Study finds choosing the right habitat can boost a songbird's chances of survival

By ELI CHEN

According to surveys by scientists and avid bird-watchers, many songbird species are declining in the U.S. Losing the birds that provide a natural soundtrack in our backyards is a critical environmental issue, since they also serve to control insect populations and as pollinators.

Some scientists are examining the threats that songbirds face in the early stages of life to understand the decline. A study released Thursday in The Condor: Ornithological Applications by researchers at the University of Missouri-Columbia and the U.S. Forest Service suggests that the type of habitat songbirds choose after leaving the nest plays a large role in survival.

There's very little research that has looked closely at young songbirds that have just left the nest. Avian ecologist Julianna Jenkins at Mizzou said that's because the birds are challenging to study at that age.

"This period is really hard to study because these birds are very quiet and secretive," said Jenkins. "Once they leave the nest, they're hard to follow unless you put a radio transmitter on them."

Thanks to recent advances in technology, there are radio transmitters small enough to strap to small birds. Jenkins placed the devices in tiny backpacks worn by two species of birds that live in central Missouri forests - the Ovenbird and the Acadian flycatcher - and tracked them for four weeks.
Researchers found that most of the deaths occurred in the first week the birds departed from the nest. In addition, only half of the Ovenbirds that were tracked survived, versus 90 percent of the Acadian flycatchers. While the two birds share similar habitat, they make different choices for nesting and foraging.

Jenkins hypothesized that birds that chose to seek food in shrubby areas that would cloak them from predators would be more likely to survive. Unexpectedly, they found that birds that chose more open areas in the forest had better chances of living. Knowing this, said Jenkins, is helpful for conservation.

"We can alter habitat so the birds will do better," she said. "If we can find the right mixture of habitat for nesting and the post-fledging period, hopefully we can do something to boost survival."

Jenkins and other scientists are continuing to study the link between habitat and songbird survival. She hopes to answer questions, such as how a protected forest affects songbirds compared to a forest that has been disturbed by humans who are harvesting timber.

**Interview with Mizzou Interim Athletics Director Wren Baker**

According to studies, approximately one out of every 40 individuals in the United States is a carrier of the gene responsible for spinal muscular atrophy (SMA), a neurodegenerative disease that causes muscles to weaken over time. Researchers at the University of Missouri developed a new molecule in April 2014 that was found to be highly effective in animal models exhibiting SMA. Now, testing of that compound is leading to a better prognosis for mice with the disease and the possibility of potential drugs that will improve outcomes for patients with SMA.

"Our team has been fine-tuning a potential therapeutic for SMA and what it does," said Chris Lorson, an investigator in the Bond Life Sciences Center and a professor of veterinary pathobiology in the MU College of Veterinary Medicine. "It's a type of molecule called an antisense oligonucleotide, or ASO, that essentially is synthetic string of nucleic acid that binds a specific sequence in the gene."

In individuals affected by SMA, the survival motor neuron-1 (SMN1) gene is mutated and lacks the ability to process a key protein that helps neurons function. Muscles that control walking or even lifting an arm often are profoundly affected as well as muscles important for breathing. Fortunately, humans have a nearly identical copy gene called SMN2, however, SMN2 normally only makes a small amount of the correct SMN protein. Lorson's compound targets SMN2 and effectively "turns the volume up" for SMN2, allowing it to make more of the correct SMN protein.

"Our current treatment helps the body create a backup mechanism to combat the disease and extends survival in mice with SMA from just 13 days to a little over five months after only one injection at birth," Lorson said. "This treatment helps produce the right form of SMN, the one that was only produced at very low levels before."
Lorson stressed that his lab's achievement does not promise a cure for SMA and that it is unlikely a single compound will address the full gamut of symptoms. However, by combining therapies currently being researched, a better prognosis could be on the horizon, Lorson said.

The early-stage results of this research are promising. If additional studies are successful within the next few years, these compounds may be tested in human clinical trials with the hope of developing new treatments for SMA.

The study, "Optimization of Morpholino Antisense Oligonucleotides Targeting the Intronic Repressor Element1 in Spinal Muscular Atrophy," recently was accepted for publication in Molecular Therapy, a journal of Nature. Previous funding was received from CureSMA. Erkan Osman, a postdoctoral fellow and lead author on this publication working in Lorson's lab is funded by FightSMA and the Gwendolyn Strong Foundation. The content is solely the responsibility of the authors and does not necessarily represent the official views of the funding agencies.

MU alumni share memories of VP candidate Tim Kaine

MEG VATTEROTT AND LINDSEY JENKINS, 12 hrs ago

COLUMBIA — **Almost 40 years ago, a friendship club called SIMA was founded at MU.**

David Roloff founded the organization with the help of his then-best friend, Tim Kaine. Kaine is now the 2016 presumptive Democratic vice presidential nominee.

While at MU from 1976-1979, Kaine also was involved in Summer Welcome, the Missouri Students Association and "honorary," such as Omicron Delta Kappa and QEBH.

Kaine graduated with a bachelor’s degree in economics from MU in 1979 after three years at the university. According to a 1978 Missourian report, Kaine took college courses in high school and tested out of college classes. He was a junior in college at the age of 19.

Pam Huggins is an associate professor of social work at St. Louis University and was a member of MSA, ODK and QEBH with Kaine.
"I remember thinking, 'He is going to do something big someday,'" Huggins said. "My memories of him were that he was so intelligent. He had amazing interpersonal skills. He was a positive people-oriented person."

Kaine was one of 32 MU students chosen to lead Summer Welcome for incoming freshmen and transfer students in the summer of 1977.

During his time as a Summer Welcome leader, he met and became good friends with Roloff, a fellow leader. Roloff is currently the director of marketing and strategic communication for the Mizzou Alumni Association.

"He was probably one of the most genuine, caring, jovial people I have met here at Mizzou," Roloff said. "I would say from the moment I got to know him, even though I have met lots of people destined for greatness here, I felt like the world had bigger and better things intended for Tim Kaine at some point."

Jim Pfander, now a professor of law at Northwestern University, was vice president of MSA from 1977-1978. Kaine was on the Rules Committee for MSA and was an MSA senator for his dorm, Smith Hall. Pfander got to know Kaine while they were both teaching assistants for an economics course. Both of them were contemplating law school at the time.

"We both came to Mizzou because we were drawn to journalism but then both ended up switching to economics," Pfander said.

After graduating from MU, Kaine went on to Harvard Law School, and Pfander headed to University of Virginia Law School. They kept in touch after going their separate ways.

"The better you get to know him, the more you like him," Pfander said. "For some politicians, it's the other way around."
Kaine took a year off from law school to work with a technical school founded by Jesuit missionaries in Honduras. When Kaine came back to Harvard for his final year, Pfander had graduated, and the two became housemates while Pfander worked at the U.S. Court of Appeals.

"(Kaine) is thoughtful, very original and deeply well-read," Pfander said.

Pfander loved the books Kaine would recommend to him. Kaine shared with Pfander "The Long Loneliness" by Dorothy Day and novels by Vladimir Nabokov and Franz Kafka.

Kaine also is known for his love of music. Roloff said Kaine would play the harmonica "on-and-off."

"I do remember him playing the harmonica and loving to be musical," Roloff said.

Democratic presumptive presidential nominee Hillary Clinton announced Kaine would be her running mate on Friday.

"If he would become the vice president, I think the country could not find a better person more qualified, more caring, more dedicated to giving back for the greater good," Roloff said. "I think he would make all of the Mizzou nation proud."

College friend remembers Tim Kaine's days at Mizzou
COLUMBIA - **College pal David Roloff has fond memories of Democratic candidate Vice President Tim Kaine at the University of Missouri.**

Kaine earned his underage degree from the University of Missouri in 1979 before getting a law degree from Harvard. He was elected to the senate in 2012 and now is Hillary Clinton's running mate for the 2016 presidential election.

David Roloff, director of marketing and strategic communications at the Mizzou Alumni Association, knew Kaine while they were undergraduate students at Mizzou.

Roloff first met Kaine at Summer Welcome and said he was one of his better friends in college. During their time at Mizzou, both were Summer Welcome leaders. Kaine served in 1977 while Roloff was a 1976 leader. The two also worked together at the Maneater and were involved in student activities.

Roloff said he knew Kaine was going to be successful.

"Very gregarious, very humble, extremely smart, dedicated, always wanting to do the right thing. If you were his friend or knew Tim, you grew to love him. He was one of those people that you knew was destined for greatness," Roloff said.

Roloff is very confident in Kaine's ability to run the country alongside Clinton.

"I cannot imagine if he becomes vice president that he wouldn't do a superlative job. He is so dedicated, he really has a sense of giving back to truly understanding the issues. I really cannot see a better person for that role," Roloff said.

Roloff believes his time at Mizzou gave him the skill set to be the leader he is today.

"I would think the Mizzou experience would help anybody in life but I think especially the Summer Welcome experience," Roloff said, "where you really got exposed to a wide verity of different people either working together as orientation leaders. Living and working together as a group for six weeks, plus seeing the wide variety of students from across the country who come to Summer Welcome. So I think that was a great opportunity for him to expand his horizons. The student government program at the time was very strong, so I think he got a lot of great experience at Mizzou."

Roloff said he was not sure if Kaine was a KU fan, when he knew him he was a true Tiger fan.