

Biology 735 -- Seminar: Biogeography Spring, 2009

Seminar Instructors: Professor David Archibald, Professor Janet Franklin

When and Where: Tu 3-5pm in SH241E. This 2-unit graduate seminar meets for 100 min/wk.

Faculty Office Hours:

David Archibald: SLS 262, 594-6917, darchibald@sunstroke.sdsu.edu, Office Hours MW 11-12 or by appointment. On M & W mornings I may be in the vertebrate collections (LS257) or in the classroom, (LS 269) preparing the lab for that day.

Janet Franklin: PS145. tel. 594-5491. janet@sciences.sdsu.edu . Office Hours M 3-350pm in Associate Chairs office LS104B (tel. 594 6397) or by apt.

Outcomes

The seminar has two objectives: a) assess the conceptual and theoretical contributions of key figures in the development of the science of biogeography over the last 300 years, from Linnaeus to the mid 20th century; and b) conduct a more focused independent research project on a biogeographic concept, region, or taxonomic group. These theories laid the foundation for much of contemporary evolutionary biology and ecology.

In addition, graduate student will gain practice in the following skills required for conducting scholarly and scientific research:

- (1) critiquing the primary literature
- (2) organize and lead group discussions of the literature
- (3) research, organize, and present a seminar
- (4) demonstrate the ability to ask conceptually based and insightful questions
- (5) through (1)-(4) demonstrate understanding of the conceptual and theoretical contributions of key figures in the development of the science of biogeography

Format

This is a student-participatory graduate seminar. Instructors will lecture very little. Students are responsible for identifying readings (with help from instructors), making oral presentations about the topics, and actively participating in all discussions.

Part I

At each meeting during the first part of the course, the convener* for the session will give a short (about 15-20 minute) oral presentation introducing the biogeographer and his/her major contributions to developments in biogeography over the past 300 years. This will be followed by a general discussion of the subject facilitated by the convener. At this same session, the convener will provide copies of an outline and an annotated bibliography for the others in the seminar. One week in advance, the convener will provide a copy of a summary reading for all

participants. This will be posted electronically using Blackboard if possible. Try to keep the reading to 50 pages or less, which everyone **will** read.

Part II

During the second part of the course each person will give a presentation of about 30 minutes on a particular taxonomic group (e.g., at any level) and/or biogeographic regions/issues (e.g., vascular plants in the California Floristic Province; southeast Asia and the west Pacific; cicadas east of Wallace's line; freshwater mollusks of Africa; the Sea of Cortez; lizards of the Baja peninsula; oceanic island dispersal; phylogenetic niche conservatism.) These will have been done using cladistic biogeographic techniques where appropriate (if the topic is systematics).

**More than one person may collaborate on and present a given topic. A given topic may be scheduled for successive sessions.*

Grade

The course grade will be based upon: 1) class participation in discussions (33%), 2) the two class presentations (in "powerpoint" slide form) (33%), and 3) annotated bibliography for both presentations (33%) – send to instructors for posting on Bb (do not need to provide hard copies). Must be turned in to receive a grade.

Here are some potential subjects for the first presentation (Part I):

- Carl von Linné or Carolus Linnaeus (1707-1778)
- Georges Louis Leclerc Comte de Buffon (1707-1788)
- Johann Reinhold Forster (1729-1798)
- Alexander von Humboldt (1769-1859)
- Alphonse de Candolle (1778-1841)
- Louis Agassiz (1807-1873)
- Charles Robert Darwin (1809-1882)
- Edward Forbes (1815-1854)
- Joseph Dalton Hooker (1817-1911)
- Alfred Russel Wallace (1823-1913)
- Alice Eastwood (1859-1953)
- William Diller Matthew (1871-1930)
- León Croizat (1894-1982)
- E. Lucy Braun (1889-1971)
- George Gaylord Simpson (1902-1984)
- Philip J. Darlington, Jr. (1904-1983)
- Lars Brundin (1907-1993)
- Willi Hennig (1913-1976)
- E. C. Pielou (1924-)
- Donn E. Rosen (1929-1985)
- Edward O. Wilson (1929-)
- Robert H. MacArthur (1930-1972)

General Suggested Background Reading (NOT REQUIRED):

Brown, James H. and Lomolino, Mark V. 1998. *Biogeography*. Sinauer Associates, Inc., Sunderland, MA., 691p.

Browne, Janet. 1983. *The secular ark: studies in the history of biogeography*. Yale University Press, New Haven, 243p.

Lomolino, Mark V., Dov F. Sax, and James H. Brown, editors. *Foundations of Biogeography: Classic Papers with Commentaries*. 1328 p., 2004.

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Schedule

Date	Convernor(s)	Topic	Subject/Reading
1/22	David, Janet	Organizational meeting, Selecting topics;	
Wk 1: 1/27	David, Janet	Centers of Origin and Related Topics (DA); Evolutionary Ecology of the Niche (JF)	TBD (JDA); TBD (JF)
Wk 2: 2/3		Part I Session 1: 18 th century	Linneaus, Forster, () [Buffon, Humboldt, Hooker, de Candolle]
Wk 3: 2/10 JF gone 2/17-18; DA gone 2/13-15		Part I Session 2:	Darwin () [Agassiz, Forbes, ...]
Wk 4: 2/17		Part I Session 3:	Darwin)
Wk 5: 2/24		Part I Session 4:	Wallace ()
Wk 6: 3/3		Part I Session 5:	Matthew, Simpson Darlington () Hennig () [Brundin, Croizat, Rosen]
Wk 7: 3/10		Part I Session 6:	E. O. Wilson () [and...]
Wk 8: 3/17		Part I Session 7:	R. MacArthur [and...]
Wk 9: 3/24		Part I Session 8:	Pielou, Braun (
3/30-4/3		SPRING BREAK	
Wk 10: 4/7 JF gone 4/9-10		Part II Session 1:	
Wk 11: 4/14 JF gone 4/13-17 DA gone 4/17-18		Part II Session 2:	
Wk 12: 4/21		Part II Session 3:	
Wk 13: 4/28 DA gone 5/1-2		Part II Session 4:	
Wk 14: 5/5 JF gone 5/3-15		Part II Session 5:	
Wk 15: 5/12 JF gone 5/3-15		Part II Session 6:	

