New Caledonian crows found able to infer weight of an object by watching how it behaves in the wind

January 9 2019, by Bob Yirka

Credit: CC0 Public Domain

A team of researchers with members affiliated with the University of Auckland, the University of Cambridge, Bertha von Suttner University

and the Max Planck Institute for the Science of Human History has found evidence that suggests New Caledonian crows can infer the weight of an object by watching how it behaves in the wind. In their paper published in *Proceedings of the Royal Society B*, the group describes experiments they carried out with crows they captured and what they found.

Humans can easily gauge the weight of objects by their behavior under windy conditions. In breezy conditions, a napkin will fly off a table at an outdoor café, for example, but a fork generally will not. We prepare for this eventuality by placing something heavy on the napkin, but not on the fork. But until now, no other creature has been found to have this ability.

To find out if New Caledonian crows might have this ability, the researchers went out into the wild and captured 12 specimens and brought them back to their lab. All of the birds were taught to use the weight of an object as the criteria needed in order to receive a food reward. Half were taught that the lighter of two objects was needed, while the other half were taught that it was the heavier object that was needed to get their reward.

Next, the researchers strung the same objects a few inches off the ground, one by one, and pointed a fan at them to simulate a breeze. The light objects would blow around easily, while the heavy ones remained stationary. The birds were then brought individually into the test area. Each watched as two objects were blown by the fan—the crows were then allowed to pick one of the objects as a means for receiving their treat.

The researchers report that the birds were 73 percent correct in choosing the object that would get them their reward, all without having touched the objects prior to choosing them. They claim that this very strongly suggests that the birds were able to figure out which of the objects were

heavier and which were lighter simply by watching how they behaved under windy conditions.

More information: New Caledonian crows infer the weight of objects from observing their movements in a breeze, *Proceedings of the Royal Society B* (2019). royalsocietypublishing.org/doi …/.1098/rspb.2018.2332