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# Polly Wants a Cracker, but She Wants to Make It Easier to Chew

Goffin's cockatoos, long known as adept tool users, are the first parrots found to alter their food by dipping it in water.

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Goffin's cockatoos in a lab in Vienna appear to exhibit innovative behaviors of food preparation. Jeroen Zewald/Goffin Lab

By Emily Anthes  
Emily Anthes previously reported on parrots who liked to video chat.

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Every day, the Goffin Lab in Vienna offers the same luncheon to its patrons. At 2 p.m., the diners — a flock of white parrots known as Goffin's cockatoos — receive an assortment of dried fruit, seeds, cornflakes, bird pellets and a dry, twice-baked toast known as rusk or zwieback.

It's a perfectly palatable meal for a parrot, and most birds dig right in. But a few of the cockatoos are more discriminating, customizing their meals with one final flourish: Before eating the rock-hard rusk, they dunk it in a tub of water.

Although the gesture is familiar to biscotti lovers with opposable thumbs, for the Goffin's cockatoo, the behavior appears to be an innovation in food preparation, researchers reported [in a study](#) published Tuesday in the journal *Biology Letters*. The cockatoos sometimes devoted considerable time and energy to the task, actively transporting the rusk to water and then waiting for it to soften.

"To go through all this effort just to change the texture of your food is quite impressive," said Alice Auersperg, the head of the Goffin Lab at the University of Veterinary Medicine Vienna and an author of the study.

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It is the first time that this food-dunking behavior has been documented in parrots — it has also been observed in grackles and crows. And it was a serendipitous discovery for the lab, which typically relies on meticulously planned experiments to test the cockatoos' renowned problem-solving skills. "But sometimes we get gifted with accidental things that just happen," Dr. Auersperg said.

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**Start from the basics.** Begin with something foundational: [Learn to identify a few of the birds](#) most commonly seen near where you live. Digital tools like the Merlin Bird ID app can help. If you spot a bird, pay attention to things like the size, color, behavior, location and date. Binoculars and field guides might help, but are not necessary to get started.

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Goffin's cockatoos are known for their ability to use and manipulate objects. In earlier studies, Dr. Auersperg and her colleagues found, for instance, that the birds could [open locked puzzle boxes](#) and [make their own tools](#) to obtain out-of-reach food.

But the researchers at the Goffin Lab did not typically pay close attention to the birds' behavior at lunch, said Jeroen Zewald, a doctoral student in the lab and another author of the study. Until, one day last summer, they noticed something curious. An affectionate male bird named Pipin — "the gentleman of the group," Mr. Zewald said — was dunking his food into the tub of water typically used for drinking and bathing. Two other birds in the lab, Kiwi and Muki, turned out to be dunkers, too, the researchers noticed.

To study the behavior more systematically, Mr. Zewald and Dr. Auersperg spent 12 days observing the birds' lunchtime behaviors. In total, seven of the 18 birds were observed dunking food at least once, they found. (Still, Pipin, Kiwi and Muki were the undisputed dunkmasters, racking up many more "dunking events" than the other birds.)



Seven of the 18 birds were observed dunking food at least once, and they didn't dunk all their food. Jeroen Zewald/Goffin Lab

But the birds didn't dunk all of their food. They never dunked seeds and only occasionally slipped a banana or coconut chip into the water. Instead, when the cockatoos decided to dunk something, it was almost always rusk. (Pipin and Kiwi, in fact, almost never ate it dry.)

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Some birds gave the rusk a quick dunk, but others soaked it for 30 seconds or more, long enough to give the toast a soggy bottom.

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A delay as long as 30 seconds is notable for a bird that's feeling peckish. "They were willing to wait for it to soak," Mr. Zewald said. "And that takes a lot of impulse control."

On some occasions, Pipin and Kiwi would even retrieve pieces of rusk that had fallen to the bottom of the tub, hauling them up to the perch where the water tub was located and giving them a good soak before chowing down.

"It's a cool study," said Louis Lefebvre, an expert on innovative bird behavior at McGill University who was not involved in the new research. "There's this element of adding value to the food by dunking it and softening it."

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But there are limits to what scientists can learn from studying birds in captivity, he noted. The dunking behavior has not been observed in [wild Goffin's cockatoos](#), perhaps because they do not have ready access to dried toast and tubs of water. But it would be interesting to see whether wild cockatoos would start to dunk if given the proper resources, Dr. Lefebvre said. "That's the next step that I would hope to see," he added.

The scientists are not sure whether each of the birds developed the dunking innovation independently or learned it from watching its compatriots. But they are planning to keep a close eye on the cockatoos at lunch to see if more birds adopt the behavior.

It's an unexpected new line of research for scientists that are more accustomed to devising their own challenges for birds. "Instead of presenting them with a problem," Mr. Zewald said, "they basically had a tiny problem of their own, and they solved it."

**Emily Anthes** is a reporter for The Times, where she focuses on science and health and covers topics like the coronavirus pandemic, vaccinations, virus testing and Covid in children. [More about Emily Anthes](#)

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