

# It's in his smell

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## European Corn Borer

A female moth selects a mate based on the scent of his pheromones. An analysis of the pheromones used by the European Corn Borer (ECB, *Ostrinia nubilalis*), featured in the open access journal *BMC Biology*, shows that females can discern a male's ancestry, age and possibly reproductive fitness from the chemical cocktail he exudes.

Jean-Marc Lassance and Christer Löfstedt from Lund University, Sweden, studied the influence of pheromones on mating preferences and carried out an analysis of the composition of the scent and genetic makeup of the animals involved. In addition, they compared the odour bouquet used by males with the scent used by females to attract potential mates. According to Lassance, "Our demonstration of pheromone-based female mate choice and identification of a male courtship pheromone in ECB is of particular importance because it may alter our understanding of the role of pheromones in species formation".

When the authors compared the pheromones of French, Hungarian,

American, Slovenian populations and of an Asian sister species, they found that the changing compositions allow females to select for males of their own kind - reinforcing reproductive isolation, a step on the road to the formation of a new species. Lassance speculates that combined with the possible indication of genetic fitness, pheromones may be a driving force behind butterfly and moth evolution, "Populations differ by the presence/absence of a compound designated 'Z11-16:OAc', especially old males, which are the more likely to obtain females' favours. The evolution of mate choice in females from the investigated populations of France and Hungary may have been partly driven by this difference, since choosing males with the compound would result in less hybrid mating".

More information: Concerted evolution of male and female display traits in the European corn borer, *Ostrinia nubilalis*, Jean-Marc Lassance and Christer Löfstedt, BMC Biology (in press), [www.biomedcentral.com/bmcbiol/](http://www.biomedcentral.com/bmcbiol/)

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