

The genetics of Anarchy

June 20 2008

A study of honeybee 'anarchy' has uncovered several regions of the genome that influence cheating behaviour.

This story has been retracted.

For more information about the research please refer to:

- **The genetics of anarchy**

Genetics doi: 10.1534/genetics.108.087270 (2008)

A study of honeybee 'anarchy' has uncovered several regions of the genome that influence cheating behaviour. Honeybee (*Apis mellifera*; pictured right) queens emit a pheromone to 'switch off' the ovaries of female worker bees, but some individuals are more sensitive to the pheromone than others. Those who fail to respond are branded anarchists because they disrupt the social order of the hive. Peter Oxley of the University of Sydney, Australia, and his colleagues tracked down regions of the genome that have a role in ovary activation. They found four such regions that together account for 25% of the variation in this trait observed in the population of honeybees they studied.

<http://www.nature.com/nature/journal/v454/n7200/full/454004c.html>

- **Four quantitative trait loci that influence worker sterility in the honeybee (*Apis mellifera*), pp. 1337-1343**

Peter R. Oxley, Graham J. Thompson and Benjamin P. Oldroyd

Worker sterility in social insects is one of the most dramatic examples of genetically determined altruism, yet there are no candidates for genes that control this behavior. Using a line of honeybees with the rare

property of highly fecund workers, these authors find evidence for genes that cause selfish cheating behavior in a social animal.

<http://www.genetics.org/cgi/content/abstract/179/3/1337>

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