

Eukaryotic Microorganisms

Pages 306 - 326

1. Introduction

A. Cell Division (Page 306 - 307)

- i. Mitosis
- ii. Cytokinesis

2. Fungi (pp 332 - 339)

A. General Information

- i. Mycology
- ii. General Classification
 - a. Yeasts
 - b. Molds (hyphae)
- iii. Specific Classification (Page 308 - 309)
 - * Mushrooms (Page 312)
- iv. Saprophytes (Page 308)

B. Structure (Page 309 - 310)

- i. Hyphae
- ii. Mycelium
- iii. Dimorphic

3. Benefits of Fungi (Page 312 - 313)

A. *Saccharomyces cerevisiae*

B. *Penicillium chrysogenum*

4. Medically Important Fungi (Page 312 - 313)

A. Allergic Issues (Hypersensitivity)

B. Mycosis (Page 313)

i. Candidiasis

a. Causative Agent: *Candida albicans*

ii. *Aspergillus flavus*

a. Aflatoxins

5. Algae (Page 312 - 313)

A. Dinoflagellates

B. Medical Importance of Algae (Pages 315 - 316)

i. Red Tides

ii. Digestive Tract of Shellfish

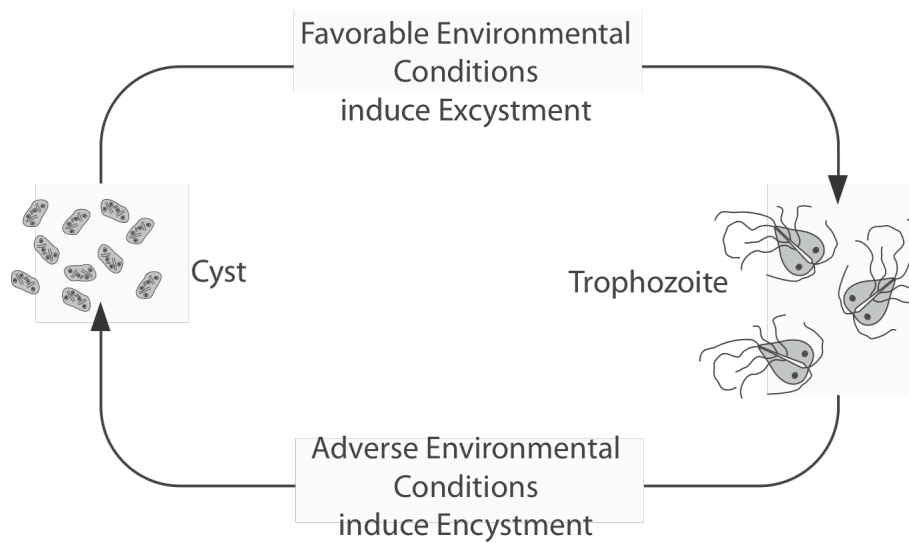
iii. Neurotoxin

• Paralytic Shellfish Poisoning (PSP)

6. Protozoa (Page 316 - 319)

A. Introduction

B. Reproduction (Page 317)



- i. Trophozoite
- ii. Cyst
- iii. Encystment
- iv. Excystment

- C. Medically Important Protozoa (Page 318 - 319)
- i. *Cryptosporidium sp.* (Page 316)
 - a. Disease: cryptosporidiosis
 - b. Issues

 - ii. *Trichomonas vaginalis* (Page 316)
 - a. Disease: Trichomoniasis
 - b. Issues

 - iii. *Entamoeba histolytica* (Page 316)
 - a. Disease: (Amoebiasis or Amoebic dysentery)
 - b. Issues
 - Cysts
 - Fecal / Oral Route of Transmission

- iv. *Naegleria fowleri* (Pages 316 and 318)
 - a. Disease: Primary Meningoencephalitis
 - b. Olfactory Foramina of Cribriform Plate

- v. *Giardia lamblia* (Pages 316 and 319)
 - a. Disease: Giardiasis
 - b. Issues

- vi. *Toxoplasma gondii*
 - a. Disease: Toxoplasmosis
 - b. Issues

7. Helminth (pp. 320 - 324)

A. Reproductive Cycle Overview

i. Definitive Host (Page 321)

a. Adults

- Monoecious (Hermaphroditic)
- Dioecious

ii. Intermediate Host

a. Larvae

B. Nematodes (pp. 322)

i. Intestinal Nematodes

a. *Enterobius vermicularis* (Pinworm)

- Nocturnal Periodicity
- Life Cycle

b. *Ascaris lumbricoides* (Ascariasis)

- Life Cycle (See handout)

- ii. Cestodes (Tapeworms) (Pages 322 - 323)
 - a. Essential Anatomy
 - Scolex
 - Proglottids
 - Gravid Proglottids
 - b. Life Cycle Overview
 - c. Examples
 - *Taenia saginata* (See handout)
 - *Taenia soleum*

- iii. Trematoda (Flukes)
 - a. Terms:
 - Miracidium
 - Redia
 - Cercariae
 - Metacercaria

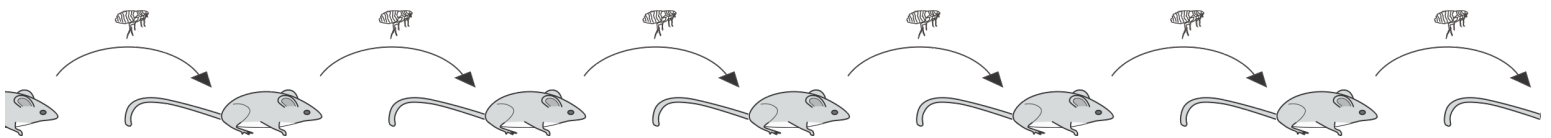
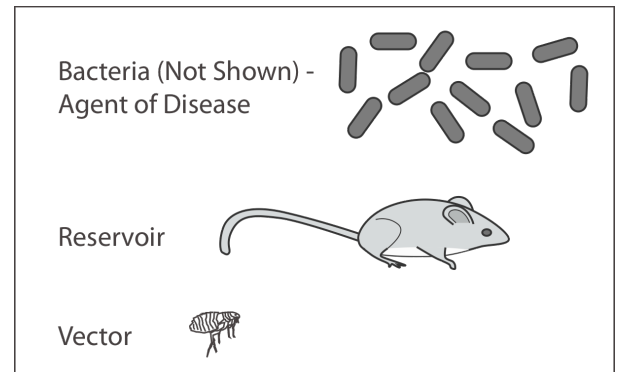
b. Example: *Paragonimus westermani* (See handout)

5. Arthropods (Pages 324 - 326)

A. Introduction

i. What is an Arthropod

ii. Vector



B. Mosquitos

i. "Blood Meal"

ii. Salivation

a. Example

- xxx

C. Fleas

i. "Blood Meal"

a. Example

- *Yersinia Pestis* agent of Bubonic Plague

D. Lice

i. “Blood Meal”

ii. Human Body Louse (*Pediculus humanus*)

a. Example

- *Rickettsia prowazekii* agent of Epidemic Typhus
- *Borrelia recurrentis* agent of Relapsing Fever

E. Ticks

i. “Blood Meal”

a. Example

- Dog Tick (*Dermacentor andersoni*)
 - * *Rickettsia rickettsii* agent of Rocky Mountain Spotted Fever
- Deer Tick (*Ixodes scapularis*)
 - * *Borrelia burgdorferi* agent of Lyme Disease

F. Mites

Microbiology Student Outline – Eukaryotic Microorganisms

i. Example

a. Scabies caused mite