

DISCUSSION QUESTIONS: Chapters 4 - 5

D Jenkins

1. Consider Fig. 4.8 (4th ed). Do you think this figure generally represents most species' distributions?
 - a) If so, then what value are general native range maps (as seen in field guides)?
 - b) If not, then why might this be the exception, and what does that imply for other organisms?
2. What is the difference between niche and habitat? How can you reconcile that with the idea in the book that “the geographic range [is] a reflection of the niche”?
3. Do you expect population density is spatially autocorrelated for most species within their range? If so, what would a typical pattern look like? If not, why not?

4. Write down four major factors that **limit** a species' distribution &/or density.

5. Write down four major factors that **extend** a species' distribution &/or density.

Which one(s) are typically strongest?

6. Who was right: Clements or Gleason?

7. List three strengths and three weaknesses of the biome concept (and resulting maps).

<i>Strengths</i>		<i>Weaknesses</i>	
1.		1.	
2.		2.	
3.		3.	

8. If a species' geographic range is the fundamental unit of Biogeography, what is the fundamental unit of Evolution? _____ Of Ecology? _____
9. What is the best way to depict a species' geographic range? Why?
10. Does geographic range indicate niche? Why?

11. Must abundance and distribution be related? Why?
12. Rank the following three categories of factors in order of most-to-least important for a species' geographic range:
 - (a) abiotic conditions (temperature, water, etc.)
 - (b) disturbance
 - (c) biotic interactions
 - (d) history
13. Fig. 5.2 (4th ed.) – How can this macroecological pattern be so clear-cut? Why the shifts between unicellular / poikilotherms / homeotherms ? Does Fig. 5.2 B argue against Fig. 5.3?
14. Fig. 5.7 – 5.9 (4th ed.) Are ecotones real boundaries between communities? And how long should one wait to describe such a pattern as stable and real?
15. Are biome / ecoregion maps (pgs. 136-163; 4th ed.) just large-scale versions of a Clementsian community concept?
16. Was Whittaker right – it all comes down to temperature and water on land (Fig. 5.12; 4th ed.)?