

AJC Home Edition
Sunday, 7/22/2001
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**CDC tries to gauge West Nile
Birds bring virus, unease to Southeast**

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Valdosta

The great blue heron arrived at midnight in a Dodge Intrepid.

Two brothers from a small town up the highway had spotted the giant bird staggering across their lawn, fanning its 6-foot wings unevenly and bashing its heavy bill against the wire mesh of their chicken coop. They herded it into a long box that a weed-whacker came in, wedged the box into the back seat of the sports car, and headed south to Valdosta.

In a Holiday Inn parking lot just off I-75, Nicholas Komar and Stan Langevin were waiting for them.

The research biologists from the Centers for Disease Control and Prevention had been finishing an overdue dinner when the brothers' phone calls tracked them down. It was very late, and they had started the day very early, trapping birds on a pond in Florida for several hours before dawn. But the brothers had said something interesting: The bird was acting drunk.

An infection, the scientists thought, could disrupt the bird's nervous system, leaving it off-balance and disoriented. And there was one infection, in particular, that they had come to south Georgia to find: West Nile virus.

Frightening, and sometimes deadly

West Nile virus surfaced in New York City in August 1999 --- the first time that the pathogen, well-known in the Middle East, had ever been seen in this hemisphere. By October 2000, it had sickened 79 people in the northeastern United States, killing eight, along with thousands of birds.

It frightened people, and it continues to. West Nile takes an innocuous annoyance of summer --- a mosquito bite --- and transforms it into a potentially life-threatening emergency. Though infection causes no symptoms in most people, and a mild flulike syndrome in relatively few, it can blow up in vulnerable elderly people, or in those with impaired immune systems, into a fatal swelling of the brain. There are no vaccines that are effective in humans, and no drugs that work once the symptoms are advanced.

The virus hopscotches between birds and mosquitoes, which transmit it to mammals, including horses and humans. But though much is known about it, many questions remain, including which American birds and mosquitoes it prefers.

For the Southeast, the most important question has been: When will it get here? The answer came July 6 when Jefferson County, Fla., announced its first West Nile-positive bird. On Monday, the first West Nile-infected bird in Georgia was found in Lowndes County on the Georgia-Florida line.

On Friday, Florida officials were up to six virus-positive birds, and had also found the first U.S. case of West Nile in a horse this year.

In the Northeast, West Nile has been largely an urban phenomenon. The Florida and Georgia birds, though, were found on rural properties, 10 to 20 miles outside of Tallahassee and Valdosta.

"Our work is cut out for us," said Dr. Stephen Ostroff, coordinator of the CDC's wide-ranging West Nile investigations. "The area that it has appeared in, the Florida Panhandle and adjacent areas of South Georgia, there is a relative paucity of information: the types of mosquitoes, the abundance of them, and the degree to which the virus was circulating."

When the Georgia bird was confirmed, a CDC team was already en route to Florida from the agency's Colorado laboratory that handles insect-borne diseases: Komar, a 35-year-old Ph.D. in vertebrate ecology; Langevin, 26, a microbiologist; and three other scientists. At Georgia's request --- CDC must be invited into states, usually by a public health agency --- they came north, arriving in Valdosta last Wednesday. They planned to collect samples from local birds and mosquitoes, looking for the species where the virus has found its niche.

All eyes keeping watch

Since 1999, West Nile virus has been found in 82 species of American birds. Not one of them has been a heron.

"It's probably not West Nile," Komar had said while they waited for the heron to arrive.

"It's probably dehydration," Langevin said.

Komar shook his head. "It's probably not dehydration," he said. "I think it's going to turn out to be some kind of toxicity. But this is what happens: The news gets out that the virus is present, and suddenly you get a thousand eyes looking for it."

He rummaged in the back of the Ford Windstar they had rented in Florida to hold their field equipment, pulling out syringes, sample tubes and protective gear.

"But we'll look at it anyway," he added. "Because it's interesting."

"It's interesting because it's a great blue heron," Langevin concurred.

Komar closed the van door with a thunk.

"And what would be even more interesting," he said, "is if it turns out to be West Nile virus after all."

Dead birds signify risk

Awareness of West Nile virus has turned out to be a potent public health weapon. In New York, the best predictor of the risk to humans has been the number of dead birds reported to local authorities by concerned residents. In North Florida and South Georgia, where tourism and horse breeding are major industries, consciousness of the danger is already acute.

That was in the CDC's favor. As soon as they arrived, the team --- joined by Stephen Panagiotas, Kimberly Lane and Dr. Travis Sanchez of the Georgia Division of Public Health --- was offered working space by Wild Adventures, an amusement park and exotic-animal zoo five miles south of Valdosta.

No problems pointing toward the virus have been reported at the park. "We're concerned about our birds," said Tony Padron, the assistant curator, who smoothed the way for the team. "The property has wild birds on it. And we want to support the CDC."

Working in 90-degree heat, the team lined one edge of the park property with 12 mist nets: swaths of fine netting, at least 30 feet long and 6 feet high, that catch small birds --- mockingbirds, cardinals and house sparrows --- without harming them. The group set up shop in the facility's animal commissary, under the eyes of Doodles, a hand-raised red parrot, and Goliath, a baby goat whose twin was accidentally stomped by the park's elk.

Each bird that flew into the nets was carefully disentangled and carried to the commissary, where the researchers banded them, recorded age and gender, and took a small sample of blood before releasing them. Over two days last week, the team tested 76 birds: 36 house sparrows; two cardinals, two cowbirds, two mockingbirds; captive birds from the park's aviaries; and 26 chickens from two farms nearby.

"There's no way to get a perfect sample, whatever that would be," Komar said. "I'd rather get 50 individuals from just two species, than three or four from 25. In the species where we get decent numbers, it gives us a better representation of the risk."

A sick heron

The scientists parked their cars so the headlight beams crossed. Standing in the pool of light, they gently eased the heron from the box. It emerged blinking, crouching low to the ground and raising the feathers in its crest.

"So far, I haven't seen anything that's abnormal," Komar said, pulling on a pair of latex gloves. "But we haven't given it much of a chance."

Komar had wanted to examine the heron on private property, away from the busy parking lot, and he preferred to do it near water, in case the bird was healthy enough to be released. He had chosen a washboarded country road near a pond, 15 miles outside Valdosta.

The heron was beautiful, but it still looked unwell. It tracked the researchers with its eyes as they moved around it, but it was passive: It wouldn't stand unless coaxed, and ignored branches that it should have snapped at. Moving up behind it, Komar and Langevin grabbed it and flipped it over, immobilizing its giant feet and extending one huge wing to get access to a major vein.

Komar ran a hand down the bird's long throat, coiled in an S-shape, and along its sternum. "This bird may not have eaten in a while," he said, frowning. "There's nowhere near as much muscle here as there should be."

The scientists gave the heron back to its rescuers, who agreed to confine it with food and water and report back the next day. They climbed back in the van. It was after 1 a.m.

"That whole muscle thing," Komar said, steering past the ruts. "That's not a toxicity. It could be a lot of things. But West Nile virus could be one of them."

Residents demand action

The insights into West Nile that have been gained so far have depended on a combination of intense research activity --- in six weeks in 1999, Komar's Colorado lab processed tissue samples from more than 800 birds --- and public alertness. The first bird found in Florida was reported because the owner of the property was watching for birds harmed by pesticide spraying. The first

one in Georgia was found on a horse farm whose operators worry about bird-borne diseases that could harm their stock.

But alertness has its limits: Where there are no people, there is no one to see the birds fall. The upside of West Nile's arriving in a sparsely populated area is that the virus may cause less human disease. The downside is that the pathogen could kill many birds unseen.

"This first dead bird might not actually have been the first bird, " Komar said. "It might just have been the first to be noticed."

Alertness has its costs, as well: The more people know about the virus, the more alarmed they are likely to be. Certainly that's true in Georgia, where fear about the West Nile has been rising statewide since Monday's announcement. And when people are afraid, they demand action, which costs money. But few public budgets are written with an unanticipated emerging-disease crisis in mind.

On his last night in the Southeast, Komar crossed back into Florida. He was the featured speaker at a public meeting called by the government of Madison County, where two infected dead birds have been found. The audience listened to his report quietly, but they angrily challenged the local officials, demanding mosquito spraying and complaining that when they brought dead birds for testing they had been turned away.

"This is an emergency: We have animals that are going to die, and people who are going to get sick, " Jeff Gardner of Madison, Fla., said afterward. "They don't have a solution; they don't have a clue. And they could at least have the testicles to stand up in front of us and admit it."

Kathleen McNatt, who lives three miles from Gardner, had watched a crow stagger into the path of her Jeep on her way to work the day before. In her neighborhood, she said, people had been talking about sick birds for weeks.

"I called the health department, and they told me to bury it, " she said. "How many birds is it going to take, before they recognize the size of the problem we have?"

After the meeting, Komar stood with the local officials outside Madison's imposing courthouse, politely offering advice.

"Right now, I think dead crows are your best bet for knowing where this infection is, " he said. "I would try to gather as much data as possible, and not restrict the data that is coming in."

Samples to be studied

The heron didn't make it.

By late Thursday, the research team had packed up its equipment and data: four trunks, three tool boxes, a cooler, a centrifuge, nets, poles, tables and hundreds of used syringes that needed special disposal.

While the team was closing shop, the brothers called: They had given the bird food and water, but it had deteriorated steadily, dying in midafternoon. Now they were trying to find a lab to take the body for analysis.

"I hope they find something; they're certainly persistent, " Komar said. "But if they don't, we still have the samples I took, and if West Nile is there, we'll find it."

The team was also taking back to Colorado 76 bird-blood samples and 4,000 mosquitoes from Georgia, and another 12,000 mosquitoes from Florida. The 354 blood samples they took from 24 bird species in Florida will be processed by the Florida Department of Health.

The results, which will take several weeks, should begin to illuminate how West Nile virus behaves in the Southeast, and where its particular dangers will be.

"Look at how close we are to where the Florida birds were found," Komar had said earlier that evening.

He was in a car coming back from the public meeting, about 8 miles inside Georgia on I-75. He jabbed a finger west across the highway. "And the first Georgia crow was found right over there. There's probably West Nile virus all through this area. That doesn't happen in a month."

How long has it been here, he was asked. Did the virus arrive last fall, with the bird migrations? Could no one have noticed for that long?

"It could have been in 2000," he said. "It could have been here since 1999."

"I don't know if that's important," he added. "It's here now."