

Cockatoo 'can make its own tools' (w/ Video)

November 5 2012



Figaro making and using tools. Credit: Alice Auersperg

A cockatoo from a species not known to use tools in the wild has been observed spontaneously making and using tools for reaching food and other objects.

A Goffin's [cockatoo](#) called 'Figaro', that has been reared in captivity and lives near Vienna, used his powerful beak to cut long splinters out of wooden beams in its aviary, or twigs out of a branch, to reach and rake in objects out of its reach. Researchers from the Universities of Oxford

and Vienna filmed Figaro making and using these tools.

How the bird discovered how to make and use tools is unclear but shows how much we still don't understand about the evolution of innovative behaviour and intelligence.

Dr Alice Auersperg of the University of Vienna, who led the study, said: 'During our daily observation protocols, Figaro was playing with a small stone. At some point he inserted the pebble through the cage mesh, and it fell just outside his reach. After some unsuccessful attempts to reach it with his claw, he fetched a small stick and started fishing for his toy.

"To investigate this further we later placed a nut where the pebble had been and started to film. To our astonishment he did not go on searching for a stick but started biting a large splinter out of the aviary beam. He cut it when it was just the appropriate size and shape to serve as a raking tool to obtain the nut."



Figaro making and using tools. Credit: Alice Auersperg

"It was already a surprise to see him use a tool, but we certainly did not expect him to make one by himself. From that time on, Figaro was successful on obtaining the nut every single time we placed it there, nearly each time making [new tools](#). On one attempt he used an alternative solution, breaking a side arm off a branch and modifying the leftover piece to the appropriate size for raking."

Professor Alex Kacelnik of Oxford University, an author of the study, said: 'Figaro shows us that, even when they are not habitual tool-users, members of a species that are curious, good problem-solvers, and large-brained, can sculpt tools out of a shapeless source material to fulfil a novel need.

"Even though Figaro is still alone in the species and among parrots in showing this capacity, his feat demonstrates that tool craftsmanship can emerge from intelligence not-specialized for tool use. Importantly, after making and using his first tool, Figaro seemed to know exactly what to do, and showed no hesitation in later trials."

Professor Kacelnik previously led studies in the natural tool-using New Caledonian crows. One of them, named Betty, surprised scientists by fashioning hooks out of wire to retrieve food that was out of reach. These crows use and make tools in the wild, and live in groups that may support culture, but there was no precedent for Betty's form of hook making. Her case is still considered as a striking example of individual creativity and innovation, and Figaro seems ready to join her.

Professor Kacelnik said: "We confess to be still struggling to identify the cognitive operations that make these deeds possible. Figaro, and his

predecessor Betty, may help us unlock many unknowns in the evolution of intelligence."

More information: 'Spontaneous innovation in tool manufacture and use in a Goffin's cockatoo' is to be published in *Current Biology* on 6th November 2012. DOI: 10.1016/j.cub.2012.09.002

Provided by Oxford University

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