

**Norwegian University of  
Science and Technology**

**Faculty of Natural  
Sciences and Technology**

**Department of Biology**

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EXAM IN: **BI 2045 Communication and Reproductive Behaviour**

English

DATE: 24 May 2014

Credits: 7.5

No of pages: 1

Marking date: 16 June 2014

Hours: 4

Aids allowed: none

ALL QUESTIONS COUNT EQUAL FOR THE MARK

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It is recommended to illustrate your answers using concrete examples from scientific literature. Please read all questions before you start answering.

Question 1

What is sexual selection, and how does it relate to natural selection? Discuss the roles of competition and choice in sexual selection, and explain how we can test whether certain traits play a role in competition or choice. Be concrete on the testing: explain how you would design (a) a study to test sexual selection by competition, and (b) a study to test sexual selection by choice. Tell what species or types of species the tests would be aimed for, and why you have focussed on that or those species.

Question 2

What do we mean with the term “animal sex roles”? How do sex roles vary in nature? Discuss factors that might affect the sex roles in a given population, and what we know about sex role regulation in light of existing evidence. Should we expect sex roles to be regulated by the same factors in all sorts of animals?

Question 3

How can signals and sexual selection affect speciation? How can we use comparative analyses to reveal whether sexual selection is related to species richness, and what have such studies told us about the importance of sexual selection in speciation?

Question 4

Outline the ‘puzzle’ (phenomenon) addressed in your group’s project, and which hypotheses have been suggested to explain that phenomenon. Explain how we can test between these various hypotheses in empirical work. Outline the current state of knowledge in understanding the phenomenon on the basis of extant empirical work, identify “what (if anything) we know too little about”, and suggest what should be emphasized in future work to get a better understanding of the phenomenon.