New course!

The Biology of Tropical Disease: Africa

Bi 399. Spring term, 2006. Instructor, Janis Weeks

Tropical diseases involve a variety of infectious agents and parasites with fascinating life cycles. The continent of Africa bears a heavy burden of disease, with political, economic and medical ramifications for the entire world. *The Biology of Tropical Disease: Africa* will focus on the biology of representative diseases of sub-Saharan Africa including Schistosomiasis (caused by trematode flatworms transmitted via snails), Trypanosomiasis (‘sleeping sickness’; caused by protozoa transmitted by flies), malaria (caused by protozoa transmitted by mosquitoes) and viral hemorrhagic fevers (e.g., Ebola and Dengue). Because more than two-thirds of the world’s HIV-positive people reside in Africa, we’ll examine HIV/AIDS and the opportunistic infections seen in immunodeficient Africans. Tuberculosis (including drug-resistant strains) is also an increasing problem in Africa. What is the biology of these diseases and the agents that cause them? Why is Africa such a hotspot for ‘emerging diseases’? And what factors contribute to the slow progress in preventing and treating tropical disease in Africa?

The course will examine the biology of tropical disease at multiple levels: molecular, organismal and ecological. Some case studies will focus on a rural region of Zimbabwe where an Oregon non-profit organization operates a community development project (see *Nhimbe for Progress* at www.ancient-ways.org). The instructor will incorporate material from her time in Zimbabwe and other African countries.

Course prerequisites are Bi211 & Bi212, or Bi251 & Bi252, or instructor permission. Students majoring in fields outside of biology (e.g., international studies) who have suitable biology preparation are encouraged to enroll.

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