

# Crows demonstrate their cleverness with tools (w/ Video)

April 22 2010, by Lin Edwards

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New Caledonian crow.

(PhysOrg.com) -- New Zealand scientists studying New Caledonian crows have found they can use three different tools in succession to gain a food treat. The crows are known to solve problems and fashion and use tools in the wild, but their cleverness and innovation in the experiments astounded the researchers.

Investigations into the abilities of the New Caledonian crow (*Corvus moneduloides*) revealed the birds can create tools out of unfamiliar materials, and they can also use several tools in succession. The scientists, led by Professor Russell Gray from the University of Auckland, captured seven wild crows and placed them in an aviary

where they were presented with a complex problem in which meat was placed out of reach. It could be drawn out by a long stick, but the stick was out of reach inside a barred toolbox. The long stick could be retrieved using a short stick, but this was attached to a string tied to a branch. So to win the treat, the birds had to first pull up the string to retrieve the short stick, then use the short stick to pull out the long stick, and then use the long stick to draw out the meat.

The crows were split into two groups. Birds in the first group were allowed to try out every step in the problem before being presented with the complete task. All the birds in this group succeeded in the multi-stage task on their first attempt.

Birds in the second group were shown situations in which food was attached to a string and where sticks could be used to reach food, but they had never experienced a situation in which one [tool](#) was used to collect another. Even so, the birds in this group also succeeded in reaching the food in the multi-stage task, although two of them took three or four attempts before they succeeded. One of the birds (nicknamed Sam) spent the first 110 seconds simply inspecting the parts of the task, and then completed it the first time without error. Another (Casper) found the string puzzling, but also completed the task on the first attempt.

Lead author of the research, published in the *Proceedings of the Royal Society B*, was Dr Alex Taylor. He said finding the birds could solve a problem requiring two new behaviors was “incredibly surprising,” even though [crows](#) and related birds have been studied for decades because of their intelligence. The experiments showed the performance of the [birds](#) in solving the problem was consistent with a thought process — tools can be used to retrieve unreachable objects — rather than a process of trial and error and learning from mistakes.

**More information:** Complex cognition and behavioural innovation in New Caledonian crows, Alex H. Taylor et al., *Proceedings of the Royal Society B*, Published online before print April 21, 2010, [doi:10.1098/rspb.2010.0285](https://doi.org/10.1098/rspb.2010.0285)

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