

# Is your Budgie left-handed?

December 9 2013

---

The short answer is no. Unlike people, Australian budgerigars do not have a dominant hand (or claw), scientists studying the brain and visual system have found.

Researchers at The Vision Centre (VC) have found that budgerigars, instead of being predominantly 'left-footed' or 'right-footed', change claws according to the task they want to perform.

The discovery flies in the face of a widely-accepted scientific view that most social animals, such as honeybees, fish as well as other social birds, use either their left or right side for a particular task, say Dr Ingo Schiffner and Professor Mandyam Srinivasan of The VC and The University of Queensland's Brain Institute.

"Population bias, in which a group of animals share the same 'footedness', is a well-known phenomenon in most [social animals](#), including humans," says Dr Ingo Schiffner. "This population bias and side preference has been found in toads, parrots, fish, birds and honeybees."

Prof. Srinivasan explains that the current explanation for the presence of a population bias is that the same 'handedness' or 'footedness' would potentially direct a group of animals to move or respond in the same direction. "This would ensure they all stay with the group and do not become isolated or vulnerable, for example when being chased by a predator."

While budgerigars stay with the flock when they fly together, the VC researchers have now found that the budgie, when left on its own, does things a little differently – and breaks the accepted rules. "The explanation for this is still a puzzle – this has never been found before, and it challenges the accepted theories of population bias," says Prof. Srinivasan.

In the study, the researchers trained budgerigars to take-off from a hand-held wooden perch and land on one or two perches placed in various positions and orientations.

"We gave them a single, long perch, as well as a choice between two perches – left and right," Dr Schiffner says. "We also tested their foot preference when climbing onto a perch."

The researchers found that each budgie has its own preference, and it varies according to the task. "Most of the birds landed on the left perch when two perches were provided, indicating that they were biased towards the left," Dr Schiffner says.

"However, when we gave them a single long perch, some birds that landed on the left perch in the first experiment did not land on the left side of the perch, but chose the right. And some budgies, despite landing on their left foot on a perch, used their right foot to climb onto a perch."

The researchers also placed two birds on opposing sides of their preference during take-off and had them fly concurrently. When the birds flew together towards the single long perch, they did not cross over to their preferred side, but stayed in their 'lane' instead.

Prof. Srinivasan says the results suggest that even within a single species, different birds can display different biases that vary dramatically from one task to another, and can vanish completely when they are paired up

with another bird.

"But when they fly in a flock, it is likely that they are in a different mode of operation, where they tend to follow a 'leader' bird," he says. "Most of the other [birds](#) suppress their individual biases, similar to our single long perch experiments in which they overrode their biases when flying together with another bird."

"It's intriguing, because we assume that a task is controlled by the same [brain](#) hemisphere," Prof. Srinivasan says. "For instance, if the right brain of the bird controls its landing, the bird should always land on its left foot. However, our study shows that this is not necessarily the case, which matches recent theories that the brain isn't partitioned exclusively for a particular task.

"As the brain of a bird is similar to a human's, we hope that this will improve our understanding of how the human brain works, including what the two hemispheres really do, and why some tasks are partitioned a certain way."

**More information:** Schiffner I, Srinivasan MV (2013) Behavioural Lateralization in Budgerigars Varies with the Task and the Individual. *PLoS ONE* 8(12): e82670. [DOI: 10.1371/journal.pone.0082670](https://doi.org/10.1371/journal.pone.0082670)

Provided by The ARC Centre of Excellence in Vision Science

Citation: Is your Budgie left-handed? (2013, December 9) retrieved 23 April 2024 from <https://phys.org/news/2013-12-budgie-left-handed.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.