

More social birds are more adventurous feeders, study finds

April 3 2024



RFID tagged great tit using RFID feeder. Credit: Sam Crofts

A new study led by researchers at the University of Oxford has found that birds that are more social are more likely to use novel sources of food. The findings have been [published](#) in *iScience*.

In nature, feeding in groups has various advantages—such as for spotting predators and finding the best places to eat—but hanging around with others also comes with the drawback of increased competition for [food resources](#). One way that sociable individuals could reduce competition is by broadening their diets to include new types of food.

For the first time, researchers have now demonstrated a direct link between individual [birds'](#) position within their 'social network' and their likelihood to exploit novel food sources.

The study, carried out in Wytham Woods, Oxfordshire, assessed the behavior of 105 wild great tits while they foraged in flocks during the winter. By fitting the birds with [radio frequency identification](#) (RFID) tags, the researchers were able to precisely monitor each individual's behavior at feeders as well as tracking each bird's 'social network position' in relation to how many social associates they held and who they preferred to spend time with.

After closely monitoring the birds to establish their social network, the researchers then tested each birds' propensity to use novel foods. At one of the feeding stations, the birds were offered a choice between a feeder containing a familiar food (ground peanuts) and one containing a novel looking food (ground peanuts dyed red or green).

Over 19 days, the researchers tracked how often the birds used the new food source over the familiar food, then analyzed whether this was linked to a range of different factors.

The results showed that an individual bird's tendency to use the novel food source over familiar food was significantly predicted by their social network position. Individuals with more social associations to other birds within the networks consumed significantly greater proportions of the novel food, with the most sociable birds eating twice the proportion of the novel food relative to the less sociable individuals. No other characteristics—such as age, sex, flock size, or total feeding rates—were found to be linked to individual preference for novel food.

Curiously, sociability had no impact on how quickly birds first used the novel feeder, with most birds (92%) using the novel food at some point during the trial, and no difference between sociable birds and less sociable birds in how quickly they tried it.

Lead researcher Dr. Keith McMahon (Department of Biology, University of Oxford) said, "This indicates that the increased usage of the novel food by the more social birds was not due to them being generally more exploratory or brave, but rather that more social birds are more likely to use novel food as a way of expanding their diets to offset the costs of having more foraging associates."

The researchers suggest that future work could examine how more social individuals may receive additional information about new food sources transmitted through their [group members](#), increasing their confidence in using these novel options.

Senior researcher Dr. Josh Firth (Department of Biology, University of Oxford) said, "The findings suggest that highly social birds may alleviate the costs of competition for food by foraging more broadly and exploiting novel food sources, but future research could explore whether there are additional reasons which explain why more social individuals are more likely to tolerate new foods."

More information: Keith McMahon et al, Social network centrality predicts dietary decisions in a wild bird population, *iScience* (2024).
[DOI: 10.1016/j.isci.2024.109581](https://doi.org/10.1016/j.isci.2024.109581)

Provided by University of Oxford

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