

I know you, bad guy! Magpies recognize humans

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Most people who have had the experience of having pet animals in their houses have the gut feeling that the animals can "recognize" us. They seem to recognize our faces, our voices and our smell. One way or another, they respond to us differently from other people.

Actually, this is not just a gut feeling. Numerous studies have shown that domesticated animals, such as honey bees, chickens, [pigeons](#), sheep, dogs, llamas, penguins, seals, rabbits, horses, [lizards](#) and octopuses, can recognize humans individually. The common thing among these animals is that they are exposed to an environment where they see humans and interact with humans every day. Then the question is, can the [wild animals](#) recognize people too?

Although there are many anecdotes that wild animals do so, [experimental evidence](#) is surprisingly scant. Only very recently, Northern [mockingbirds](#) and American crows have been shown to recognize humans who threatened their nests or captured them.

Well, one more species is added on the list, the Black-billed Magpie. Every spring, researchers from Seoul National University (SNU) and Ewha Womans University are conducting a routine, annual survey of the breeding success of a magpie population within the SNU campus. But something was weird in 2009. One of the crew, Mr. Won Young Lee, a PhD student who was always climbing up the nests and taking out the eggs or chicks for the survey, and also the first author of the paper being printed in the journal [Animal Cognition](#), started to be followed and

scolded by the owners of the nests. "I remember", Mr. Lee says, "when a magpie came down from a nest tree scolding at me. I was with a second researcher at that time, and I tried to fool the magpie by giving my cap to the other person. But this did not work! When I moved away the bird followed me rather than the fellow observer wearing my cap". The owners of the nests that were not accessed by him did not show any response to his presence. Based on this "accidental" finding, the researchers quickly designed a field experiment. A pair of humans, a climber and one non-climber, wearing the same clothing, was presented to magpies to see whether magpies show selective responses to climbers. The result was that all the tested magpies showed aggressive responses to the climbers only.

"It was very unusual thing," says Dr. Sang-im Lee, the leader of the magpie survey team at Seoul National University. "We've been doing exactly the same survey every year for more than 15 years but nobody was followed by birds." Then, what was so special about this one, unfortunate, crew member? "Usually we take turns when we climb up the nests. But in 2009, Mr. Lee always climbed to the nests because he was putting cameras into the nests." So, repeated presentation of the same human as a threat to the nests could have facilitated the learning process of magpies, and could have led to the recognition of this crew member.

Since birds, such like magpies, are not that much sensitive to smell, and the distance between the experimenters and the magpies were more than 10 meters, it is not likely that the birds recognize smell of a person. It is more likely that they use vision. And because the climber and the non-climber wore the same clothing and walked similarly in the experiment, what remains the most different between the two humans is the face. Dr. Piotr Jablonski, who designed the experiment in this study, says "it is amazing that magpies can recognize one individual human out of twenty thousand people present in the campus." As a foreigner living in Korea,

he confessed that he has had difficulties discriminating people, especially during the first year or two. "All Asian looked similar to me but probably not to the magpies."

Just as Dr. Jablonski's discriminatory skills get better with time and being exposed to more Korean people, the magpies in university campus could have been able to recognize humans who pose threat to their nests by having a lot of exposure to people. This process, hypothesized by the researchers, does not require high level of cognitive skills, which is indicated by a long list of [domesticated animals](#) (some of which does not seem to be really smart) that can recognize individual human.

Researchers call for more species to be tested and for future studies with species of clearly different cognitive abilities tested in a standard manner in two types of habitats: heavily human-populated urban areas and wild natural habitats where exposure to human presence is minimal. If the researchers are right, then the animals living in urban areas would show higher level of discriminatory skills to humans than those living in rural areas. How many different animals can recognize us individually and exactly how they recognize us will be revealed after more data is collected.

Provided by Seoul National University

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