

PROTOZOAN AND HELMINTH PARASITES: SLIDES

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See Alcamo, 4th, p 451-465, Campbell's 5th, pp 524-528, Tortora, Funke & Case, 7th, pp 349-366, Bauman 3rd: 651-680.

http://biology.clc.uc.edu/fankhauser/Labs/Microbiology/Prepared_Slides/Micro_Protozoans.htm

Illustrate the protozoans (first three specimens) at 1000x, and the last, a nematode *Trichinella*, at 400x. As always, scan at lower power to find a field rich in organisms. Take care to maintain correct scale. Label features which can be observed, note diseases they cause.

Kingdom Protista, subdivision protozoa:

MASTIGOPHORA: Class of *whip-bearing* protozoans, in kingdom protista, phylum protozoa

Slide 22 *Trypanosoma gambiense* (or view *Trypanosoma lewesi*, but it is harder to see)

In an infected blood smear, wavy organisms with nuclei, flagella and (hard to see) undulating membrane, among the erythrocytes (RBCs). A member of the kinetoplastids.

sleeping sickness, spread by tsetse fly in Central Africa. Chancre at bite, fever, facial edema, lymphadenopathy, CNS symptoms, fatal coma.

Slide 19 *Giardia lamblia*

In an infected fecal smear. Bilateral trophozoites: two cells adhered looks like a tear drop with two nuclei appearing like eyes. Note "old man" appearance due to diploid structure. The eyes are the nuclei of two cells. You might be able to discern flagella.

giardiasis: Most common protozoal disease, 4% of USA population are infected, commonly asymptomatic. Causes small intestine enteritis (nausea, flatulence, eructation, foul-smelling diarrhea). Prevents absorption of nutrients, passes in feces as cysts, human and wild animals. It is one of the causes of traveler's diarrhea, *not* killed by Cl₂.

Slide 20 *Trichomonas vaginalis*:

In an infected vaginal smear: Roughly circular, nucleus is barely visible within cell. The flagellum is occasionally visible. Note also squamous cells and polymorphonucleocytes.

vaginitis, found in GU of ♂ & ♀. Causes pruritus, copious green/yellow frothy discharge (ingests lactobacilli which raises vaginal pH from 3 to 4.5). 30% of pop colonized. STD, spread also on fomites: towels, toilet facilities. It is very sensitive to drying

Kingdom Animalia:

PHYLUM NEMATODA

Slide 24 *Trichinella spiralis*

At 100x or 400x: Illustrate several cysts in striated muscle. Note numerous sections through the coiled nematode. The roundworm is suspended in a jelly-like material within the capsule.

trichinosis: caused by a eukaryote belonging to the phylum Nematoda. Encysted larvae in pork or bear meat, and flesh of other carnivores. Mate in intestine, ♀ lays living larvae. Cross GI track, migrate. Can cause heart, kidney failure. (>90% of infected persons carry Ab.) Only 150 cases/yr in USA.