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Morphological Growth Index

1.1 Filamentous Bacteria

Growth: slow, beginning glabrous, developing into fuzzy appearance in later culture. May also appear folded and convoluted, giving a “molar tooth-like” colony.

1.1.1 Gram stain shows Gram-positive branching rods

Nocardia (white, pink to orange) (see figures in Chapter 4)

Rhodococcus equi (coral) (see figures in Chapter 4)

Streptomyces (white, cream, brown, black) (see figures in Chapter 4)

1.1.2 Modified Acid-fast Stain Shows Partial Acid Fastness

Rhodococcus equi (see figures in Chapter 4)

Nocardia (see figures in Chapter 4)

1.2 Yeasts and Yeast-like Organisms

1.2.1 Growth (30°C): Rapid, White to Cream, or Tan

Candida species (see figures in Chapter 4)

Cryptococcus (see figures in Chapter 4) (for further information see reference 64 in Additional Reading)

Pichia (Hansenula) anomala (see figures in Chapter 4)

Malassezia (see figures in Chapter 4) (for further information see reference 65 in Additional Reading)

Trichosporon (see figures in Chapter 4) (for further information see reference 63 in Additional Reading)

Prototheca... Algae (see figures in Chapter 4)

1.2.2 Growth (30 °C): Rapid, Pigmented

Cryptococcus (yellow pigment on Sabouraud dextrose) (see figures in Chapter 4) (for further information see reference 64 in Additional Reading)

Rhodotorula (pink or coral pigment) (see figures in Chapter 4)

1.3 Yeast/Yeast-like Organisms That Produce Hyphae

Coccidioides immitis (see figures in Chapter 5) (for further information see references 10 and 11 in Additional Reading)

Blastoschizomyces (see figures in Chapter 4) (for further information see reference 61 in Additional Reading)

Geotrichum (see figures in Chapter 4)

Malbranchea (see figures in Chapter 8)

Trichosporon (see figures in Chapter 4) (for further information see reference 63 in Additional Reading)

Arthrographis (see figures in Chapter 4)

1.4 Thermally Dimorphic Fungi

Blastomyces dermatitidis (see figures in Chapter 5) (for further information see references 1–4 in Additional Reading)

Histoplasma capsulatum (see figures in Chapter 5) (for further information see references 5–9 in Additional Reading)

Paracoccidioides brasiliensis (for further information see references 12 and 13 in Additional Reading)

Penicillium marneffei (for further information see reference 26 in Additional Reading)

Sporothrix schenckii (see figures in Chapter 8)

1.5 Thermally Monomorphic Molds

1.5.1 Having Microconidia, Macroconidia or Phialoconidia

Acremonium (see figures in Chapter 9) (for further information see reference 38 in Additional Reading)

Aspergillus (see figures in Chapter 8) (for further information see reference 35 in Additional Reading)

Beauveria (see figures in Chapter 8)

Chrysosporium (see figures in Chapter 8) (for further information see reference 30 in Additional Reading)

Emmonsia (see figures in Chapter 8)

Epidermophyton (see figures in Chapter 7)

Exophiala (see figures in Chapter 9) (for further information see reference 51 in Additional Reading)

Fonsecaea (see figures in Chapter 9) (for further information see reference 54 in Additional Reading)

Fusarium (see figures in Chapter 8) (for further information see reference 37 in Additional Reading)

Gliocladium (see figures in Chapter 8)

Graphium (for further information see reference 36 in Additional Reading)

Lasiodiplodia theobromae (for further information see reference 57 in Additional Reading)

Metarrhizium anisopliae (for further information see reference 39 in Additional Reading)

Microsporium (see figures in Chapter 7)

Paecilomyces (see figures in Chapter 8) (for further information see references 33 and 34 in Additional Reading)

Paraconiothyrium cyclothyrioides (for further information see reference 29 in Additional Reading)

Penicillium (see figures in Chapter 8) (for further information see references 31 and 32 in Additional Reading)

Penicillium marneffeii (for further information see references 26 and 28 in Additional Reading)

Phaeoacremonium parasiticum (see figures in Chapter 9) (for further information see reference 54 in Additional Reading)

Phaeoannellomyces (Hortaea) werneckii (see figures in Chapter 9)

Phialemonium (see figures in Chapter 9)

Phialophora (see figures in Chapter 9) (for further information see references 53 and 54 in Additional Reading)

Pseudallescheria boydii (see figures in Chapter 9) (for further information see reference 48 in Additional Reading)

(Also *Scedosporium apiospermum*)

Ramichloridium (see figures in Chapter 8) (for further information see references 41 and 42 in Additional Reading)

Rhinochadiella, Veronaea (see figures in Chapter 8) (for further information see reference 27 in Additional Reading)

Scopulariopsis (see figures in Chapter 8)

Sepedonium (see figures in Chapter 8)

Sporotrichum (see figures in Chapter 8)

Stachybotrys (see figures in Chapter 9)

Syncephalastrum (see figures in Chapter 6)

Trichoderma (see figures in Chapter 8)

Trichophyton (see figures in Chapter 7)

Trichothecium roseum (see figures in Chapter 8)

1.5.2 Having Sporangia

Absidia (Lichtheimia) (see figures in Chapter 6) (for further information see reference 22 in Additional Reading)

Alternaria (see figures in Chapter 9)

Apophysomyces (for further information see references 20, 22 and 25 in Additional Reading)

Basidiobolus (for further information see references 17 and 22 in Additional Reading)

Cokeromyces (for further information see references 16, 19 and 22 in Additional Reading)

Conidiobolus (see figures in Chapter 6) (for further information see references 18 and 22 in Additional Reading)

Cunninghamella (see figures in Chapter 6) (for further information see reference 22 in Additional Reading)

Mucor (see figures in Chapter 6) (for further information see references 22 and 23 in Additional Reading)

Rhizopus (see figures in Chapter 6) (for further information see reference 22 in Additional Reading)

Saksenaea (for further information see references 20 and 22 in Additional Reading)

Stemphylium (see figures in Chapter 9) (for further information see reference 22 in Additional Reading)

1.5.3 Having Arthroconidia

Arthrographis (see figures in Chapter 4)

Coccidioides (see figures in Chapter 5) (for further information see references 10 and 11 in Additional Reading)

Geotrichum (see figures in Chapter 4)

Malbranchea (see figures in Chapter 8)

Neoscytalidium (see figures in Chapter 9)

1.5.4 Having Only Hyphae with Chlamydoconidia

Madurella grisea (see figures in Chapter 9)

Madurella mycetomatis (see figures in Chapter 9)

Microsporium ferrugineum (see figures in Chapter 7)

Trichophyton schoenleinii (see figures in Chapter 7)

Trichophyton verrucosum (see figures in Chapter 7)

Trichophyton violaceum (see figures in Chapter 7)

1.6 Dematiaceous (Brown or Black Colored Fungi)

Alternaria (see figures in Chapter 9) (for further information see reference 60 in Additional Reading)

Aureobasidium (see figures in Chapter 9) (for further information see reference 59 in Additional Reading)

Bipolaris (see figures in Chapter 9) (for further information see references 52, 54 and 60 in Additional Reading)

Chaetomium (see figures in Chapter 9)

Chrysosporium (see figures in Chapter 8)

Cladophialophora carrionii (see figures in Chapter 9) (for further information see references 44 and 50 in Additional Reading)

Cladosporium species (see figures in Chapter 9) (for further information see references 45, 46, 49, 55 and 58 in Additional Reading)

Curvularia (see figures in Chapter 9) (for further information see reference 54 in Additional Reading)

Ochroconis (Dactylaria) (see figures in Chapter 9) (for further information see references 52 and 54 in Additional Reading)

Emmonsia (see figures in Chapter 8)

Epicoccum (see figures in Chapter 9)

Exophiala jeanselmei (see figures in Chapter 9) (for further information see reference 52 in Additional Reading)

Exophiala dermatitidis (see figures in Chapter 9) (for further information see reference 52 in Additional Reading)

Exserohilum (see figures in Chapter 9) (for further information see reference 54 in Additional Reading)

Graphium (for further information see reference 36 in Additional Reading)

Hormonema dematioides (see figures in Chapter 9) (for further information see reference 56 in Additional Reading)

Madurella grisea (see figures in Chapter 9)

Microascus trigonosporus (for further information see reference 54 in Additional Reading)

Nigrospora (see figures in Chapter 9)

Phaeoacremonium parasiticum (see figures in Chapter 9) (for further information see reference 54 in Additional Reading)

Phaeoannellomyces (Hortaea) werneckii (see figures in Chapter 9) (for further information see reference 47 in Additional Reading)

Phialophora verrucosum (see figures in Chapter 9) (for further information see references 52 and 54 in Additional Reading)

Phialophora richardsiae (for further information see reference 54 in Additional Reading)

Pseudallescheria boydii (Scedosporium) (see figures in Chapter 9) (for further information see reference 48 in Additional Reading)

Phoma (see figures in Chapter 9) (for further information see reference 43 in Additional Reading)

Pithomyces (see figures in Chapter 9)

Neoscytalidium (see figures in Chapter 9)

Sporotrichum (see figures in Chapter 8)

Stachybotrys (see figures in Chapter 9)

Stemphylium (see figures in Chapter 9)

Ulocladium (see figures in Chapter 9)

1.7 Other Fungi for Which No Photographs are Available

Actinomadura (white, red, pink, orange)

Botrytis

Drechslera

Geomyces

Helminthosporium

Lecythophora

Monilia sitophila

Nocardiopsis

Piedraia hortae

Saccharomyces

Sporobolomyces

Verticillium