

INSIDE JEB

Zebra finches recognise friends' voices



Captive male zebra finches. Photo credit: Guillaume Huet des Aunay.

Imitation is said to be the sincerest form of flattery, but it's also one of the best ways to learn. For songbirds, it seems that recognising your own voice is key to picking up a new tune; youngsters listen to a tutor before comparing their own attempts at repetition with the memory of the teacher's performance, while refining new components of their repertoire. Recognising friend from foe by ear is also essential for gregarious songbirds, to maintain communal harmony within their flocks. In contrast, chatty song sparrows, which do not hang out together and are territorial, struggle to distinguish the voices of other sparrows when singing the same song. Knowing this, Nicole Geberzahn and Sébastien Derégnaucourt from the Université Paris Nanterre, France, with Sándor Zsebők from Université Paris-Sud, France, wondered whether super-social zebra finches, which live in large gangs, are capable of recognising members of their own flock

by ear when performing the same serenade.

The team set the zebra finches the task of distinguishing between the voices of familiar and foreign males, which had grown up in captive flocks at the Université Paris Nanterre, that had all learned the same signature chirrup from their forefathers. Could the descendants of the original garrulous finches distinguish the voices of males from their own flock from the voices of stranger males, even though they had all grown up producing the same trill?

The team painstakingly trained a group of zebra finch males to peck a key that provided a food reward whenever they recognised the voice of a member of their own crowd, but to ignore the key when they heard the voice of a stranger from another flock. They also trained a second group of birds to tap the key when they

heard the chirrups of outsiders. Then, they tested the birds' powers of recognition by playing them a random series of recordings of the voices of flock-mates and strangers. Impressively, most of the zebra finches were able to distinguish the voices of members of their own flock from outsiders' chirrups, even though they were all singing from the same songbook. And when the team tried to catch the birds out by sneaking in recordings of the birds' own voices, three out of the eight participants recognised that the recording sounded familiar. In other words, they probably recognised their own voices.

Even though territorial song sparrows can't recognise the voices of other sparrows singing the same serenade, communal zebra finches can – although, Geberzahn and colleagues need more evidence before they are convinced that zebra finches can recognise their own trills. 'We cannot rule out that there could have been another bird in the subjects' aviary that produced a song virtually identical, or very similar to, the subject's own song', says Geberzahn. But the team is definitely excited that this could provide some of the first evidence that zebra finches have a degree of self-awareness and they are keen to find out how the songsters react to their reflection when listening to one of their own recitals.

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