



Syllabus -- Phylogeography of Baja California

FALL 2003

BIOL. 517T SECTION 2 #17808

Tuesday nights 6 p.m. to 8:50 p.m.

MH282A or SLC 268 (TBA)

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Office Hrs.: T 1:30-4:00; W 1:00-3:30 (Subject to Change)

Primary Course Website: <http://biology.fullerton.edu/biol517dje>

Current Syllabus: http://biology.fullerton.edu/biol517dje/bio517_Baja_F03.pdf

Course Schedule: <http://biology.fullerton.edu/biol517dje/schedule.html>

Blackboard Website: Access available once logged in to Student Portal

Prerequisites – Graduate-level standing in Biology or related disciplines. Advanced undergraduate students must obtain permission from the Instructor before enrolling.

Overview - This seminar course focusing on the geographic distribution of native marine and terrestrial species of Baja California. Species distributional patterns will be addressed from the broad historical perspective that constitutes the emerging field of phylogeography, integrating available biogeographical, phylogenetic, population genetic, and ecological data sets. Students will read, discuss, and write critiques of assigned primary research articles related to Baja phylogeography. Each student will be involved in leading at least one discussion of such an article and will also present independent research on the phylogeography of a particular taxon of animals or plants occurring in Baja, which could come in part from direct observations during an optional Fall Break trip to selected Baja localities.

Course Organization - The course will be organized as follows into four phases:

1. Introduction to the physical and biological features of Baja California and to the principles of phylogeographic analysis (Led by instructor and participating guest faculty, weeks 1-5)
2. Investigation of particular research articles from the primary literature related to Baja phylogeography (Led by enrolled students, weeks 6-13)
3. Optional trip to selected Baja localities during Fall Break, tentatively Nov. 21-30.
4. Student presentations (15-20 minutes each) of final projects, emphasizing the phylogeography of a particular taxon of marine or terrestrial organisms, emphasizing independent research that might come from direct observation on the Baja trip.

The first five sessions will be devoted to an overview of basic concepts in phylogeography, with emphasis on Baja California. At least one of the first readings assigned (Dawson, 2001) will also feature examples from the better-known California region. Specific readings will be assigned for these introductory sessions, and these will be posted to the "Course Documents" section of the Course website, or else distributed as photocopies the week before they will be covered.

Weekly Written Synopses – Starting with week 2 and ending with week 13, you will be expected to read the weekly assigned article(s) and write a synopsis and discussion of the main points, to be turned in at the start of the class when the article(s) will be discussed. The format you choose in your write-up is up to you. The score you receive for each synopsis write-up will be based on the following rubric (20 points possible):

- 1) Do you provide an accurate overview of the main points from the assigned reading, including discussion of alternative hypotheses that are addressed, the source of new data analyzed, results obtained, and discussion of their implications? Do you appropriately cite the article? Do you provide a concise and original synopsis of the important conclusions avoiding merely quoting long portions of the assigned reading? (8 points)
- 2) Do you build on the previous readings and seminar discussions, for example, do you address questions raised in either the assigned reading or in seminar discussion? Does the research article(s) help in comparing or contrasting terrestrial and marine patterns, or the patterns observed by different taxa within one of these categories? (3 points)
- 3) Do you offer a critical analysis of the significance of this article relative to previous studies, for example, those cited by the author(s)? Are previous interpretations of phylogeographic pattern further supported or contradicted? If contradicted, are the new hypotheses or evidence compelling in providing a more general explanation for the pattern or does it more likely apply only to the specific case investigated? Do you appropriately use citations for ideas that come from other people? Do you summarize the important conclusions of previous articles in your own words rather than quoting? (3 points)

- 4) Do you present your own ideas or questions and allow them to be considered in light of the current evidence, and do you consider alternative ideas? Do you recognize naïve ideas and relinquish or refine them after considering evidence? (3 points)
- 5) Is your writing clear and free of mechanical errors (complete sentences, well organized, grammatically correct, legible, and free of spelling errors)? (3 points)

Note: Papers will not be accepted after the start of class (6:00 p.m.) without a legitimate medical excuse. The reason for this policy is to ensure that you will come to the scheduled course meeting time ready to discuss the assigned reading.

Student-led Discussions - Starting with the sixth week, the weekly discussions will be led by one or two enrolled students. If you choose to share your leadership role with another student then you will each be expected to lead a second week, preferably each with different partner for the second session. A carefully selected list of articles from the primary literature involving important aspects of Baja phylogeography will be distributed in class on the first class meeting or posted to the website by August 31. You will be expected to choose one of these (or two if you choose to share the leadership duties) and email your choice(s) to Prof. Eernisse at deernisse@fullerton.edu (generally, first come, first served). If no email is received by about Week 3, a reading will be assigned. Feel free to suggest an alternative article if you have one that has general implications for Baja phylogeography. The schedule of your presentation(s) will be assigned, depending on when it best fits with the sequence of topics to be covered, and the schedule of selected articles will be posted to the course website. PDF versions of the articles or supplementary material will likely be made available for downloading through the course Blackboard site only, under the “Course Documents” section. In contrast to previous semesters, students enrolled in this course will be automatically enrolled in the Blackboard course website, accessible by clicking on the “Blackboard” tab once you have logged into your Student Portal (<http://www.fullerton.edu>). Besides the article assigned as the presenter, you are encouraged to pursue supplementary supporting materials on your own. Such supplementary material might include in-person or on-line library research (e.g., Web of Science, Biosis), references provided on the course website listing of references, clarifying sections of textbooks, or on-line supporting course web pages that you find with the help of a Web search engine (e.g., google.com).

All students other than presentors will be expected to not only carefully read the assigned articles and supporting material to be covered for a particular week before coming to class, but will also be expected to submit at the beginning of each class a concise thoughtful written synopsis of each weekly reading assignment (see “Weekly Written Synopses” section above). The instructor will read and provide a numeric score on each of your write-ups, and these points will constitute the primary component for assessing the performance of the student in the class. Expect that papers might take a week or more to be returned to you. You will also be evaluated on the quality of your presentation and for the leadership qualities that you exhibit, including your efforts to involve other students in the discussion.

Final Project – During the course of the semester, you will choose a particular taxon (group of species or single species) that occurs in Baja and that has not been precisely investigated with respect to phylogeographic pattern. You will independently investigate the phylogeography of this taxon in Baja, drawing on whatever sources you have available. You are encouraged to make direct observations of this taxon if you are able to come with us on the planned optional trip during Fall Break. If you do not come on this trip, then you will have to rely on other sources for your final project. The results of your independent research will be the subject of a 15-20 minute PowerPoint presentation to be delivered during one of the final two scheduled course meetings.

Book Club – Each student will select from a provided list of semi-popular books on Baja California natural history or travel adventure. You will be required to submit a brief (1-3 paragraph) review of this book, along with a “star” rating assigned by you (i.e., five stars maximum rating). Your review must convey original ideas, and should be from the perspective of a biology student interested in exploring Baja. If deemed acceptable, your review will be posted to our course website, with your name attached. A suggested book list will be provided by the third week of the class or posted to the course website earlier. Email Prof. Eernisse if you want to get started earlier. This book review will be due by no later than November 18, with point penalties for later submissions. Earlier or multiple submissions are encouraged. For example, you might want to read a second book already reviewed by someone else, and add your own review, or else read another book not claimed by others. Extra book reviews will be awarded up to 15 points each extra credit (maximum of 30 points).

Assessment:

Grades will be based on the following estimated point totals:

Weekly write-ups (12 at 20 points each, none due the first week)	240 points
Attendance and participation (up to 10 points per week)	140 points
Leading one or more assigned discussions (total points possible)	100 points
Book review for website (book list TBA)	25 points
Final Presentation (Week 14 or 15)	<u>75 points</u>
Total estimated points	580 points

Your final grade in the course will be based on the percentage of the total accumulated according to the scale depicted below. Under unusual circumstances, the instructor might adjust scores of individual graded assignments in your favor, but do not anticipate otherwise curving the final scores.

% Score	Grade
85 – 100	A
75 – 84	B
65 –74	C
55 – 64	D
54 BELOW	F

Adds/Drops:

Important dates concerning registration or drops are on the inside cover of the CSUF Fall, 2003 Class Schedule or at:

http://www.fullerton.edu/admissions/policy_and_deadline_information_.htm

Note that due to the current State budget crisis, adds after the first week of classes will be extremely limited, if allowed at all. Please check with the Biology Office for the most current College of NSM policy concerning late adds, and do so immediately if you are interested in adding this class. It is likely that you will need the instructor to approve an add during the first week and also likely that you will not be able to add the course at all after the first week.

Extra Credit:

You can submit up to two “extra” book reviews for up to 15 points each extra credit (see above). There will also be an opportunity to earn extra credit points for attending primary research seminars related to some aspect of phylogeography. You can earn extra credit for attending up to two seminars, and you can earn up to 10 points per seminar (20 points maximum). Selected seminars from the Fall 2003 Biology Seminar Series that are deemed appropriate will be announced in class, but ask if you would like to attend one that has not been announced but seems appropriate to you. The Departmental Seminar schedule is at: <http://biology.fullerton.edu/events/> and are held each Wednesday at 4 p.m., MH468. If you find another scheduled seminar elsewhere or an alternative activity that you feel will enhance your understanding of the course topics, email or otherwise provide me with details in advance of the potential activity, or take a chance and do it and I may or may not approve it. In general, I will want you to provide a written account of the following: 1) What was the main take-home message of the presentation?; 2) What questions do you have for the speaker or as a result of your experience?; 3) How can you suggest extending the research or other activities presented? I will assign 0-10 points per seminar attended, depending on the quality of your write-up. Note that the write-up must be thoughtful and carefully reasoned in order to get the full number of points available. A brief general write-up will not get full credit.

Make-up Policy:

Due to the nature of the course, it will be difficult to make up missed course meetings. If you miss a week of the course, I will consider prorating your other attendance scores ONLY when arrangements are made prior to the course meeting time, and you have a legitimate excuse for missing class. Documentation is required. Contact me about whether I will penalize your submission of a weekly write-up if it must be late and you have a valid excuse. This is your responsibility, and failure to follow the above guidelines could result in a zero grade for the assignment or a deduction for late submission in less severe cases. Generally, late submissions for weekly write-ups will be assessed a late penalty of at least 25 percent minimum for one day late and an additional 10 percent of any portion of every other day it is late. I might elect to waive these penalties, depending on the circumstances that caused you to miss class, or not turn in a weekly write-up.

Rules About Withdrawing from Courses:

CSUF has a policy (UPS 300.016) regarding withdrawal from classes. After the first census date, students may be granted withdrawal only by presentation of documentation outlining a physical, medical or emotional condition that prevents completion of the course. Poor academic performance is not evidence of a serious reason for withdrawal. Students unable to produce official documentation will be required to take the grade they have earned in the class.

Academic Dishonesty Policy:

Although you will be conducting several group-oriented discussion activities, each assigned weekly write-up must be completed individually, and the work must be your own. Use online or library sources of information, always properly cited, and work together often. However, your weekly write-ups must reflect your own independent thinking. When you use information from sources external to yourself, you need to reference the source appropriately (literature citation, URL for web-derived material). Just because you referenced a source does not give you the right to insert segments, verbatim, into papers you write or drawings you produce in your lab notebook. Cheating will not be tolerated and could result in both a failing grade in the course and formal reporting to the CSUF academic administration.

REQUIRED MATERIALS: No textbook will be required. Instead, individual reading assignments will be made available to you as PDF-format downloads (requires the free Adobe Acrobat Reader software available from www.adobe.com) or as photocopies.

SCHEDULE:

You are expected to attend ALL weekly class sessions and participate actively. We will follow the attached tentative course schedule posted to our course website and will update it throughout the semester, when necessary.