic leukemia on antifungal prophylaxis with posaconazole. *Med Oncol* 30:433.
16. Constantinides J, Misra A, Nassab R, Wilson Y (2008) *Absidia corymbifera* fungal infection in burns: a case report and review of the literature. *J Burn Care Res* 29:416–9.
17. Dizbay M, Adisen E, Kustimur S, Sari N, Cengiz B, Yalcin B, Kalkanci A, Gonul II, Sugita T (2009) Fungemia and cutaneous zygomycosis due to *Mucor circinelloides* in an intensive care unit patient: case report and review of literature. *Jpn J Infect Dis* 62:146–8.
18. Iwen PC, Sigler L, Noel RK, Freifeld AG (2007) *Mucor circinelloides* was identified by molecular methods as a cause of primary cutaneous zygomycosis. *J Clin Microbiol* 45:636–40.
19. Alvarez E, Cano J, Stchigel AM, Sutton DA, Fothergill AW, Salas V, Rinaldi MG, Guarro J (2011) Two new species of *Mucor* from clinical samples. *Med Mycol* 49:62–72.
20. Prevoo RL, Starink TM, de Haan P (1991) Primary cutaneous mucormycosis in a healthy young girl. Report of a case caused by *Mucor hiemalis* Wehmer. *J Am Acad Dermatol* 24(5 Pt 2):882–5.
21. Costa AR, Porto E, Tayah M, Valente NY, Lacaz C da S, Maranhão WM, Rodrigues MC (1990) Subcutaneous mucormycosis caused by *Mucor hiemalis* Wehmer f. luteus (Linnemann) Schipper 1973. *Mycoses* 33:241–6.
22. Deja M, Wolf S, Weber-Carstens S, Lehmann T-N, Adler A, Ruhnke M, Tintelnot K (2006) Gastrointestinal zygomycosis caused by *Mucor indicus* in a patient with acute traumatic brain injury. *Med Mycol* 44:683–7.
23. Ter Borg F, Kuijper EJ, van der Lelie H (1990) Fatal mucormycosis presenting as an appendiceal mass with metastatic spread to the liver during chemotherapy-induced granulocytopenia. *Scand J Infect Dis* 22:499–501.
24. Hemashettar BM, Patil RN, O'Donnell K, Chaturvedi V, Ren P, Padhye AA (2011) Chronic rhinofacial mucormycosis caused by *Mucor irregularis* (*Rhizomucor variabilis*) in India. *J Clin Microbiol* 49:2372–5.
25. Li DM, Lun L De (2012) *Mucor irregularis* infection and lethal midline granuloma: a case report and review of published literature. *Mycopathologia* 174:429–39.
26. Lu X, Liu Z, Shen Y, She X, Lu G, Zhan P, Fu M, Zhang X, Ge Y, Liu W (2009) Primary cutaneous zygomycosis caused by *Rhizomucor variabilis*: a new endemic zygomycosis? A case report and review of 6 cases reported from China. *Clin Infect Dis* 49:e39–43.
27. Weitzman I, Della-Latta P, Housey G, Rebatta G (1993) *Mucor ramosissimus* Samutsevitsch isolated from a thigh lesion. *J Clin Microbiol* 31:2523–5.
28. Sugui JA, Christensen JA, Bennett JE, Zelazny AM, Kwon-Chung KJ (2011) Hematogenously disseminated skin disease caused by *Mucor velutinosus* in a patient with acute myeloid leukemia. *J Clin Microbiol* 49:2728–32.
29. Hadaschik E, Koschny R, Willinger B, Hallscheidt P, Enk A, Hartschuh W (2012) Pulmonary, rhino-orbital and cutaneous mucormycosis caused by *Rhizomucor pusillus* in an immunocompromised patient. *Clin Exp Dermatol* 37:355–7.
30. Roussy J-F, Allard C, St-Germain G, Pépin J (2012) Gastrointestinal Mucormycosis following a *Streptococcus pyogenes* Toxic Shock Syndrome in a Previously Healthy Patient: A Case Report. *Case Rep Infect Dis* 2012:476719.

31. Schipper MA, Maslen MM, Hogg GG, Chow CW, Samson RA (1996) Human infection by *Rhizopus azygosporus* and the occurrence of azygospores in Zygomycetes. *J Med Vet Mycol* 34:199–203.
32. Ribeiro LC, Wanke B, da Silva M, Dias LB, Mello R, Canavarros FAPB, Leite-Jr DP, Hahn RC (2012) Mucormycosis in Mato Grosso, Brazil: a case reports, caused by *Rhizopus microsporus* var. *oligosporus* and *Rhizopus microsporus* var. *rhizopodiformis*. *Mycopathologia* 173:187–92.
33. Sedlacek P, Vavra V, Masova I, Codl D, Laznickova T, Malaskova L, Nyc O, Stary J (2009) Successful therapy with ABLC, surgery and posaconazole for *Rhizopus microsporus* var. *rhizopodiformis* liver eumycetoma in a child with acute leukaemia. *Mycoses* 52:276–9.
34. Hosenthal DR, Chung KK, Laiert K, Thompson EH, Guarro J, Renz EM, Sutton DA (2011) *Saksenaea erythrospora* infection following combat trauma. *J Clin Microbiol* 49:3707–9.
35. Pavlović MD, Bulajić N (2006) Great toenail onychomycosis caused by *Syncephalastrum racemosum*. *Dermatol Online J* 12:7.
36. Geramizadeh B, Foroughi R, Keshtkar-Jahromi M, Malek-Hosseini S-A, Alborzi A (2012) Gastrointestinal basidiobolomycosis, an emerging infection in the immunocompetent host: a report of 14 patients. *J Med Microbiol* 61(Pt 12):1770–4.
37. Mendiratta V, Karmakar S, Jain A, Jabeen M (2012) Severe cutaneous zygomycosis due to *Basidiobolus ranarum* in a young infant. *Pediatr Dermatol* 29:121–3.
38. Ramesh V, Ramam M, Kapoor MR, Sugandhan S, Dhawan J, Khanna G (2010) Subcutaneous zygomycosis: report of 10 cases from two institutions in North India. *J Eur Acad Dermatol Venereol* 24:1220–5.
39. Van den Berk GEL, Noorduyn LA, van Ketel RJ, van Leeuwen J, Bemelman WA, Prins JM (2006) A fatal pseudo-tumour: disseminated basidiobolomycosis. *BMC Infect Dis* 6:140.
40. Isa-Isa R, Arenas R, Fernández RF, Isa M (2012) Rhinofacial conidiobolomycosis (entomophthoramycosis). *Clin Dermatol* 30:409–412.
41. Kimura M, Yaguchi T, Sutton DA, Fothergill AW, Thompson EH, Wickes BL (2011) Disseminated human conidiobolomycosis due to *Conidiobolus lampraugae*. *J Clin Microbiol* 49:752–6.
42. Scholz HD, Meyer L (1965) *Mortierella polycephala* as a causative agent of pulmonary mycosis in cattle. *Berl Munch Tierarztl Wochenschr* 78:27–30.