

Biogeography — General Info

Fall 1997

231-W Bessey

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Office Hours: Wed 2-5 PM
else by appt.!!

Course Content: This course will focus on reading about and discussing major topics in biogeography (e.g., biodiversity, plate tectonics, floristic and faunistic zones, paleoclimate, “center of origin”, migration and dispersal, phylogeography, and biogeographic methods). This is an excellent opportunity to learn about and critically read papers on biogeography, a synthetic field integrating ecology and evolutionary biology with meteorology and geology.

Classes: Attendance, preparation, and participation is mandatory. Please attend class or we will be “forced” to grade you unfavorably (but we’re sure this won’t be a problem!). Also, we expect everyone to read the paper(s) critically so that we can have good discussions. This is particularly true of the students designated to lead the group discussions. Concerning the discussions themselves, we expect a free exchange of thoughts and encourage everyone to ask questions even if they seem unbearably simple. It won’t do you any good if you don’t understand what we’re discussing. We will all have a say in the topics and papers that we discuss, so please come prepared with ideas! Your grade will be determined by the extent of your attendance, preparation, and participation and by your literature review and summary paper on a specific topic in biogeography.

Tentative Schedule and Topics

<u>WEEK</u>	<u>TOPIC</u>
1	Organizational meeting
2	Lecture: Issues and concepts in biogeography
3	Lecture: Issues and concepts in biogeography
4	Lecture: Issues and concepts in biogeography
5	Lecture: Issues and concepts in biogeography
6	Lecture: Issues and concepts in biogeography
7	Lecture: Issues and concepts in biogeography
8	Group Discussion Raven and Axelrod. 1974. Angiosperm biogeography and past continental movements. <i>Ann. Missouri Bot. Gard.</i> 61:539-673. Brundin. 1972. Phylogenetics and biogeography. <i>Syst. Zool.</i> 21:69-79.
9	Group Discussion cont. Dickman. 1987. Habitat fragmentation and vertebrate species richness in an urban environment. <i>J. Appl. Ecol.</i> 24:337-351. Diamond. 1975. The island dilemma: lessons of modern biogeographic studies for the design of natural reserves. <i>Biol. Conserv.</i> 7:129-146. Newmark. 1987. A land-bridge island perspective on mammalian extinctions in western North American parks. <i>Nature</i> 325:430-432.
10	Group Discussion cont. Stoddart. 1981. Biogeography: dispersal and drift. <i>Prog. Phys. Geogr.</i> 5:575-590. Pregill and Olson. 1981. Zoogeography of West Indian vertebrates in relation to Pleistocene climatic cycles. <i>Annu. Rev. Ecol. Syst.</i> 12:75-98.
11	Synthesis of Major Topics in Biogeography
12	Individual Presentations Curtis Eckerman (the biogeography of <i>Heterodon</i> : the geology and concordance) Scott Mahady (genetic conservation in fragmented habitats) Jeremiah Lynch (relationship between abundance and distribution among species)
13	Individual Presentations cont. Charlie Butterworth (phytogeography of the Neotropics)

Larissa Mottl (using biogeography to ascertain why dioecy has evolved in an unusually high number of plant taxa on islands)
Jason Kolbe (relict populations, dispersal patterns, and refugia of the North American Pleistocene)

14 Thanksgiving week

15 **Individual Presentations cont.**

Kelly Wolfe Bellin (species diversity in fragmented habitats)

Jessemine Fung (using mitochondrial data to reconstruct biogeographical events)

16 **Individual Presentations cont.**

Eddie Watkins (pteridophyte biogeography)

Cathy Mabry (the effect of urbanization/humanization of the landscape on the distribution and abundance of plants and animals)

Review paper due on 12/15!!!