

Hunt for Woodpecker Goes High-Tech

Posted: February 20th, 2007 12:57 PM PDT

Mike Lafferty, THE COLUMBUS DISPATCH

Robotics experts have entered the hunt for the elusive and perhaps extinct ivory-billed woodpecker.

Experts in California and Texas who volunteered to help reported on the effort yesterday at the American Association for the Advancement of Science meeting here.

Cornell University scientists caused an ornithological uproar three years ago when they reported seeing part of the bird's body on a tree in the Cache River National Wildlife Refuge in Arkansas. The last confirmed sighting was in the 1940s.

Several other unconfirmed sightings were reported in the following year.

To help the search, researchers at Texas A&M University and the University of California, Berkeley, developed a robotic camera system to scan the sky.

The system, dubbed ACONE, has been monitoring a clearing in the Arkansas refuge for the past three months. It is clearly experimental.

"We're just happy to catch all images of birds right now," said Ken Goldberg, a robotics expert from UC Berkeley.

ACONE uses two cameras capable of reading a credit card from 100 feet away, but the real guts of the system is in the computer that analyzes recorded images. It throws out all those that aren't birds, or at least birdlike.

That means it only keeps one in about 10,000 images, Goldberg said.

A birder who often hikes in the refuge retrieves the stored images, then bird experts analyze the pictures.

They have seen birds, including a red-tailed hawk and a blue heron, neither of which is extinct.

But no ivory-billed woodpecker.

Here's the problem: Birds fly fast and have odd shapes that change, and the lighting is often poor, said Dezhen Song of Texas A&M, Goldberg's collaborator.

Meeting that challenge also makes ACONE perfect for looking for UFOs, Goldberg said.

The woodpecker-identification effort is perfect for a robot that can monitor a remote location at all times and in poor weather, all of which would be difficult for a human.

Although ACONE is stationary, advances in locomotion and computer control eventually will lead to robots that can explore remote areas in advance of scientists.

Russell Full, a biologist at UC Berkeley, studies the movements of cockroaches and geckos to help design future robots that can traverse remote areas.

"This is tough. They have to be intelligent but must be able to go everywhere," he said.

For the woodpecker hunt, however, Goldberg feared more mundane problems, such as somebody taking a few pot shots at ACONE with a rifle.

That would not be a problem, however.

Put a "radioactive" sticker on it and no one will shoot at it, Goldberg was told.

"That seems to have worked," he said.

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