

FFERS REFRESHMENT TO PARCHED TRAVELERS

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Sex, leks, videotape



SPECIAL TO THE SENTINEL/Gail Patricelli, University of California, Davis

Conservationists are taking an unusual approach to learning about the mating habits of the nearly endangered sage grouse, going so far as to lure male grouse with a robotic female grouse decoy.

Sage grouse robot will study mating

By GARY HARMON
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Perhaps the most scrutinized love life since Don Juan's is getting a closer look from a researcher who has married robotic technology to some feathery primping and thrown in a wireless video camera.

Gail Patricelli, associate professor in the Department of Evolution and Ecology at the University of California, Davis, took work she did on an Australian bird and fashioned

an approach for the greater sage-grouse in the western United States, whose numbers have fallen to the point that officials are considering listing them as an endangered species.

One way to help a species dancing on the edge of extinction is to learn about where it all begins, and in the case of the greater sage-grouse, that's on the lek, or mating ground.

Researchers have long been fascinated with the courtship of the sage grouse, noting that

the males strut in front of the females. Elongated sacs on the neck are inflated and used to make a drumming sound that presumably impresses a hen.

That much is known. But what's it like from the girl's-eye view?

"I was trying to understand the evolution of courtship behaviors" and better understand the male response to female signals, Patricelli said. And to do that, "You really need to control the female signals."

There was only one way to do that.

Thus the plan for the sage-grouse fembot was hatched.

"The idea came out of my days as a ski bum in Telluride," Patricelli said. She also ran scientific conferences in those days, including one on neuromorphic engineering, referring to building computer systems to mimic the way the nervous system of an animal

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GROUSE: Fembot is mounted on Mars rover-type vehicle

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operates.

That experience served as the basis for building a henbot — a robotic hen that rolled about a lek on a track, and presumably, on the prowl.

The henbot eventually gave way to the fembot, with apologies to Austin Powers, which traveled the lek on wheels.

The fembot 2.0 is mounted on a Mars rover-like vehicle with a dowdy hen-like covering. A head that moves in a lifelike fashion and which seems to peck at the ground completes the ensemble intended to look, with more apologies to Powers, sage-alicious.

And it apparently works.

An 80-second YouTube video, “fembot 2.0,” shows the reaction of a strutting male to the fembot, but ends abruptly.

The reason, said Patricelli, was that while the camera was

fixed on the male in front of the fembot, another male approached from behind and tried to mate with the mechanical hen, an effort that “doesn’t end well,” Patricelli said. “She’s not that (anatomically) accurate.”

Still, does the chain of events suggest that the male on camera was acting as a wingman?

Not hardly, Patricelli said.

Males “don’t seem to be helpful in any way” with other males on the lek, Patricelli said.

In one case, two males on a lek were so intent on fighting that they were unaware of an attack from above, by a falcon that made one of the feuding grouse a loser — and a meal.

“They’re all about protecting their own territory,” Patricelli said of the males, also called cocks.

“They definitely are not very cooperative,” she said.

For all the pomp and show, both sexes seem to approach

courtship coyly at first, Patricelli said.

Females will peck at the ground, foraging until they get serious, Patricelli said, “Then they sort of hunker down and watch and face the male more directly.”

The males, meanwhile, are similarly indirect, not looking directly at the female.

They’ll rotate when making their sound, louder when facing away from the female, softer in her direction.

“They work hard out there,” Patricelli said of the males, but their intentions can be hard to read until they’re actively wooing a hen.

Patricelli’s research is more than sex, leks and videotape.

Males, for instance, will strut and drum even as a coyote approaches, she said, confident in the knowledge that they can fly off before the coyote can get a tooth on them.

Coyotes might like sage grouse, but they don’t get them often.

“I’ve never seen an attack during the day,” she said.

Coyotes are nest-raiders and chick-chompers, though, she noted.

The real threats, however, come from the skies. Raptors make frequent meals of sage grouse, Patricelli said.

The effects of noise on the birds and their mating habits also are of interest, she said.

Patricelli has studied the greater sage-grouse in Wyoming, but has no plans to take the fembot 2.0 to Colorado, though the Gunnison sage-grouse also is intriguing.

“I would love to see them,” but the greater sage-grouse is of more immediate concern, Patricelli said.

“They’re so fun to watch,” Patricelli said. “They’re so charismatic.”