

Yeast Identification: Module 1

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Where do I begin?

Note the gross characteristics of the isolate

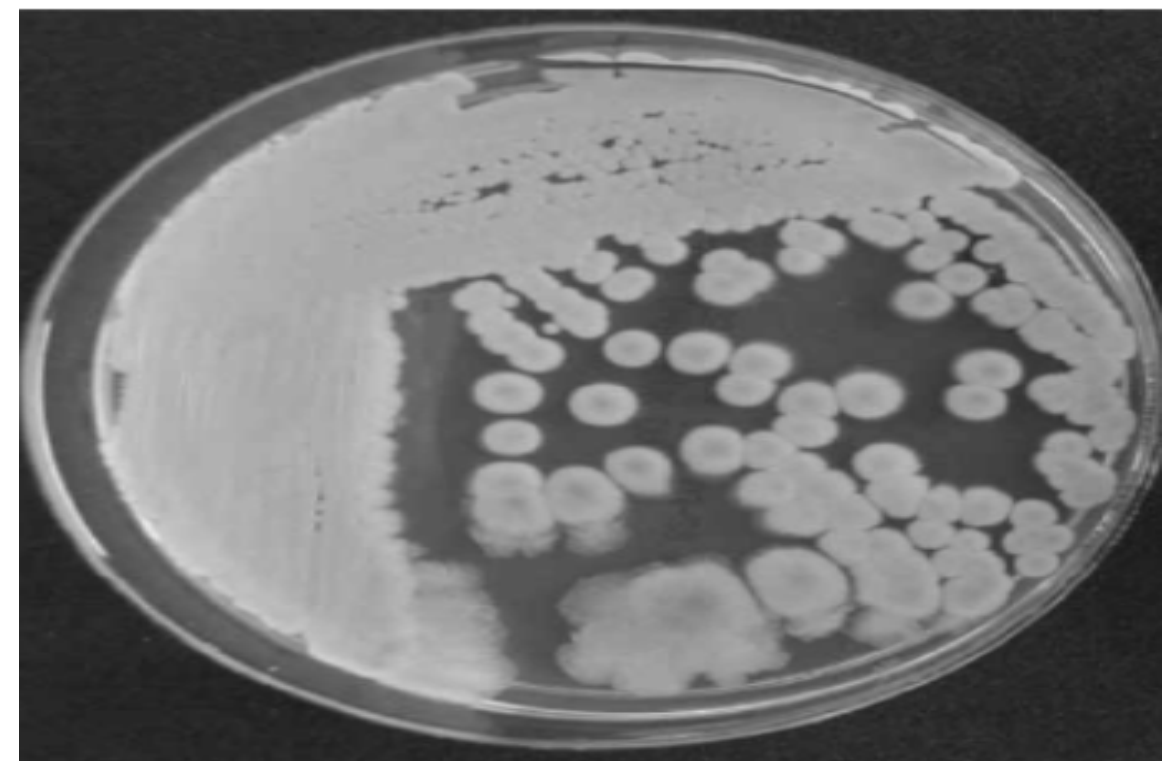
- Growth on media
 - a. Sabouraud Dextrose Agar
 - b. Blood agar
 - c. Media containing cycloheximide
 - d. Broth (Thio, BHI, etc.)
- Growth Temperature
 - a. Room Temperature
 - b. 30°C
 - c. 35 - 37°C
 - d. 42 - 45°C
- Pigment
- Macroscopic Morphology - *What does it look like?*
- Rate of Mature Growth on Sabouraud Dextrose Agar
 - a. 24 hours
 - b. 48 hours
 - c. 72 hours
 - d. >72 hours

Macroscopic Morphology

Smooth & Creamy



Flat & Dry



Macroscopic Morphology

Wrinkled & Heaped



Mucoid

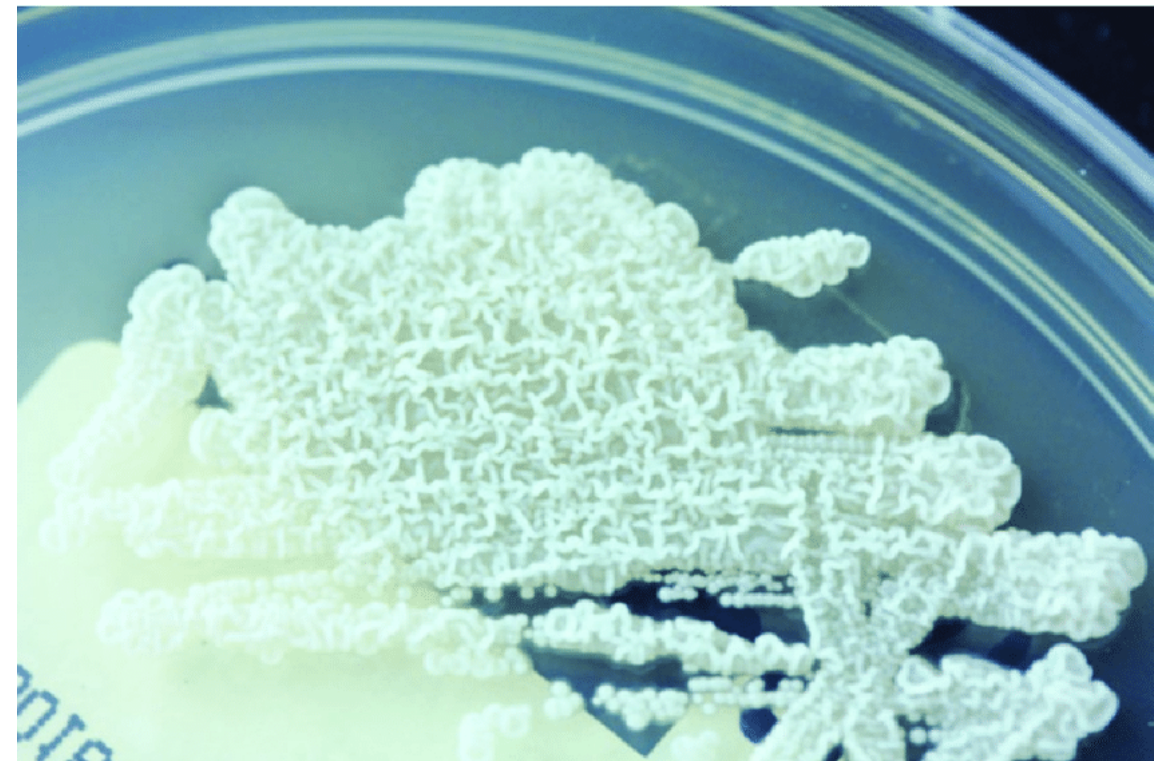


Macroscopic Morphology










Getting Old



Rugose & Dry



Macroscopic Morphology

Pigment/Color	Size in Diameter	Shape
<i>Cryptococcus neoformans</i> – tan	Large: >1 mm 	Circular 
<i>Rhodotorula species</i> – pink to red	Medium: 1 mm 	Irregular 
<i>Sporobolomyces salmonicolor</i> – pink to coral	Small: 0.5 - 1 mm 	Filamentous 
<i>Iridescent</i> – changes color in reflected light	Pinpoint/Punctiform: < 0.5 mm 	Rhizoid 
		Spindle 

NOTE: The media of isolation may affect colony pigment production.

Macroscopic Morphology

Margin (Edge of Colony)

Entire



Undulate



Lobate



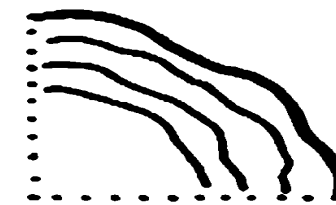
Erose



Filamentous



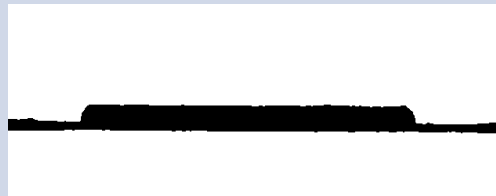
Curled/Wave



Macroscopic Morphology

Elevation (Topography)

Flat



Raised



Convex



Dome Shaped



Umbonate (Knob)



Umbilicate



Macroscopic Morphology

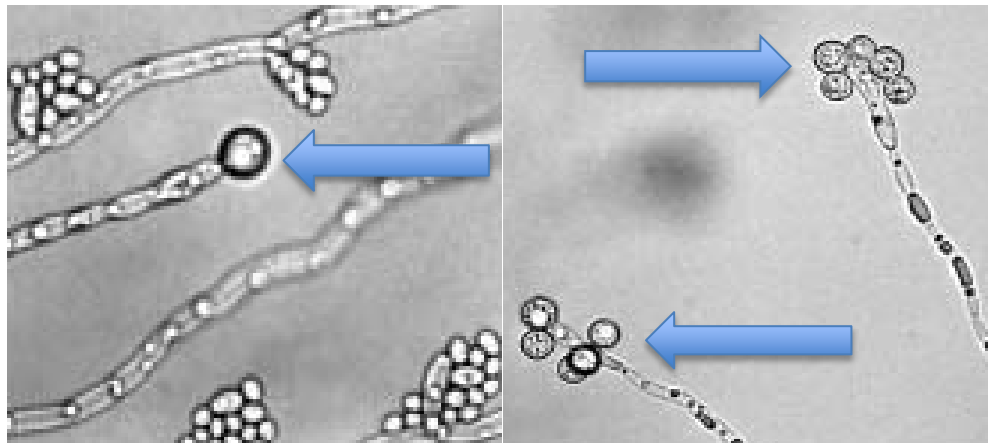
Density (Opacity)	Texture (Consistency)	
<i>Opaque – cannot see through the colony</i>	<i>Smooth</i>	<i>Creamy</i>
	<i>Moist</i>	<i>Mucoid</i>
<i>Transparent – can see through the colony</i>	<i>Glistening</i>	<i>Granular</i>
	<i>Dry/Rugose (wrinkled)</i>	<i>Dull</i>
<i>Translucent – must shine light through the colony to see through it</i>	<i>Brittle/Friable</i>	<i>Rough</i>
	<i>Viscid (sticks to loop/hard to get off – may be embedded in media)</i>	

Note Microscopic Morphology

- **Blastoconidia**



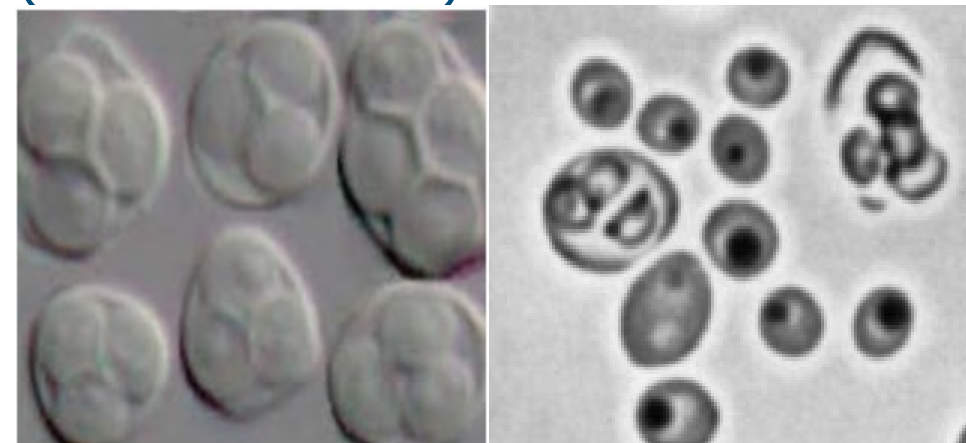
- **Chlamydoconidia**
(Elongated Blastoconidia)



- **Arthroconidia**



- **Ascospores**
(Acid Fast Positive)



Note Microscopic Morphology

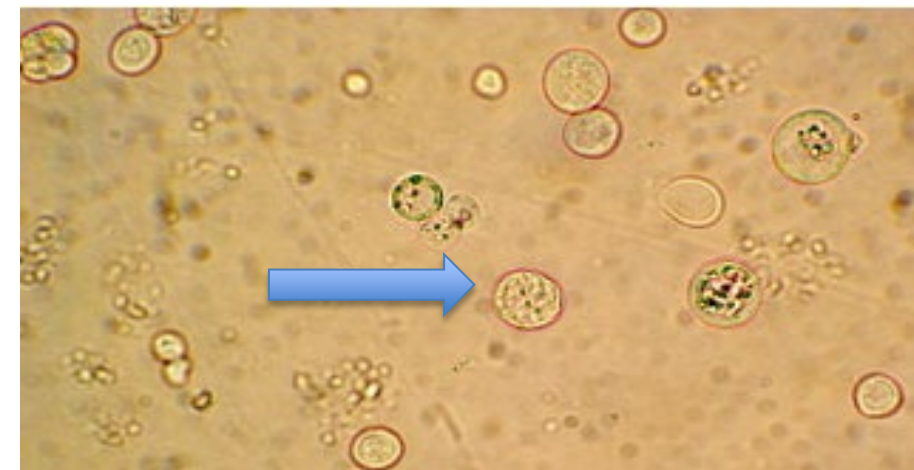
- Anelloconidia



- Arthroconidia



- Sporangia

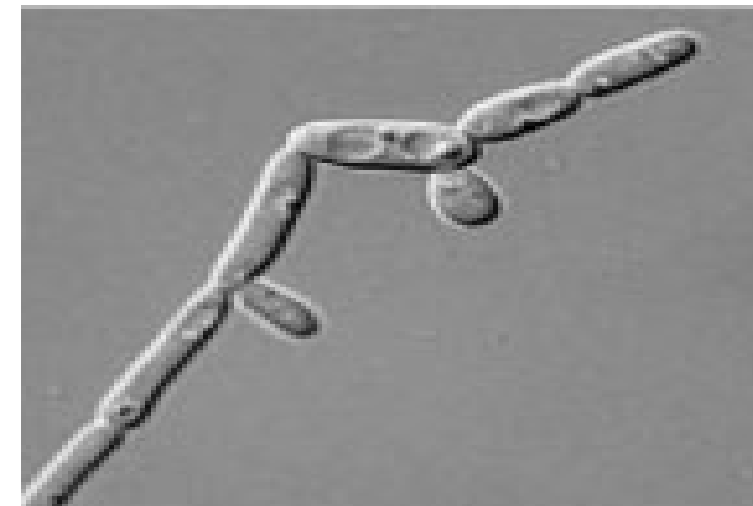
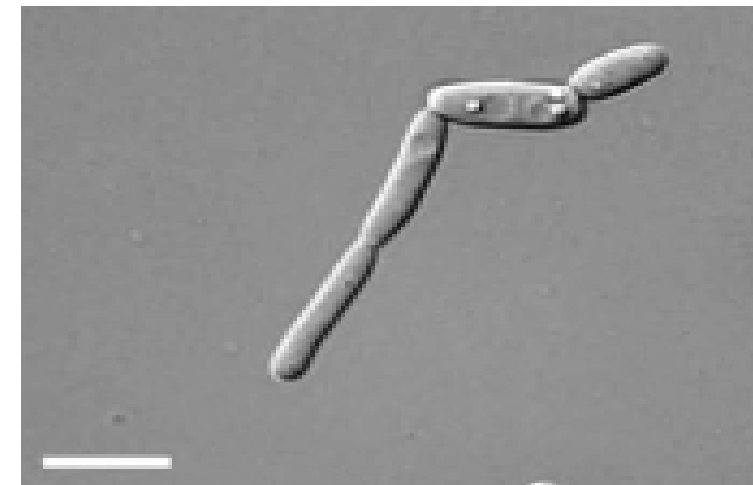


Note Microscopic Morphology

- True Hyphae



- Pseudohyphae
(Elongated Blastoconidia)



Microscopic Morphology

Blastoconidia Only	Blastoconidia along pseudohyphae	Blastoconidia, pseudohyphae, chlamydoconidia	Blastoconidia, pseudohyphae, arthroconidia
<i>Candida glabrata</i> <i>Cryptococcus species</i> <i>Rhodotorula species</i>	<i>Candida species</i> <i>Blastoschizomyces species</i> <i>Trichosporon species</i>	<i>Candida albicans</i> <i>Candida dubliniensis</i>	<i>Trichosporon species</i>

NOTE: Prototheca species are achlorophyllous algae that will grow on fungal agar, present macroscopic morphologies resembling some yeasts, and cause mycosis-like infections. They produce sporangia containing sporangiospores (endospores). Some species may produce capsules.

Microscopic Morphology

Arthroconidia Only	True Hyphae	Capsule Production	Phialides with collarettes
<i>Geotrichum species</i>	<i>Geotrichum species</i> <i>Trichosporon species</i>	<i>Cryptococcus species</i> <i>Rhodotorula species</i>	<i>Malassezia species</i>

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