

FUNGI

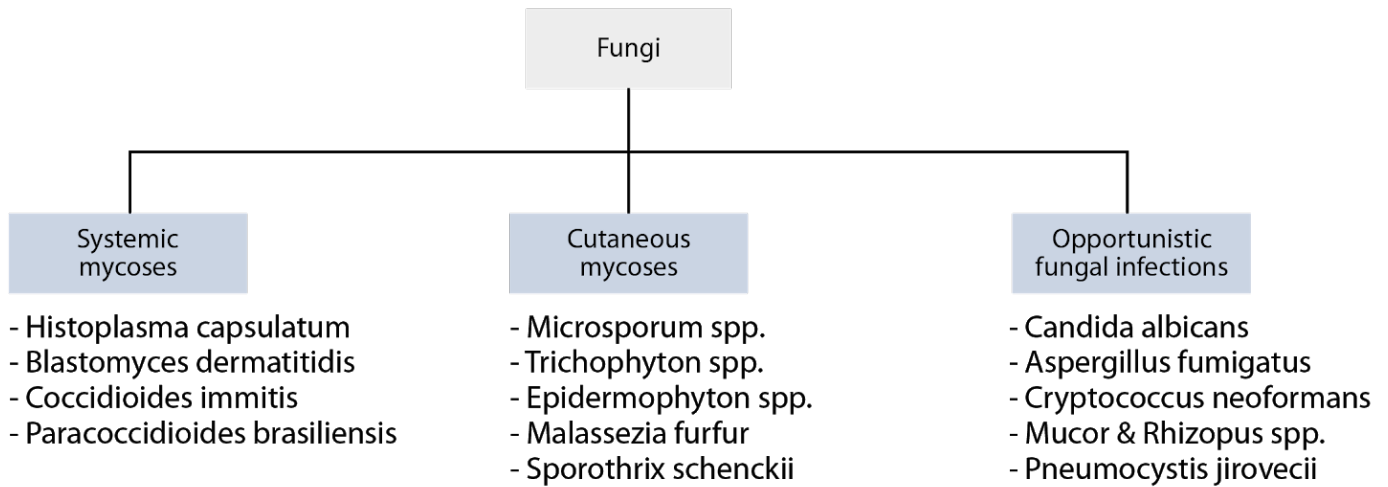
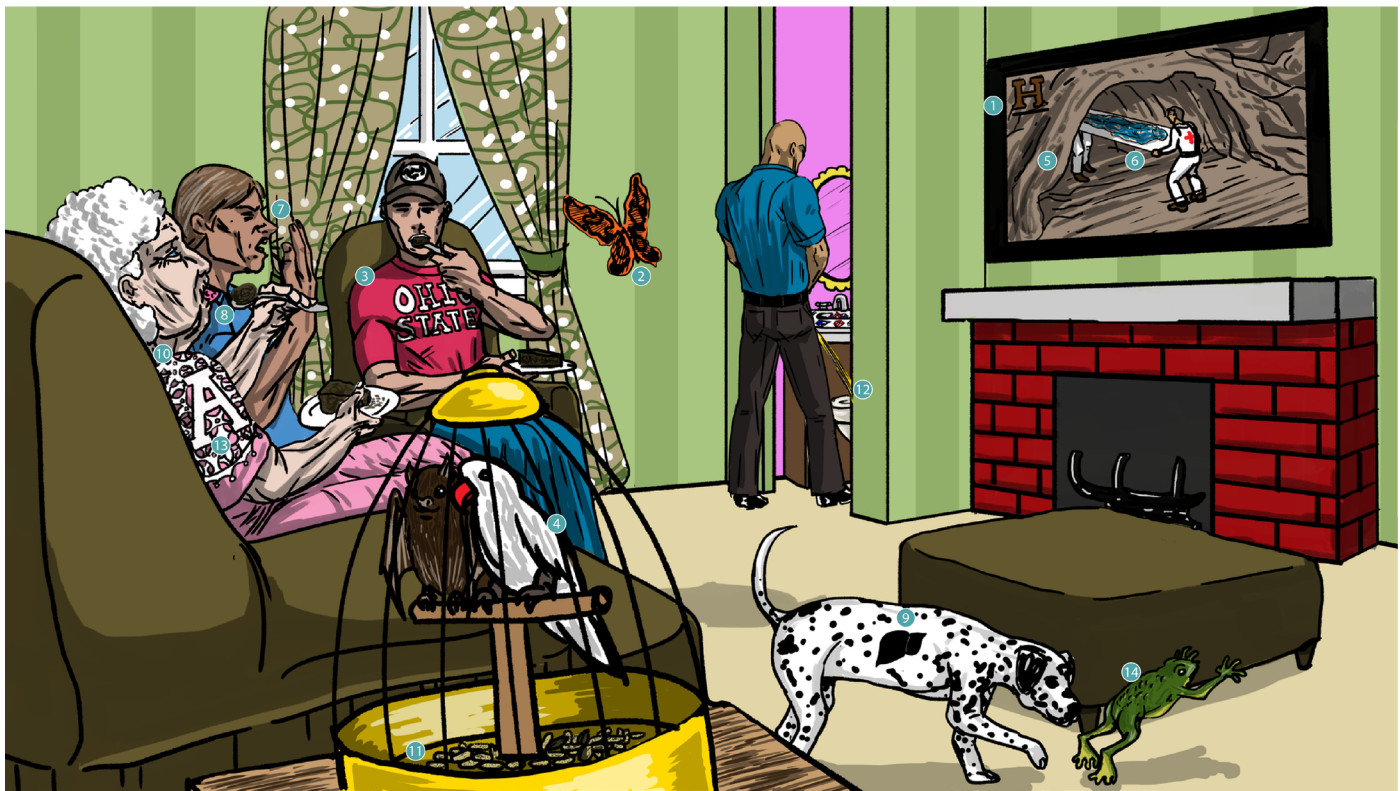


Figure 5.3.1 - Fungi overview figure

Section 1 - *Histoplasma capsulatum*



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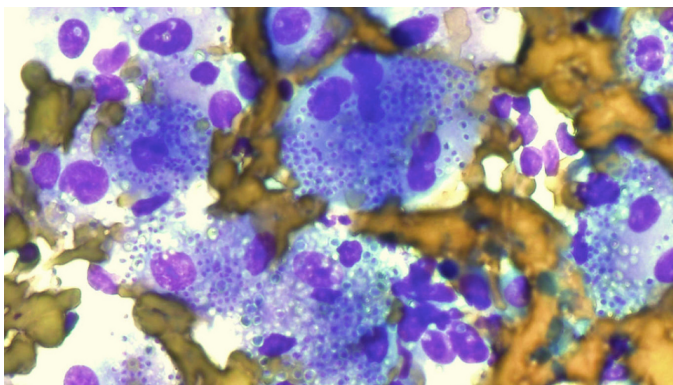
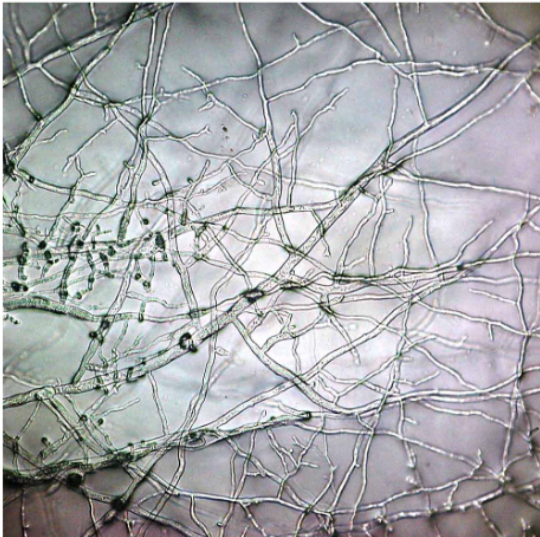


Photo Credit: Histoplasmosis by Yal Rosen via Flickr.com

Figure 5.3.2 - *Histoplasma capsulatum* yeast in macrophages

Mold



Yeast

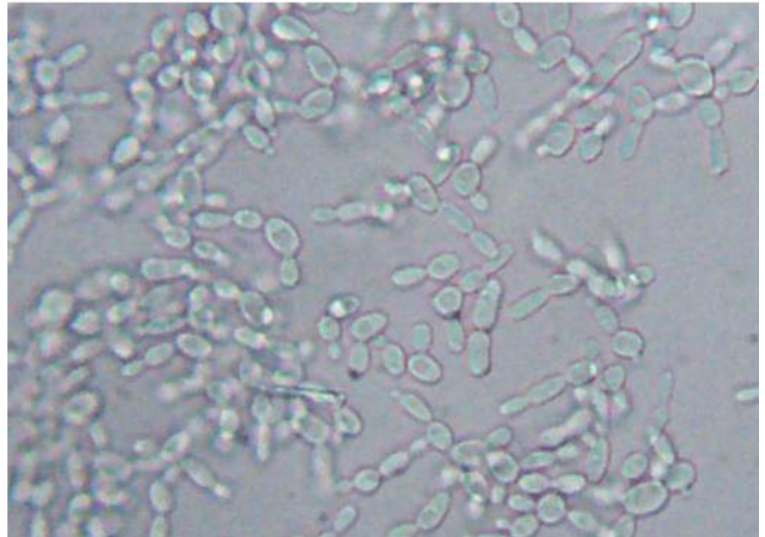


Photo Credit: Mold (left): Bob Blaylock [CC BY-SA 3.0 (<https://creativecommons.org/licenses/by-sa/3.0/>)] Yeast (right): Microrao [Public domain]

Figure 5.3.3 - Mold (left) and yeast (right)

REVIEW QUESTIONS



1. A 24-year-old female presents to the physician due to a cough and chest pain that began two days ago. She works at a pet store cleaning bird cages. She also has smoked a pack of cigarettes per day for the past 8 years. Her temperature is 38.8°C (101.8°F). A chest x-ray reveals parenchymal infiltrates and hilar lymphadenopathy. Histopathological examination of a mediastinal lymph node reveals the presence of yeast-phase organisms inside of macrophages. What other pathological finding is most likely present in this individual?
 - A. Enlarged hepatocytes
 - B. Septate hyphae that branch at acute angles
 - C. An organized collection of macrophages
 - D. Spherules filled with endospores
- **Correct answer: C**
 - **Findings suggestive of *Histoplasma capsulatum*:**
 - A cough and chest pain which is suggestive of pneumonia
 - She cleans bird cages
 - Histopathological examination has revealed the presence of yeast-phase organisms inside of macrophage
 - *Histoplasma capsulatum* also exhibits granuloma formation (an organized collection of macrophages)
 - A is a reference to hepatomegaly which can be seen in patients with disseminated histoplasmosis (this patient has a relatively healthy immune system so it's unlikely that the fungus has disseminated)
 - B is a reference to *Aspergillus* which is a monomorphic fungus and forms septate hyphae that branch at acute angles
 - D is a reference to coccidioidomycosis