

Roadrunners not too fast for AgriLife researcher (w/ Video)

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Wile E. Coyote might not have been able to catch up with the roadrunner on the Saturday morning cartoons, but one Texas AgriLife Research scientist has had no problems.

Dr. Dean Ransom, AgriLife Research wildlife ecologist in Vernon, has conducted a study of the roadrunner's ecology and habitat for the past four years. Using radio telemetry and studying more than 50 nests, he and his staff have researched home range, habitat use, nesting ecology and dispersal of young since 2006.

The roadrunner is fairly common across the southwestern U.S., but very little is known about the bird, Ransom said. As their name suggests, roadrunners spend most of their time walking and running along the ground, but are capable of flight when pressured.

"It's not graceful, but it works," he said.

Roadrunner behavior is somewhat unique, Ransom said. They are monogamous and likely mate for life. Also, the male helps in all facets of nesting and feeding the young, including incubating the eggs at night.

Nesting activity begins in early April, he said. The nest typically is located in a tree or shrub, about 3-5 feet high, and usually in dense brush not far from an edge, such as a fence line or ranch road.

Such nest placement allows ease of movement to and from the nest, quick escape from predators and open areas to hunt and forage for lizards and snakes that bask in the bare dirt, Ransom said.

Most nests are well hidden and difficult to find, he said. They are generally in the crook of a large single-trunk tree, using the main branch of the trunk for stability.

The nest is a flat-platformed shallow bowl with the outer rim lined with fairly large twigs and resembles a large mockingbird nest.

Roadrunners lay about four [eggs](#) on average per nest, but the clutch size can range as high as 10, Ransom said. In the larger clutches, many of the young don't survive and older nestlings have been documented eating their younger siblings.

"We used nest cameras to document what the parents were feeding their young," he said. "The diet is based solidly on reptiles, especially Texas horned lizards. We have also seen mice, snakes, grasshoppers and a tarantula, and importantly, no birds, particularly bobwhite quail."

Some landowners have expressed concern that roadrunners prey on bobwhite quail, but Ransom said, "I seriously doubt roadrunners prey on very many quail; ecologically, quail are not efficient prey for a generalist and opportunistic predator like roadrunners.

"But we will continue watching and recording, just to be thorough," he said. "Likely, that is a case where perception becomes reality, and the perception is based on a lack of understanding."

Incubation begins with the first egg laid, which results in an asynchronous hatch with chicks of various sizes in the same nest, he said. Incubation takes about 20 days, and the young stay in the nest about

20 days.

After several months on their own, the young usually disperse to establish their own home range, Ransom said. "Dispersal distances are large. We have documented them traveling as much as 6 miles away from their natal home range."

After the young have left the nest and are on their own, both parents become more independent of one another, especially in the winter, Ransom said.

"I believe, however, that both members of a mated pair stay in contact with one another throughout the year through their vocalizations," he said. "In so doing, it facilitates an efficient renewing of the pair bond in the spring."

The home range of roadrunners can be quite large for a bird of its size, Ransom said. On average, male and female range sizes are about 200 acres and tend to be located near sizeable tracts of woody cover. Range sizes shrink by 50 percent to 60 percent during the winter.

A little harder to measure is the size of a roadrunner's territory, he said. Smaller than the home range, a territory is actively defended against intruders, including other roadrunners.

"We witnessed a five-bird brawl that lasted about 90 minutes in 2006...ultimately the resident pair was triumphant," Ransom said.

The aggressive behavior toward intruding birds indicates they are defending territories for some reason - usually an important limiting resource such as food or [nest](#) site - but he said they are not sure yet what the basis of that territory is. "I doubt that its food related, but we will pursue that aspect in the next phase of our study."

"One of the more complex questions we're interested in is vegetation structure and fragmentation effects on survival and reproduction, especially the cascading effects on vegetation structure resulting from brush-control practices," Ransom said. "Landscape effects and fragmentation are a major theme in ecology right now, and rightly so."

Land use affects wildlife behavior through its impact on vegetation structure, he said, adding, "We do know that brush control will cause them to abandon their home ranges and move elsewhere."

Ransom said he will continue to research roadrunner behavior and habitat.

"Now that we have laid the foundation of basic research, we can begin to formulate larger more in-depth questions involving multiple study sites in different environments," he said.

Source: Texas A&M AgriLife Communications

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