

Being lower in pecking order improves female tit birds' memory

December 9 2014



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When it comes to remembering where a tasty titbit was left, female great tit birds are miles ahead of their male counterparts. This ability might have evolved because the females come second when there's food to be shared, argue Anders Brodin and Utku Urhan of Lund University in Sweden. In Springer's journal *Behavioral Ecology and Sociobiology*, they present one of only a handful of cases in nature in which the female of a bird species has better spatial and learning abilities than the male.

Great tits (*Parus major*) are highly intelligent and quick learners. These common European songbirds have interesting and ever-changing ways in which they find food, and even use tools such as conifer needles during foraging. Unlike most other members of the tit family, great tits are not food hoarders. Brodin and Urhan have previously demonstrated that they are able to observe where their hoarding relatives have made a stash, only to retrieve it up to 24 hours later.

To test if there are any gender differences in this ability, Brodin and Urhan first allowed caged great tits to observe marsh tits (*Poecile palustris*) store away food in an indoor aviary. One hour later, great tits of both sexes were released to search for the cached food. The females performed consistently better than males in this memorization task. Male great tits were able to remember where other birds stored food only in 15 percent of the cases. In contrast, the females remembered positions of cached food in 40 percent of the cases. For Brodin and Urhan, this is a remarkable achievement, as the success rate of the females equals the performance of marsh tits and other birds that retrieve their own caches. This suggests that female great tits recover caches they have watched others make as successfully as the hoarders retrieve their own stash.

The researchers argue that female [great tits](#) are more skilled cache pilferers because they find themselves in a male-dominated society in which they are often pushed away from available food sources.

"Whereas the males therefore have a more even and reliable food supply, lower-ranking [females](#) have to supplement their food by pilfering the stock piles of others," argues Brodin. "Therefore a good memory of where caches are to be found could go a long way to still their hunger."

"Such ability could also be helpful to the female birds in a broader sense," elaborates Urhan. "Females could choose to ignore pieces of food they find when a male is nearby. If she returns later when the male

is not close, she decreases the risk of getting the [food](#) item stolen by the male."

More information: Brodin, A. & Urhan, A.U. (2014). Sex differences in learning ability in a common songbird, the great tit - females are better observational learners than males. *Behavioral Ecology and Sociobiology*. DOI: [10.1007/s00265-014-1836-2](https://doi.org/10.1007/s00265-014-1836-2)

Provided by Springer

Citation: Being lower in pecking order improves female tit birds' memory (2014, December 9) retrieved 18 April 2024 from <https://phys.org/news/2014-12-female-tit-birds-memory.html>

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