Biology 370 – Animal Behavior  
Spring 2015 – Dr. Carey – Exam 4

1. Define: (3 pts each)  
   A. runaway selection  
   B. iteroparity  
   C. r-selection  
   D. sexual monomorphism  
   E. operational sex ratio

2. Describe the 3 different mating tactics used by male scorpionflies, putting them in order from highest to lowest male fitness outcomes. Females basically refuse to mate with males showing the lowest fitness tactic. Why, then, do you think that tactic is still present in the species? (20 pts)

3. According to kin selection theory, all else being equal, it is adaptive for a parent to allocate unshareable parental care equally to all current offspring. Why? We find a species in which the parent does not allocate care equally. Devise a hypothesis that might explain the ultimate causation of this differential allocation of parental care to the young. (15 pts)

4. Red-winged blackbird males have bright red wing patches, a trait not found in the females. Distinguish between intrasexual and intersexual selection. How might you experimentally determine which, if either or both, of the 2 sexual selection components might be the ultimate cause of this wing coloration difference in the sexes? (18 pts)

5. Explain how gender differences in the reproductive values of polygynous species might lead to biases in the tertiary sex ratio of a parent’s offspring. (20 pts)

6. Define sexual bimaturism. In what sort of species might that phenotypic trait appear most frequently? (12 pts)