

# Burly bird gets the worm

September 5 2018

---



A first-year Penn State College of Information Sciences and Technology doctoral student spent four months observing birds in an effort to learn what it would mean to design technologies from a more-than-human perspective. Her autoethnographic study contributes to addressing the challenging research problem of how to operationalize posthuman concepts into practice for human-computer interaction. House finchnigel. Credit: Wikimedia Commons

The pecking order of garden birds is determined by their size and weight, new research shows.

In a study at bird feeders, researchers from the University of Exeter and the British Trust for Ornithology (BTO) found larger [species](#) like house sparrows and greenfinches monopolised the best food and spent longer feeding than smaller [birds](#).

Meanwhile, smaller birds such as blue tits and coal tits had to feed quickly and were left with lower-quality food.

The researchers say the findings have "important implications" for using bird feeders as a conservation method.

"Bird feeding has become increasingly popular in the UK and throughout much of the world in recent decades," said senior author Professor Jon Blount, of the Centre for Ecology and

Conservation on the University of Exeter's Penryn Campus in Cornwall.

"However, its impacts are still poorly understood. "Bird feeders create a concentrated food source which can result in more quarrels between individuals of different species, which we predicted would lead to the formation of a dominance hierarchy.

"Our findings show that larger, heavier species get better access to food—so if the aim of bird feeders is to benefit all species, we need to investigate ways to achieve this, such as different mixes of foods and feeder designs."

The researchers watched birds at feeders placed at woodland edges and hedgerows on the Penryn Campus.

They found heavier bird species monopolised access to sunflower hearts—a food that had a "relatively short handling time".

Lighter species were left with sunflower seeds with the hull intact—a food that takes longer to open and eat.

Heavier birds also pecked at a lower rate—while small ones pecked quickly to make the most of their limited time at the feeder.

Joint first author Dr. Kate Plummer, of the BTO, said: "With more and more people feeding the birds in their gardens it is more important than ever that we understand any implications this might have for the birds themselves.

"We know that during harsh weather the foods put out by homeowners can offer a lifeline but beyond this the benefits might be more subtle, so it is interesting that our findings are less straightforward and that more work needs to be done to fully understand garden bird feeding."

Dominance ranks for each species were measured by recording any interaction between two individuals that resulted in one retreating from the [food](#) source.

In these cases, the bird that stayed was classified as the "winner" (the more dominant) and the other was classified as the "loser".

Though the results do not show the ten species in exact order of weight, there is a strong correlation between weight and dominance.

The two heaviest birds (based on average weight) were rated most dominant—house sparrow (27.3g) and greenfinch (27.7g) - while the two lightest—blue tit (10.9g) and coal tit (9.1g) - were bottom of the list.

The paper, published in the journal *PLOS ONE*, is entitled: "Effects of supplementary feeding on interspecific dominance hierarchies in [garden birds](#)."

**More information:** "Effects of supplementary feeding on interspecific dominance hierarchies in garden birds" *PLOS ONE* (2018). [DOI: 10.1371/journal.pone.0202152](https://doi.org/10.1371/journal.pone.0202152)

Provided by University of Exeter

Citation: Burly bird gets the worm (2018, September 5) retrieved 25 April 2024 from <https://phys.org/news/2018-09-burly-bird-worm.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.