

EEB 4260: Margaret Rubega
Lecture 1:
Course Goals, structure and guidelines
and
What are birds and why would we study them?

Class Business

- **Syllabus** handout; also posted on the class web page, where it is subject to change – check it weekly.
- **Text books.** Gill's "Ornithology" is required. Other supplemental books are available, but optional.
- **Questions.** Please ask them! I will post questions and responses on the web page.
- **Office hours.** 10-10:50 on Wednesdays or by appointment.
- **Email policy:** the subject line in your emails to me **MUST** contain the phrase "EEB 4260". Any email without that phrase, and especially with a blank subject line, will be **DELETED** without being read. If you are emailing me to set up an appointment, the email should say: (a) what you want to discuss and (b) times *you* are available to meet.
- **Web site.** For each lecture I will aim to post an outline on the web ahead of time. But, these outlines are not a substitute for coming to class, and you should not expect them to include everything covered in class (e.g., none of the graphics will be in the web notes). In exams, you will be expected to know about all the things I talked about, not just the information in the web notes.

Reading for this lecture

Required. Gill: pgs. xxi – xxvi and Chapter 1.

Optional. Procter & Lynch: Pages 1-6.

1. Course Goals, structure and guidelines.

A) GOALS:

- i) Mastery of what is already known about birds – factual information

- ii) Understanding of the conceptual framework (evolutionary, ecological) within which we formulate questions and interpret what is observable about birds

- iii) The ability to apply your factual knowledge and conceptual understanding outside the classroom

B) STRUCTURE, GRADING:

- i) Lectures: a way for me to communicate factual and conceptual information to you. These may seem like a one-way form of communication, but your engagement (attention, questions, participation in discussion) influences what I say and how I say it.

- ii) Minute papers: ungraded; a way for us to communicate about what you know/understand/are thinking; allow me to change the course of lectures if what I'm doing is not effective.

- iii) Short quizzes: graded; practice for multiple choice format I use on larger tests; assess your mastery of factual material and your understanding of conceptual material.

- iv) Tests: graded; assess your mastery of factual material, and your understanding of conceptual material.

- iv) Twitter assignment: ungraded, except for completeness; used to reinforce course material outside of lecture; assess your ability to apply what you are learning in the real world. Also: fun!

C) GUIDELINES: Detailed description is in the Course Guidelines document (read, sign and turn in the Guidelines Form by second lecture) but key points are:

i) Attendance: You are not required to attend lecture; I am not responsible for recreating what happened in lecture if you miss it. **If you miss a class, you are responsible for getting notes from a classmate: I will not re-lecture to you one-on-one later.**

ii) Grading

- Grades will not be curved
- There are no make-ups
- There are no opportunities for “extra credit”
- If you have a legitimate excuse to miss a test, AND DOCUMENTATION to prove it, your grade will be pro-rated on the basis of the tests you did take.

iii) Use of electronics in the classroom: **none allowed, except** for the use of laptops for note-taking, *only*. All other uses (surfing the internet, email, texting, IM, listening to music, watching video, et Infiniti) are distracting, disruptive of our work in the classroom, and disrespectful of the instructor and those nearby. **Turn your phone off.**

2. Why do people study birds?

A) FASCINATION WITH FLIGHT

- i) Birds are not the only flying vertebrates, but they are the most successful.
- ii) Forms of flight are incredibly diverse: forwards, backwards, upside down, gliders, flappers, hovering,

B) ECONOMIC IMPORTANCE

- i) Food. Red Junglefowl (chickens) domesticated at least 5000 years ago. Eggs have been a part of human diet throughout history.
- ii) Clothing/bedding. Auklet coats, eider down, shearwater feather sleeping bags, plumes for decoration.
- iii) Pets. Parrots (100,000s legally imported to US during 1960-80s; many more illegally; consequently many species now threatened with extinction; illicit trade remains lucrative), doves, finches.
- iv) Hunting. Waterfowl (the Anatidae) are the best studied bird family in North America (and probably the world). Tens of millions of Mourning Doves killed by hunters every year in the US. Much hunting money pays for conservation activities. Falconry (use of hawks to hunt with) is still popular in some areas.
- v) Birdwatching. About 46 million North Americans watch birds at least occasionally. Recent bird field guides have become best sellers. In 2001, \$32 billion spent on bird watching, generates \$13 billion in taxes, more than 800,000 jobs (see http://library.fws.gov/nat_survey2001_birding.pdf).

C) THEY ARE VERY, VERY COOL!

- i) High diversity (most numerous vertebrate group after fish; ~10,000 species in ~190 families)
- ii) Flight limits body form, but very diverse mouth parts, plumage, etc.
- iii) Wide size range: bee hummingbird to ostrich/albatross.
- iv) Extinct modern birds up to 9 feet tall.
- v) Ostrich eggs are the largest single cell in the world.
- vi) Incredible range of bird songs have fascinated and inspired people for centuries.
- vii) Lots of bizarre behaviors.

D) THEY ARE CONSPICUOUS

- i) Most are active during the day (unlike many mammals, amphibians, etc.).
- ii) Many are relatively easy to watch.

- iii) They are found pretty much everywhere: they are found on all continents (one more than mammals) and in all oceans, and there are few habitats that do not have birds in them.
- iv) They are attractive to look at and listen to.
- v) Consequently, many modern ideas in animal behavior, ecology and evolution have been based on the study of birds.

2. What is a bird?

A) BIRDS ARE BIPEDAL (2-LEGGED) VERTEBRATE ANIMALS

- i) Birds are in the animal kingdom. They are vertebrates in the phylum Chordata. Within the vertebrates, they form a class of their own: Aves.
- ii) Birds are reptiles. They are derived from dinosaurs, and from an evolutionarily point of view are a kind of dinosaur.
- iii) Birds are NOT mammals.

B) DISTINCTIVE FEATURES (WHAT MAKES A BIRD A BIRD?)

- i) NOT flight – lots of other animals fly (e.g., bats, many insects)
- ii) Feathers – birds are the only modern animals that have feathers (note, some dinosaurs had feathers too).
- iii) Bills – very varied, but always toothless and covered with a horny sheath.
- iv) Birds bodies are greatly modified for flight.