BIOL 659

Seminar in Evolutionary Biology:
Controversies in Evolutionary Biology and Ecology

In this discussion-based course, we will explore the nature and substance of controversies in evolutionary biology and ecology. Specifically, we will familiarize ourselves with both sides of evolutionary and ecological topics that are beginning to establish or have settled into clearly delineated opposing perspectives, and try to get to what constitutes the heart of the disagreement. We will also try to determine why the topic has settled into opposing "camps". Due to the broad nature of the seminar I anticipate we will all be learning about these topics together.

The class will include a discussions about the role that more "charged" controversies have in the field (what's positive, and what's negative), and how best to handle involvement in them at different stages of your career.

The instructor reserves the right to make changes to the syllabus.

Class Meetings:

Wednesdays, 4-6pm
The class will be held remotely.

Zoom link:

Meeting ID: 968 1962 4813
Passcode: 528310
More login details are posted on Sakai

Instructor:

Dr. Maria Servedio E-mail: servedio@email.unc.edu
Office hours by appointment (and meet over Zoom)

Dr. Servedio has been studying questions in Behavioral Ecology and Evolution since she was an undergraduate. In grad school she turned to mathematical models to study mate choice copying, speciation, and the evolution of warning coloration. Her work at UNC has focused on sexual selection and speciation, and the effects of learning on both of these processes.

Grading:

This course will work the best if we have lively discussions with all students participating. Your grade will thus be based largely on participation in the class discussion, including by posting questions on the Discussion forums (see below). I expect all students to participate in every class meeting for full credit.

All students will also be expected to lead or co-lead 2 or more (depending on the number of registrants) of the discussions.

There will also be a presentation/discussion-based final during the final exam day.

General participation:	60%
Leading discussion:	25%
Final:	15%

Readings:

There will be ~2 full-length papers, or sometimes a series of short replies to a paper, that will be posted as reading for each week on Sakai, under Resources.

Participation:

Participation consists of contributing to the discussions during class and posting questions and replies on the discussion forum. These are both mandatory! Each is worth half of your participation grade.

In-class participation: For full participation credit each student will have to contribute to the discussion in class. The topics of the course will be broad and varied, and most people in class (including me!) will know very little about some, or even most of them before doing the reading. The reading may also be technical at times. We will all be learning about these topics together. Do not expect to fully understand everything – there is definitely no such thing as a stupid question! We will all get the most out of this class if folks aren't shy about getting to the bottom of confusing issues in the papers.

In short, do not be afraid to speak up and ask questions. In that vein, **while the course is about controversies and hence I expect that there will be potentially vigorous scientific disagreements, I expect all participants to be respectful during these discussions, at all times, with no exceptions.**

My intention is for the course to be a comfortable environment for students of all diverse backgrounds and perspectives. Please let me know as soon as possible of any ways that the environment of the course can improve in this regard.

Discussion questions: Each week you will be required to do two things after completing the assigned reading: 1) **by 24 hours before class time**, post a new discussion question about the week's reading as a new Conversation under the appropriate topic in the Forums section of Sakai, and 2) **by class time**, please reply to at least one discussion question posted by another student.

Leading a Discussion:

During the first class meeting we will assign registrants to lead the discussion on different topics.

As a discussion leader, your responsibility will be to keep the ball rolling on your class days. Please read through the papers and compile a list of discussion points. You will also have the discussion questions and responses posted by your classmates on Sakai to use as a resource during the paper discussion. Please use as many of these as possible in

guiding the discussion. A good practice is to start by going section by section through the paper during the class time. You do not necessarily have to have all of the answers to the questions that you pose! If something in the paper is complicated or obscure we will try to figure it out together.

I am very happy to meet with the discussion leaders ahead of class time if you have points you wish to ask me about, though this is not mandatory. My office hours are by appointment (and Zoom), but don't be shy about contacting me. I can guarantee that I will NOT have all of the answers to your questions, but I will try!

As discussion leader, make sure that you encourage all of your classmates to speak up and all viewpoints to be heard. With a view to promoting participation I may also encourage input from various students during discussion.

Important: Discussion leaders must make sure that you tell me which papers will be used for your discussion at least a **week** before the relevant class meeting, so I can make them available to the class.

Illness:

Given covid, I figure I should have this section in the syllabus this year! If you are ill please let me know by email so that I do not dock participation, but expect to rest and take the week off (or more if necessary). If you are ill on a week that you are supposed to lead a discussion, it is especially important to let me know asap, so I can come up with an alternate plan. You will NOT be penalized if you miss anything due to illness, but if the best way to make up for a discussion leader missing a class seems to be to make a swap of class dates, it is possible that you might be asked to lead later in the semester if you are recovered by then. If you have any concerns about these policies please let me know, since we are in a new situation and they are open to revision.

Topics:

We will discuss some topics over the course of a single week, and others for two weeks with one week concentrating on each opposing viewpoint in the controversy, as seems most fitting for the topic and readings. When we are using two weeks for a topic they can be flexible in structure, but one possibility is for the first week to cover some background and one viewpoint, and the second to concentrate on the second viewpoint and a discussion of the controversy. A list of possible topics and readings will be available on Sakai, but discussion leaders may switch out papers or pick a topic that is of particular interest to them.

Final:

The final will consist of brief (~5 minute) recap-style presentations by each discussion leader of the controversy that you presented, which should include comparisons between that controversy and some others that we have covered in the class (e.g., how substantive the controversies seemed to you, whether similar types of points of contention arose, links that you are able to make between the ways in which the authors interacted in that controversy, or any other comparisons that strike you as interesting). Each recap will be followed by some discussion, and participation in these will also constitute a part of your grade for the final.

Schedule:

Week	Date	Topic/Reading	Leader
1	Aug 12	Organizational meeting, Role of controversies	
2	Aug 19	Group selection, kind selection, inclusive fitness	
3	Aug 26	"	
4	Sept 2	"	
5	Sept 9	Shifting balance theory	
6	Sept 16	"	
7	Sept 23	Species recognition vs. sexual selection in speciation	
8	Sept 30	"	
9	Oct 7	Sexual conflict	
10	Oct 14	Social selection to replace sexual selection	
11	Oct 21	Sex Roles	
12	Oct 28	The predictability of genetic evolution	
13	Nov 4	The role of hybridization in speciation	
14	Nov 11	"	
Final	Nov 18, 4pm	Summary Presentations	