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Insect battles provide clues to evolution

There's much to learn from animal warfare, even when the animals are barely visible

The seemingly peaceful atmosphere in an organic garden on the University of Florida campus belies the battles happening among many of its tiniest inhabitants -- the insects. For entomologist Christine Miller, there are endless opportunities here to study how insects compete and even fight for a mate.

With support from the National Science Foundation (NSF), Miller and her team are researching mate selection and animal weapons as a key to better understanding animal behavior, diversity and evolution. Understanding evolution is essential for figuring out solutions to modern problems such as antibiotic resistance, a major problem in medicine, and for understanding how life on the planet became so diverse and how it may change in the future.

The research in this episode was supported by NSF award #1553100 <http://www.nsf.gov/awardsearch/showAward?AWD_ID=1553100&HistoricalAwards=false> , Fighting Behavior, Performance and the Evolution of Shape, funded by the Faculty Early Career Development program, also known as CAREER.

Miles O'Brien (producers/obrien.jsp), Science Nation Correspondent
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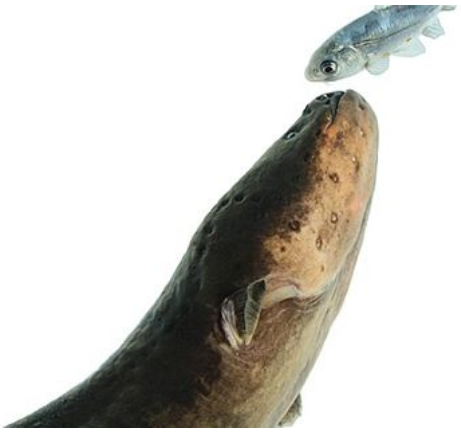

Electric eels are formidable predators. Growing up to eight feet long and weighing as much as 44 pounds, they can generate 600 volts of electricity – five times the power of a home socket – to stun and kill prey. New research shows that this fearsome weapon is more sophisticated than scientists thought. Electric eels use electricity as a sensory system, and can alter their voltage to overcome struggling prey. Find out more in this news release (/news/news_summ.jsp?cntn_id=136779).

Credit: Ken Catania, Vanderbilt University

Towering gypsum dunes span hundreds of square miles in New Mexico's White Sands National Monument, the largest gypsum dune field in the world. Hundreds of animal species thrive in this unique ecosystem, but it's the lizards, in particular, that have attracted biologists from the University of California, Berkeley. With support from the National Science Foundation (NSF), Bree Rosenblum and her team are studying evolution in action. White Sands lizards are undergoing adaptation and speciation on an extraordinarily rapid timescale. Find out more in this Science Nation video (/news/special_reports/science_nation/whitesandlizards.jsp).

Credit: Science Nation, National Science Foundation

Related Links

Integrative Organismal Systems (IOS) (/bio/ios/about.jsp)
The Division of Integrative Organismal Systems (IOS) of the Biological Sciences Directorate supports research aimed at improving understanding of organisms as integrated units of biological organization. The division welcomes projects that employ diverse approaches to research addressing organismal-level questions.

How do shark teeth bite? Reciprocating saw, glue provide answers (/news/news_summ.jsp?cntn_id=189771)
Sharks have a big reputation for their teeth. There are more than 400 species of sharks in the world and each has a unique tooth shape. A University of Washington study sought to understand why shark teeth are shaped differently and what biological advantages various shapes have by testing their performance under realistic conditions.

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