

# 9.20 MIT 2005

## Class 2:

- 1) Questions on Class 1
- 2) Video on the three-spined stickleback fish
- 3) Tinbergen on the study of gulls (Kittiwakes)

# Review: Questions on Class 1

1. What two species of animal were primarily involved in spreading bubonic plague (the black plague) in medieval Europe? What animals were often blamed?
2. What were the hobbies of the two amateurs, one American man and one British man, whose discoveries in the early part of the twentieth century led to the establishment of ethology as a science within European zoology? What did they, independently, discover?
3. Contrast the attitudes of scientists in mid-twentieth century America with those in Europe towards the study of animal behavior.

# Review: Questions on Class 1

4. Edward O. Wilson, a professor at Harvard University, coined a word for a field of behavioral study in the title of a 1975 book – a monumental synthesis that generated much controversy. What is the word?
5. How is animal behavior viewed by “behavioral ecologists”?
6. Contrast “mammalogy” and “mammalian ethology”.

# One more question, for homework:

7. Describe one encounter you have had with an animal or group of animals (non-human), an encounter that you found particularly interesting or thought-provoking.

# Video: “Questions about behavior”

from series, Biology, Brain, and Behavior

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- Subject: The behavior of the three-spined stickleback fish, analyzed with the help of Tinbergen’s 4 questions (see Scott, ch 1)
- Video-cassette available in Hayden basement, QL751.Q47

Niko Tinbergen (1958), *Curious Naturalists*,  
ch 11, “Cliff dwellers”, pp 187-204

1. Describe the equipment used by Oxford student Ms Cullen, working under Tinbergen’s supervision, to study Kittiwakes on the Farne Islands of the UK. There were three key items.
2. What is the reason why Kittiwakes have evolved to be much less disturbed by human observers than other gulls?
3. At the same time, Kittiwakes spend more time fighting and threatening each other than do other gulls on their breeding grounds. Why?

Niko Tinbergen (1958), *Curious Naturalists*,  
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4. Describe the behavior of a male-female pair of Kittiwakes that indicates that they are forming a pair successfully.
  
5. Describe a clear difference between the behavior of recently hatched Kittiwake chicks and chicks of other gulls (Herring gulls, or Black-headed gulls), and why this should be expected. How was this difference shown to be innate?