

# UF research suggests mockingbirds know who's who

SPECIAL TO FLORIDA WEEKLY

The birds are watching. They know who you are. And they will attack.

Nope, not Hitchcock. It's science.

University of Florida biologists are reporting that mockingbirds recognize and remember people whom the birds perceive as threatening their nests. If the songbirds spot their unwelcome guests, they screech, dive bomb and even sometimes graze the visitors' heads — while ignoring other passers-by or nearby strangers.

"We tend to view all mockingbirds as equal, but the feeling is not mutual," said Doug Levey, a UF professor of biology. "Mockingbirds certainly do not view all humans as equal."

The research is described in a paper appearing this week in the online edition of the *Proceedings of the National Academy of Sciences*. It describes the first published research showing that wild animals living in their natural settings recognize individuals of other species.

Mr. Levey said the research might provide clues as to why mockingbirds and selected other bird and animal species flourish in heavily populated cities and suburbs, while other species either grow rare or disappear entirely.

"The real puzzle in the field of urban ecology is to figure out why certain species thrive around humans," he said. "One of the hypotheses is that they have some innate ability to adapt and innovate in ways that other species don't."

Mockingbirds are among the most common birds on the University of Florida campus in Gainesville, where they nest in trees and shrubs close to the ground. For the research, student volunteers walked up to the nests, reached through the foliage and

gently touched the nests' edges, then walked away. The same volunteers repeated the same visits again the next day, and again for two more days. On the fifth day, however, different volunteers approached the nests. All told, 10 volunteers tested 24 nests at least five times last spring and summer, during mockingbird nesting season.

It didn't take a bird's eye view to spot the resulting pattern, Mr. Levey said.

On the third and fourth days, the birds flushed from their nests more rapidly each time the increasingly familiar students appeared — even though the students took different paths toward the nests on successive days and wore different clothes. The birds also gave more alarm calls and flew more and aggressively each succeeding day, with some especially defensive birds even grazing intruders' heads — not exactly deadly, but annoying, because the birds tend to hit the same spot repeatedly, Mr. Levey said.

And yet when different students approached the nests on the fifth day, the birds hardly ruffled their feathers, waiting to flush until last moment. They also gave fewer alarm calls and attacked much less than on the previous day with the familiar intruder.

On a campus of 51,000-plus students, paths are filled with students walking back and forth from class all day every weekday, so it's no stretch to say that thousands of different people come within a few feet of mockingbird nests during the breeding season.

And yet, the mockingbirds in the study were clearly able to recognize and remember a single individual, based on just two



UNIVERSITY OF FLORIDA / COURTESY PHOTOS

These photos show a mockingbird on three separate occasions targeting University of Florida biology major Devon Duffy in an attempt to drive her away from its nest of the UF campus in Gainesville. The bird apparently recognized Ms. Devon as the person who had threatened its nest during previously.

brief negative encounters at their nest. Mr. Levey said that sharply contrasts with laboratory studies, in which pigeons recognized people only after extensive training. "Sixty seconds of exposure was all it took for mockingbirds to learn to identify different individuals and pick them out of all other students on campus," he said.

For most wild animals, urban development brings less habitat and more predators. Many species flee or die off, but a few persist, and some thrive. It seems obvious that these species do better around people, but why?

Few people bother mockingbird nests, so

that is hardly an answer. Rather, Mr. Levey said, the birds' ability to recognize people suggests perceptual powers that give them an edge in dealing with the complexities of urban environments — such as being able to judge which cats may be aware of nests and which are simply passing blithely nearby.

"We don't believe mockingbirds evolved an ability to distinguish between humans. Mockingbirds and humans haven't been living in close association long enough for that to occur," Mr. Levey said. "We think instead that our experiments reveal an underlying ability to be incredibly perceptive of everything around them, and to respond appropriately when the stakes are high." ■

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