

9.20 MIT 2013

Lecture #3  
Ethology (continued)

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

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

Studies of Kittiwake  
gulls on the Farne  
Islands,  
Northumberland, UK

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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.

[See p 196-197](#)

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

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*,  
ch 11, “Cliff dwellers”, pp 187-204

4. Describe the behavior of a male-female pair of Kittiwakes that indicates that they are forming a pair successfully.

See p 199-200

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?

See p 203

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

6. Describe one other difference that has a similar explanation. (p 203-204)

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9.20 Animal Behavior  
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