

PROTOZOAN PHYLA AND EXAMPLES

7/22/87, rvsd 15 August 1993, 16 Aug 1996, 23 July '97, 19 July 98, 16 July01, 8 Aug 01, 20 July 07, 23July09, 22July11
 TF, 2nd Ed, 302-338, Boyd, 2nd, 844-851, Campbell, 2nd, 589- Alcamo 3rd, 521, Merck Manual, Bauman 2nd, 343-357, Bauman 3rd:
 651-680

Many texts now use an alternative to this taxonomic organization, but it continues to be useful for study of pathogenic protozoans.

PHYLUM	traits:	example	significant aspects of example:
SARCODINA (flesh-whip)	Amoeboid, some with flagellated stage	<i>Entamoeba histolytica</i>	amoebic dysentery, 10% world pop, spread indirectly: fecal contamination of food or water (cysts), direct: poor hygiene, sex partner, oral-anal sex. Feeds on RBCs, commonly asymptomatic
MASTIGO-PHORA: (whip-bearing)	undulating membrane	<i>Trichomonas vaginalis</i>	found in GU of ♂ & ♀, vaginitis, copious green/yellow frothy discharge (raises pH fr 3-4.5 by ingesting Lactobacilli). 30% of pop colonized. An STD. Fomites: towels, toilet facilities, very sens. to drying
		<i>Giardia lamblia</i>	4% infected, commonly asymptomatic, causes small intestine GI-itis (nausea, flatulence, eructation, diarrhea), prevents absorption of nutrients, passes in feces as cysts, human and wild animals, traveler's diarrhea, <i>not</i> killed by Cl ₂ . Enterotest: gel capsule on string, swallowed, pulled up.
		<i>Trichonympha sphaerica</i>	endosymbiont in termite gut, assist in digestion of cellulose, due to bacteria inside the protozoan
		<i>Trypanosoma gambiense</i>	spread by tsetse fly, chancre at bite, sleeping sickness, fever, facial edema, lymphadenopathy, CNS symptoms, fatal coma.
SPOROZOA:	Parasitic and immobile, usually complex life cycle	<i>Toxoplasma gondii</i>	toxoplasmosis, world wide, 50% of US pop., most asymptomatic, rarely causes visual impair, congenital mental retardation. Cats definitive host, shed oocysts in feces. (One of the TORCH teratogenic microbes) Transplacental infections cause miscarriage, <i>etc</i>
		<i>Plasmodium vivax</i> , <i>P. falciparum</i> <i>P. malariae</i>	causes malaria, infecting 250 mil in world, 1 mil children under 5 yrs old die/yr in Africa: REPRODUCTION: <i>Plasmodium vivax</i> infects salivary glands of <i>Anopheles</i> mosquito: several 100 sporozoites injected with bite. These migrate to liver where (in 2-4 wks) they are transformed to many thousand asexual spores, merozoites . These infect RBC, form ring stage, asexually generating more merozoites by schizogony (multiple fission), released by lysis (fever). <i>Anopheles</i> mosquito draws blood containing gametocytes (merozoites?) , sexual reproduction occurs in female mosquito (zygote formed) in salivary glands. meiotic products form sporozoites . Signs: fever with each coordinated RBC rupture cycle. Last 8 hrs, then 48 hr remission, repeat fever, RBC destroyed, anemia, splenomegaly, "blackwater fever", RBC fragments block arteries to organs.