

New Caledonian crows found to be incredibly handy with tools

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News Writer

Sophisticated tool use is rarely seen in nature. Many animals manipulate objects to reach a goal—such as dropping a rock on an egg—but this is distinctly less complex than the tool use seen in primates. However, new research shows that some feathered revolutionaries might just be in the same league.

Dr Alex Kacelnik of Oxford University presented a talk at the University of Alberta Faculty Club last Thursday on his observations of tool use in New Caledonian crows. Kacelnik said that these animals display unique tool-using abilities that more closely resemble the complexity seen in primates and humans.

“Some species go beyond all of these kinds of operations, and it’s these species that are going to be interesting,” Kacelnik asserted.

Not only can these crows use tools, he said, but they can also make tools.

In their natural habitat on the island of New Caledonia, adult crows use and manipulate a variety of tools including twigs, barbed sticks and vine leaves in order to obtain their food.

To further examine their tool-using skills, Kacelnik brought two of these crows back to Oxford.

“As soon as we brought them into the

lab they started to modify substrates to make tools,” Kacelnik revealed.

Kacelnik tested the crows’ abilities to use tools for obtaining food from a tube too long to reach with their beaks. The birds not only selected tools that matched the tube in length and necessary diameter, but even bent and otherwise modified the available materials to suit their needs.

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**DR ALEX KACELNIK,
OXFORD UNIVERSITY**

In some tests the crows were able to use a sequence of tools in a seemingly deliberate manner—they would make use of one tool in order to obtain another tool which was then used to obtain the third and final tool necessary to get food. This kind of tertiary tool use is very rare in animals.

“The use of more than one tool for one job is considered to be a big accomplishment ... [that may] require

foresight, understanding of relations among tools and behavioural coordination,” Kacelnik said.

He said that the level of sophistication seen in these animals is surprising considering that most other birds are non-tool users; a puzzling evolutionary divergence.

“It looks like something happened by which this particular species reinvented something which is crucial for tool use,” Kacelnik suggested.

Although researchers don’t know what the conditions behind the evolutionary reinvention were, they’re currently attempting to characterize the extent to which these behaviours are socially transmitted or genetically determined.

Kacelnik explained that, in the wild, juvenile New Caledonian crows pay close attention to the skilled behaviours of their parents while learning how to obtain food.

Crows reared in the lab without exposure to adult crows still displayed tool using behaviour; however, they weren’t as skilled.

This suggests that this behaviour is somewhat genetically determined, but that there still may be social learning involved.

“[This] raises the possibility of social transmission of the skill, and the existence of culture for the use of tools,” Kacelnik proposed.

Students embark on ride for cancer

Following graduation, motorcyclists hope to raise a dollar per kilometre for the Kids Cancer Care Foundation of Alberta and beat unofficial world record

RYAN HEISE
Online Coordinator

Justin and Rob Noble definitely don’t look like your stereotypical motorcyclists. They won’t be seen strutting around in leather jackets, and neither have a mess of tattoos down their arms. Simply put, the two Engineering students would easily blend into any crowd on campus. But looks can be deceiving.

Following their graduation this April, Justin and Rob will be joining their father, Sean, and older brother, Ryan, to ride the 27 000 kilometres from Ushuaia, Argentina to Dead Horse, Alaska—essentially traversing the whole of the Western hemisphere.

“We usually do a trip—like a hiking trip—every year,” Justin explained. “So we decided to do a motorcycle ride and it just got bigger and bigger as we thought about what we wanted to do.”

Their decision to go on a long trip solidified as the family discovered the record set by Kevin and Julia Sanders in September of 2003. The couple rode from Dead Horse to Ushuaia in 35 days. The Nobles are going to take a very similar route but travel north from Argentina. Also, they plan to shave a full three days off of the trip, completing it from 6 May to 6 June and setting a new record.

But while all four Nobles are avid motorcyclists, the trip is only partially about the ride itself. They plan to use their journey across the Americas as a fundraiser for the Kids Cancer Care Foundation of Alberta (KCCFA). They chose the organization as two of Justin’s childhood friends were diagnosed with cancer and received support from KCCFA. Their goal is to raise a dollar per kilometre travelled per rider, for a grand total of \$108 000.



ILLUSTRATION: MIKE KENDRICK

LONG WAY ROUND The Nobles hope to raise \$108 000 with their journey.

They’re currently soliciting most of their donations via their website—NobleQuest.org—but are also planning a large fundraiser that will take place when the ride enters Alberta.

“One of our major fundraising drives is the ride between Coutts, which is the border crossing, and Red Deer,” Justin said. “We had a booth set up at the Edmonton Motorcycle Show

trying to get people to ride along with us and we’re just asking them to raise a dollar for every kilometre between wherever they ride.”

While he knows that completing the long journey will be difficult, Rob is confident that he, his brothers and father will be able to break the record.

“We’re planning to do it; we’ll beat [the record].”

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