

COURSE TITLE:

ECOL467/567 Pollination ecology: behavior, cognition, and ecology of pollinators

Fall 2009

Instructor:

Dr. Anna Dornhaus

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Office Hours by appointment

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Course description

We will discuss current research topics related to the coevolution of pollinators and plants. This will include issues of cognitive ecology, signal detection & evolution, evolution of mutualisms, cheating and cooperation, foraging theory, biological markets, etc. Students will also have the opportunity to suggest topics for discussion.

Objectives

The goal of this class is to give students a comprehensive background in current issues and research topics related to the evolution and ecology of pollinator-plant interactions. In addition, students will get the opportunity to discuss how theory and conceptual advances in this area relate to their own research topics. We will mostly stick to current literature, but also read a book on cognitive ecology of pollination as an introduction. The format of the class will enable students to get training in giving presentations and chairing discussions, as well as skills in summarizing and evaluating relevant literature.

Expected learning outcomes

Students will become familiar with the terminology and methods used in cognitive ecology, foraging theory, and ecology and evolution of mutualisms research. Students will practice reading and discussing current research in fields that are not directly related to their own. They will also be trained in presenting on their own field/interests to a non-specialist audience.

Outline

1. Introduction to cognitive ecology
 - a. Sensory modalities, simple and complex signals
 - b. Signal evolution, signal detection
 - c. Flower constancy and learning
2. Introduction to foraging
 - a. Foraging theory and energetics
 - b. Frequency-dependence
3. Introduction to coevolution
 - a. Evolution of cooperation and cheating
 - b. Multi-species interactions
 - c. Biological Markets, choice and competition
4. Current issues

Student Presentations

Each student will give a presentation in class and lead a discussion on the same topic afterwards. If class size permits, each student will give two presentations. Presentation topics should be current research on the respective topic, or a historical review of the respective field. Students are encouraged to make links with own research. Each presentation should be accompanied by a one-page handout (for other students in class).

Graduate students' presentations should be 30 minutes; undergrads' should be 15 minutes.

Grading

Final grade will be determined from the presentation(s) (40%), attendance and participation in class discussions (30%) and a written essay published on Wikipedia related to a class topic (20%).

A: 90-100 %

B: 80-89 %

C: 70-79 %

D: 60-69 %

E (fail): 0-59 %

Readings

TBD

Course website

You will be able to obtain readings and check the current class schedule at the course website: <http://eebweb.arizona.edu/Faculty/Dornhaus>

Policy on Expected Classroom Behavior

Enrollment in the course signifies that a student will participate to the best of his or her abilities in each class session. No electronic communication devices should be used during the class session. Each student is expected to attend every class session; however, all holidays or special events observed by organized religions will be honored for those students who show affiliation with that particular religion, and absences pre-approved by the UA Dean of Students (or Dean's designee) will be honored.

Policy Against Plagiarism

<http://dos.web.arizona.edu/uapolicies>

Policy Against Threatening Behavior

<http://policy.web.arizona.edu/~policy/threaten.shtml>.

Academic Integrity

Integrity is expected of every student in all academic work. The guiding principle of academic integrity is that a student's submitted work must be the student's own. This principle is furthered by the *Student Code of Conduct* and disciplinary procedures established by ABOR Policies 5-308 - 5-403, all provisions of which apply to all University of Arizona students. For further information, please see: <http://w3.arizona.edu/~studpubs/policies/cacaint.htm>.

Special Needs and Accommodations Statement

Students who need special accommodation or services should contact the SALT (Strategic Alternatives Learning Techniques), the Center for Learning Disabilities (SALT Center, Old Main, PO Box 210021, Tucson, Arizona 85721-0021, (520) 621-1242, FAX (520) 621-9448, TTY (520) 626-6072), <http://www.salt.arizona.edu/>, and/or the Disability Resources Center, 1540 E. 2nd Street, PO Box 210064, Tucson, Arizona 85721-0064, (520) 621-3268, FAX (520)621-9423, <http://drc.arizona.edu/>. The appropriate office must document the need for accommodations.