**Student Presentations**

Each presentation will be by a group of 1-3 students. The lengths of presentations will be announced once the number of groups making presentations becomes clear. The topic will be one selected by the group.

Your presentation can deal with any aspect of evolutionary biology that interests you. You must include reputable references and try to include primary sources. For most of you this will be possible; although some topics may be too general. In this case secondary sources are permitted, but be careful of those sources. If they are your main references, you should try to check their claims against interviews or papers by the scientists whose work they are summarizing.

By the beginning of class on March 4, the group should determine the subject of its presentation. Also on March 4, **each student or group** should bring a hard copy **one-sentence** description of the proposed topic to class. An annotated short bibliography also is required, indicating that each topic has been researched, at least to the point of presenters knowing that adequate resources are available for the presentation.

The presentation should be in Microsoft word, pdf or powerpoint formats or other format that is pre-approved by the instructors. A webpage address that points to a presentation (stored on a Google server, for example) will not suffice. I will need an easy way for other instructors in the future and other students to download and review the presentation.

**Criteria for evaluating presentations:**

1. Did the presenters hand in their topics and an annotated short bibliography on time? **(5 pts.)**

2. Has the topic been adequately connected to evolutionary biology? **(12 pts.)**

3. Does the presentation represent a true synthesis of information? While it is perfectly acceptable to include figures from published papers. I do not simply want a “regurgitation” of what authors of an article have reported. Instead, I want presenters to develop and convey a clear and informative summary of a research topic. The presentation, especially for group presentations, should not rest on summarizing one paper or even one paper per presenter. **(10 pts.)**

4. Are the slides visually appealing and are the fonts big enough? Do the slides convey enough information, that a reviewer could simply view the digital material and understand the information and conclusions presented? Did the presentation take approximately the designated length of time? **(4 pts.)**

5. Does the material come from primary sources (journal papers)? If from secondary sources (books, articles in magazines such as Scientific American or Discover, most websites), presenters need to indicate that the secondary sources have a legitimate scientific basis. Also, presenters NEED to properly cite their information sources on their slides. (**4 pts.)**

6. Activity for class:Presenters must include a list or questions or some activity to engage fellow students in the presentation. These activity sheets will count as attendance that day for students not presenting that day and questions on the activity sheets may be used on the final exam. **(5 pts.)**

Some suggestions

You can discuss any adaptation of interest. Has its function been tested at all? Do alternative hypotheses exist for function? Does evidence exist for constraints in function or morphology of the proposed adaptation? Ditto for genetic drift.

What types of evidence are used to construct a phylogeny of interest? If both molecular and structural evidence are available, do the phylogenies constructed using one or the other types of evidence, agree with one another? Are the researchers using a phylogenetic approach?

Discuss what factors may have influenced the evolution of any co-evolutionary relationship. Do the phylogenies of the species or groups involved mirror one another? What other evidence exists for the benefits or costs to each species involved? How did the relationship evolve?

Focus on the costs and benefits to each members of a group. How did the group evolve? Was kin selection important in the evolution of the unit? What other considerations may explain the altruistic behavior exhibited by members of this group?

Many mating behavior and/or system studies are often conducted to simply identify responsible proximate factors. You need to realize most mating systems can be explained by exploring ecology without considering evolution, again by just looking at proximate factors. You will receive no credit for a paper or presentation that is not relevant to the material presented in this course, so be careful with these subjects.

For those interested in medical issues.

Why an innate system? Or conversely why do vertebrates have a specific immune response/

Why do we respond to antigens never seen as in the ABO and RH+/rh- systems.

Discuss the evolution of any disease. What are the driving forces for its maintenance, selective pressure such as heterozygote advantage, genetic drift, etc. Where did it come from? Is there anything interesting about the transmission mode or virulence history of the disease?

You can extend anything we talked about in class. Want to know more about cancer and Tasmanian devils, go for it. Explore the unique distribution, ancestry and behavior unique to this species that makes this cancer so deadly for its members. Or expand by considering how unique this cancer is, where does it come from, any other cancers that can be spread by contact?