

Hawks win, doves pay for being odd

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Juvenile goshawk hunting by Thermos. Credit: Wikimedia Commons

(Phys.org) -- In a crowd, looking different can be dangerous, at least if you're a pigeon.

A new study from Oxford University has examined the so-called 'oddity effect,' in which predators preferentially attack different-looking individuals within a [prey](#) group - presumably because it enables them to focus on a single target within a confusing, moving mass.

To test whether this hunting strategy actually pays off for the predator in terms of enhanced reproductive success, Christian Rutz of Oxford University's Department of Zoology studied urban goshawks preying on feral pigeons in the city of Hamburg, Germany.

A report of his research is published in [Current Biology](#).

In feral pigeons, most individuals are grey-blue but many flocks contain a few white birds.

"Goshawks are specialist bird hunters, and in urban environments, their preferred prey is the feral pigeon," says Christian. "When attacked by a raptor, pigeons seek safety in numbers and form a tight flock. Goshawks struggle to single out a suitable victim in such flocks, but by focussing on an odd-coloured individual, they seem to be able to enhance their attack success."



Adult goshawk with pigeon. Credit: Johan Krol

But, Christian explains, like other skills this hunting strategy is something young birds have to learn: "Male goshawks apparently hone their hunting skills over their first few years of life. As they get older, they become not only better pigeon hunters in general, but they also get increasingly selective for odd-coloured individuals."

Importantly, the study found that those hawks that master this selective attack strategy are the best breeders:

"An efficient hunter can provide a lot of food to their offspring," Christian comments. "In goshawks, the most selective pigeon hunters initiate their clutches very early in the season and raise young of excellent body condition."

This finding leads to an intriguing question: why doesn't this selective hunting drive rare white pigeons to extinction?

"Feral pigeons apparently prefer to mate with partners who are of a different colour to themselves," Christian notes. "Thus, white pigeons may risk paying the 'ultimate price' for being conspicuous, and get killed by a hawk, but they are preferred mating partners of their much more common grey-blue counterparts and seem to enjoy reproductive advantages whilst alive."

The work may encourage studies in other species to move beyond simply recording success rates in predators attacking swarming prey, to examine explicitly how different attack strategies may affect a predator's reproductive performance.

Provided by Oxford University

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