

SYLLABUS
GENERAL PARASITOLOGY (BLY 459)

DR. JACK O'BRIEN

FALL, 2009

OFFICE HRS: Monday, Wednesday & Friday 9 - 10 AM and 11 - noon
OFFICE: LSB Rm 52
PHONE: 460-7525 (Office); 460-6331 (Department of Biological Sciences)
E-mail: jobrien@jaguar1.usouthal.edu
TEXTBOOK: *Foundations of Parasitology*, 8th ed. (2005), L.S. Roberts & J Janovy, Wm C. Brown
LECTURE: Monday, Wednesday & Friday 10:10 – 11:00 AM, LSB Rm 18
LAB: Tuesdays 9:30 – noon and 2:00 - 4:30 PM, LSB Rm 240
Wednesdays 2:30 - 5:00 PM, LSB Rm 240

LECTURE TESTS	% of Grade
September 18, 2000	15
October 19, 2009	15
December 4, 2009 (10:30 AM)	30 (Comprehensive)
LABORATORY TESTS (All lab sections)	
October 9, 2009 (10:10 AM)	15
November 30, 2009 (10:10 AM)	15 (Comprehensive)
COLLECTION Due November 30, 2009	10

Goals of the course: To give the students an understanding of the taxonomy, ecology, and evolution of parasites. Students will learn representative examples from local ecosystems as well as parasitic diseases of humans. It is assumed the students will be already familiar with the fundamentals of evolution, ecology, anatomy, and immunology as taught in General Biology I & II (BLY 121, 122 & 303).

Changes in course requirements: In the past, unforeseen circumstances such as hurricanes, availability of specimens, sickness, and family emergencies have resulted in changes being made to the class schedule or the requirements as listed above. Hopefully not, but if changes have to be made in examination dates or other course requirements, you will be notified beforehand in class or on the department website.

Death & dissection: Many stages of internal parasites can only be acquired at the cost of the life of the host organism. Consequently, you may be asked to kill invertebrate animals such as earthworms, shrimp, & insects prior to dissection. Every effort will be made to minimize discomfort to the organisms and all techniques have been approved by the Institutional Animal Care and Use Committee (IACUC) of the university. **If you will be significantly uncomfortable with this aspect of the class I recommend that you withdraw.**

Attendance: You are encouraged to view specimens on display as many times as possible. Labs will be offered Tuesdays and Wednesdays and you are WELCOME TO ATTEND THE OTHER SCHEDULED LAB SESSIONS during the 2nd hour (after my introductory lecture).

Make-up exams: Students who miss an examination without a valid excuse (as defined in the USA Student Bulletin) will earn a score of zero for that test. If you have a valid excuse for missing a written examination, inform me with documentation with enough time before the exam to work out a solution.

Grade determination: Your grade will be determined on a sliding scale depending upon the highest total achieved by an undergraduate in the class. Thus, if your point total is $\geq 90\%$ of the highest undergraduate point total, you will receive an "A," between 90-80% is a "B," and so on. Another (and less precise) way of expressing this policy is that the scores will be scaled a few points. A tentative grade distribution will be announced after each examination is graded.

Students with disabilities: In accordance with the Americans with Disabilities Act, students with *bona fide* disabilities will be afforded reasonable accommodation. The Office of Special Student Services will certify a disability and advise faculty members of reasonable accommodations.

Academic Misconduct: You will require only pencils and erasers during every examination. Therefore, during lecture and laboratory tests, you will be asked to leave all personal items such as head caps, notebooks, backpacks papers, books, purses, etc in the front of the room. POSSESSION of a cell phone, a "palm pilot", or an electronic device that can receive and/or store information or photos on or near one's person during an exam will be considered academic misconduct. This ban includes devices that translate English into other languages. Any student who, in the opinion of the lecturer, is guilty of academic misconduct will receive a grade of 0 (zero) for that test or assignment.

The University of South Alabama is committed to the fundamental value of academic honesty. The student handbook, the Lowdown, defines plagiarism as one form of academic misconduct which is "subject to investigation and disciplinary action through appropriate university procedures." Plagiarism is using somebody else's ideas and/or words in your writing without correctly identifying the sources. As one resource for helping you avoid plagiarism, your written work in this class may be submitted to Turnitin.com or a similar detection method, for an evaluation of the originality of your ideas and proper use and attribution of sources. Assignments submitted to Turnitin.com will be included as source documents in a restricted access database solely for the purpose of detecting possible plagiarism of such documents. As part of this process, you may be required to submit electronic as well as hard copies of your writing. By taking this course, you agree that all assignments may be subject to some form of originality review. A paper not submitted according to procedures and format set by the instructor may be penalized or not accepted at all."

The Student Academic Conduct Policy of the university may be downloaded at the following website: <http://docs.google.com/gview?a=v&q=cache:kBfghTMoP8YJ:www.southalabama.edu/academicaffairs/studentacadconduct.pdf+conduct+policy&hl=en&gl=us>

Pet Peeves My basic rule is that students should not disturb one's neighbors nor irritate me during formal class periods. Past behaviors for which students have been asked to leave lecture or lab have included: cell phone audio alarms, cell phone conversations, talking while I am lecturing, and studying for other classes or reading while I am lecturing.

Web Postings: I will post lecture notes, announcements, test results, and other course-related information on a webpage at the Biology Department's website. This can be reached from the University's webpage by clicking on the following series of buttons "Departments", "Academic Departments", "College of Arts & Sciences", "Biological Sciences", "Notes", "BLY 459 - O'Brien" or go there directly at <http://www.usouthal.edu/biology/obrien/teaching/BLY%20459/459.html>.

I will make every effort to post my lecture notes before class in order that you can have a hardcopy with you. Do not consider that possession of my posted notes, however, to be a substitution for attending lecture. Be aware that I often discuss topics that are not in the posted notes and distribute written material in class that is not available on the website.

To download a hardcopy of the notes, you will need the software called "Acrobat Reader" which you can download free from at link at the website <http://www.adobe.com>

<u>Week</u>	<u>Start</u>	<u>Lecture Exams & Topics</u>	<u>Laboratory Material</u>
Aug.	17	Introduction, General Principles	No Labs
.	24	Platyhelminthes: Turbellaria, Monogenea, Aspidogastrea	Lab 1: Introduction; <i>Bdelloura</i> , <i>Gyrodactylus</i> , <i>Cotylaspis</i> , & larval trematodes
	31	(Labor Day) Platyhelminthes: Digenea	Lab 2: Adult trematodes: <i>Schistosoma</i> , <i>Fasciola</i> , <i>Paragonimus</i> , <i>Clonorchis</i>
Sept	7	Platyhelminthes: Eucestoda	Lab 3: Tapeworms: <i>Diphyllobothrium</i> , <i>Dipylidium</i> , <i>Taenia</i> , <i>Taeniarhynchus</i> , <i>Echinococcus</i>
	14	Intestinal nematodes: ; 1st Lecture Exam: Introduction → Eucestoda (15 points)	Lab 4: <i>Ascaris</i> , <i>Trichuris</i> , <i>Trichinella</i> , <i>Strongyloides</i> , hookworms, <i>Enterobius</i>
	21	Nematoda: Filariodea	Lab 5: Filarial worms: <i>Wuchereria</i> , <i>Onchocerca</i> , <i>Dirofilaria</i> Thorny-headed worms: <i>Macracanthorhynchus</i> , <i>Neoechinorhynchus</i>
"	28	Acanthocephala	Lab 6: Copepods, rhizocephalan barnacles, cyamid amphipods, bopyrid isopods, sea lice
Oct.	5	Arthropoda: Crustacea	Lab Review & Lab Exam Labs 1 - 6 (15 pts)
	12	Arthropoda: Insecta	Lab 7: Lice, bedbugs, fleas, bot flies, parasitoid wasps; Insect vectors: <i>Anopheles</i> , <i>Glossina</i> , assassin bugs
	19	2nd Lecture Exam: Nematodes → Insecta (15 points); Lecture: Arthropoda: Chelicerata	Lab 8: Tick vectors: <i>Ixodes</i> ; Mites: chiggers, scabies and mange mites
	26	Mastigophora (Flagellates)	Lab 9: Flagellates: <i>Trypanosoma</i> , <i>Leishmania</i> , <i>Giardia</i> , <i>Trichomonas</i> , termite symbionts; Amebas: <i>Entamoeba</i> , <i>Naegleria</i> , <i>Acanthamoeba</i>
Nov.	2	Sarcodina (Amebas) & Ciliophora (Ciliates)	Lab 10: , Sheep ciliates, <i>Balantidium</i> , Myxozoans opalinids, hair worms, egg predators, leeches, Glochidia, Candiru, plants
	9	Myxozoa, Opalina, Nematomorpha, Nemertea, Hirudinea, Mollusca, Osteichthyes, Parasitic plants	Lab 11: <i>Monocystis</i> , <i>Toxoplasma</i> , <i>Sarcocystis</i> , <i>Eimeria</i>
	16	Apicomplexa: Gregarines & Eimeriina	Lab 12: <i>Plasmodium</i> (Malaria) & <i>Babesia</i>
	23	Apicomplexa: Haemosporina	Thanksgiving Holiday
	30		Lab Final Exam Labs 1 -13 (15 pts) Collection due (10 pts)
Dec.	7	Comprehensive Exam Emphasis on Chelicerates → Malaria (30 pts)	

STUDENT COLLECTION-REPORTS

You will be expected to submit a short report on ten (10) different parasites. A specimen preserved in a vial, a digital photograph of every specimen that you collected yourself, a digital photo taken from the internet, or a photocopy of a figure taken from the primary literature of the subject must accompany each report.

Each report must contain the following three materials as elaborated below:

1. Specimen or photo of the parasite.
2. Description of the life-cycle of the parasite as well as identification of the life-cycle stage of the specimen or of the organism in the photo
3. Synopsis of a paper from the primary literature on the parasite

Actual parasites that are submitted should be properly labeled (Some of these will be used in future labs.):

Name of collector
Locality collected
Date collected
Taxonomic identification of parasite
Taxonomic identification of host
Body organ of host containing parasite (Examples: intestine, gill cavity, external surface, etc).
Labels on preserved specimen need to indicate the preservative (Ex: 70% ethyl alcohol)

Photos should have the magnification indicated: 1X (= life size), 4X, 400X, etc.

Reference sources taken from primary literature must be properly cited with author names, date of publication, journal, title of paper, volume and page numbers.

Reference sources and photos downloaded from the internet should contain the full web address so that I can go to the exact web site from which the photo or information was taken.

Written Portion

- A. A few sentences describing the life-cycle (*i.e.* direct, acquired by eating an intermediate host, hosts in life-cycle, etc)
- B. Identify the stage of the life-cycle represented by your example (adult, egg, asexually reproducing stage in intermediate host, etc.)
- C. A paragraph summarizing an article from the primary literature. (Your paragraph should state in your words what the investigators reported. It should NOT be a plagiarized copy of the abstract.) The article can be the same source from which the photo or figure was taken.

Limitations

1. A maximum of TEN species and a minimum of FIVE phyla
2. Citations must be from the primary literature, in other words, journals containing research results that have passed peer-review. Downloads from general information websites about pet diseases or medical symptoms and treatments are not acceptable. It is expected that you will read original research papers.
3. You are NOT to harm any mammals, birds, amphibians, reptiles, fish nor any protected or endangered organisms to fulfill this assignment. Dissections of common species of invertebrates such as worms, mollusks, insects, and crustaceans should provide plenty of material. Be aware that POSSESSION of raptorial birds (hawks, eagles, owls etc) whether dead or alive without a permit is a federal crime; this includes road kills. Do NOT dissect raccoons, mice, or rats as there is a possibility of exposure to zoonotic diseases. Always wear gloves when dissecting and wash your hands when you are finished.
4. Reports can be submitted as hard copies, on CDs, or electronically via e-mail to jobrien@jaguar1.usouthal.edu.

This component of the course will account for 10% of your course grade.