The joke's on us...!

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LEVEL 1B (INTERMEDIATE)

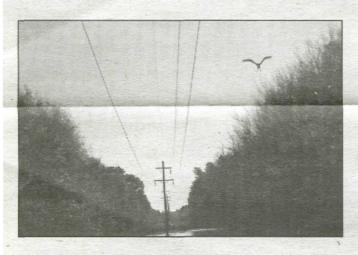
Can a Robot Find a Bird?



Photo courtesy of Texas A&M University, UC Berkeley, Cornell University

Kenneth Goldberg and Roy Rohrbaugh in the swamp.

A new technology helps answer questions about nature.



by C.R. Zwolinski and Liz Vanun

A scientist from California and another one from Texas are looking for a bird in Arkansas with the help of a robot!



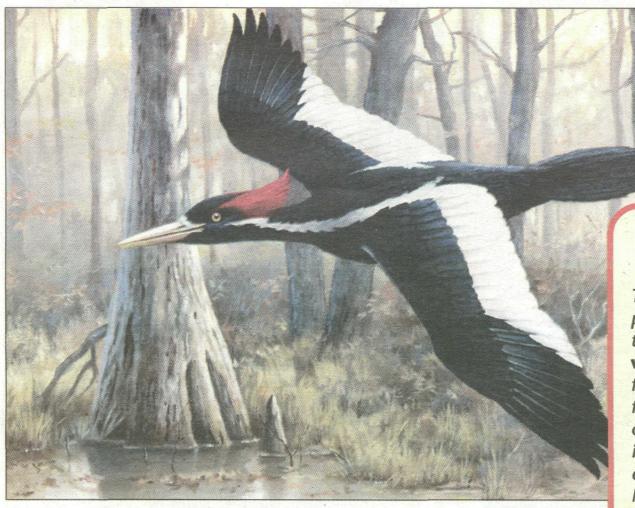


These are pictures of some of the birds that the ACONE robot "saw" and video-taped. None of these is the Ivory-billed Woodpecker.

Professor Kenneth Goldberg read an article in *The New York Times* about the Ivory-billed Woodpecker. He learned that everyone thought the bird had become **extinct**. However, in 2004 a scientist said he saw the bird in the Cache River National Wildlife Refuge in Arkansas. He took videos of the bird, but they were not clear. No one was sure that the bird on the video was the Ivory-billed Woodpecker. They thought it might be another type of woodpecker.

Scientists want to know for certain if the Ivory-billed Wood-pecker is still living. It is very hard to find out. The forest in the wildlife refuge is very dense. There are also many swamps in

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Robot, continued from page 7

the refuge that are filled with mosquitoes and snakes. Who would want to spend weeks in the swampy forest looking for a bird?

Professor Goldberg had an idea. He and his former student, Professor Denzhen Song, decided to build a robot that could help them find the bird. They were helped by Cornell University's **Ornithology** Laboratory.

They also were helped by the Arkansas **Game** and Fish Commission. Then they built a robot that would stay in the swampy refuge, instead of sending a human being.

A Robot Bird-Watcher

Professors Goldberg and Song's robot is different from other robots. The robot is named ACONE. That stands for Automated Collaborative Observatory for Natural Environments. It is made of two video cameras and a special computer. One camera is pointed east, the other west. The cameras only take pictures of flying birds.

The computer tells the cameras when to take pictures. If a kite or plane flies by, the computer does not tell the cameras to take pictures. However, if a bird that is about the size of the Ivory-billed Woodpecker flies by, then the

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This drawing shows the beautiful Ivorybilled Woodpecker flying through a swampy forest.

Courtesy of the National Audubon Society

Ivory-billed Woodpecker

The Ivory-billed Woodpecker was a large bird, 18
to 20 inches tall. It had a
wingspan of nearly three
feet! It had black and white
feathers. This beautiful bird
once lived in large numbers
in the forests of the southeastern United States and
Mexico. It ate berries and
insect larvae that are
found in trees.

Until recently, everyone thought it was extinct.
Then in 2004 a scientist thought he saw an Ivorybilled Woodpecker. This was very exciting news. If one Ivorybilled Woodpecker was seen, there must be more. That would mean that this bird is not extinct.

computer tells the cameras to take the video pictures.

The robot "knows" it should take pictures only of birds that are flying 20 to 40 miles per hour. That is how fast the Ivory-billed Woodpecker flies. When scientists view the video, they can decide whether they are seeing an Ivory-billed Woodpecker or a different type of bird.

Ron Rohrbaugh of Cornell University said that the robot "can serve as our eyes and ears...."