

Biology 370 – Animal Behavior
Spring 2008 – Dr. Carey – Exam 3

1. Define: (3 pts each)
 - A. countershading
 - B. Mertensian mimicry
 - C. aposematic coloration
 - D. ranging
 - E. home range
 - F. overdispersion
2. Describe Brown's general model for the evolution (ultimate causation) of territorial behavior. We find that a species of fly has lek territories – define that. What would predict about food and nest site resources in that species? (18 pts)
3. What fitness constraints does cryptic coloration put on individuals who have it? What are 2 ways that cryptically colored species might compensate for these constraints? How do cryptically colored species use flash patterns to benefit themselves? (18 pts)
4. Define food value and tell how it should relate to diet choice. Two closely related species of fish coexist in the same habitats. Two sorts of food are generally available to them: insects and snails. Food value for average insect is 25; for the average snail it is 15. We find, though, that while one species feeds on the insects, the other typically feeds on the snails. Devise a hypothesis to explain the ultimate causation of this difference in food choice in the 2 species. How might you test this hypothesis? (20 pts)
5. Why might we expect Batesian mimicry to be a relatively uncommon form of mimicry? (10 pts)
6. We find that floaters exist in a study population. Does that necessarily mean that territoriality is regulating population size in the population? Why or why not? If the answer to the previous question were yes, would that mean that population size regulation was the ultimate cause of the territoriality? Why or why not? (16 pts)