

Evolutionary interplay of caution and boldness in populations

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- *From:* stargene@xxxxxxxxxxxxxx
 - *Date:* Fri, 18 Nov 2005 13:25:33 -0500 (EST)
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A recent study in the journal Cell, by Gleb Shumyatsky and others, indicates that the difference between "normally cautious mice" and "bold mice" is one gene, which governs the protein stathmin in the amygdala. The ramifications for drug and even gene therapy are obvious, yet it seems to me that a larger and more complex issue may loom in the wings here:

It seems to me that the survival of a population and indeed a species may often hinge on the complexity or flexibility of its response to environmental pressures. I can imagine times when, for example, caution and even timidity might confer greater survival for a population and other times when bold, dynamic actions would be the more appropriate survival response. The great variety of possible human responses to environmental pressures comes to mind: a human community having many different kinds of people -- with many different response potentials in different individuals, each having different sensibilities and capacities -- will likely have a greater flexibility of response and a greater survivability. Ie: there is a place and time for the cautious and a place and time for the bold 'mice'.

Gene

Question: What computer modeling has been done exploring the evolutionary/survival value, for an artificial population, of a wide range vs. a narrow range of responses, in environments having different degrees of complexity and severity in their impacts on populations/species?

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- *Follow-Ups:*
 - ◆ **Re: Evolutionary interplay of caution and boldness in populations**
 - ◇ *From:* Joe Felsenstein

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- ◆ ***Re: Evolutionary interplay of caution and boldness in populations***
 - ◇ *From: Perplexed in Peoria*
- ◆ ***Re: Evolutionary interplay of caution and boldness in populations***
 - ◇ *From: JoeSP*
- ◆ ***Re: Evolutionary interplay of caution and boldness in populations***
 - ◇ *From: Anthony Cerrato*
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