



This Week in Wild

CALIFORNIA ACADEMY OF SCIENCES

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This Week Quick Guide:

Virtual Evolution

Rodent Robbers

Oil Spill ID

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Meteors Speak

This Week in California Wild is a joint project of **California Wild**, the science and natural history magazine published by the California Academy of Sciences, and the **Biodiversity Resource Center**, a branch of the Academy's Library. Each week library and magazine staffs cull a wide variety of news sources to compile the most important and interesting natural science stories.

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Video Game For Blue Jays Imitates Evolution Of Camouflage

The wing patterns of moths are like snowflakes: almost no two look alike. For more than a century, biologists have wondered whether predators inspired the need for such sartorial diversity. Now blue jays and a computer have helped researchers at the University of Nebraska in Lincoln gather evidence to support the idea. The researchers programmed a computer to display a pebbled background that occasionally included a patterned moth. Each moth represented a certain number of pattern instructions, or genes. When live blue jays correctly pecked at any moths they spotted onscreen, they got a food reward. At the end of each day, the computer would combine the genes of moths that had evaded detection, add a little random mutation, and develop a new moth generation. These virtual progeny would be presented to the jays the next day. After 100 generations, the moths became 30 percent harder to find, and the number of wing patterns had nearly doubled. Published in the journal *Nature*, the research also suggests that the rarer its pattern, the more likely a moth is to survive, ultimately increasing a species' pattern diversity.

[National Geographic](#)

[Nature Science Update](#)

Crime Pays For Gray Squirrels

A propensity for pilfering explains why North American gray squirrels have rocketed past Europe's native reds in the race for survival. In Italy, nonnative grays outnumber local reds by about 66 to 1. To find out why the reds have lost so much ground, behavioral ecologist Luc Wauters of the University of Insubria in Varese, Italy and colleagues observed the foraging habits of both squirrel species in the field. They found that the grays have been robbing the reds out of house and home. Normally, the reds lay in huge seed caches that will provide half their food needs in winter. But where both species' territories overlap, the greys can eat up to a third of their neighbors' hard-won stores. Wauters found that the calorie

loss diminishes red squirrel females' breeding fitness; instead of weaning two litters per summer, starved females only raise one. The work was published in the journal *Behavioral Ecology and Sociobiology*.

Nature Science Update

Old Shipwreck To Blame For Bay Area's Oiled Birds

An old freighter that sank 49 years ago is responsible for the oil slicks that may have killed 40,000 seabirds from Sonoma to Monterey counties over the past decade. For years investigators knew an oil spill was polluting Bay Area coastlines, but the source was unknown. Now two independent laboratories have confirmed that the petroleum found on bird feathers in the area exactly match the oil samples taken recently from the sunken Jacob Luckenbach. The ship hit another freighter in heavy fog and sank on July 14, 1953, 17 miles southwest of the Golden Gate. The problem authorities now face is how to stop more oil from leaking. There are two options: to seal up the 468-foot steamship, or remove its many pieces from the water. The U.S Navy Supervisor of Salvage has been called in to help make the decision.

San Francisco Chronicle

Tracking Bird Migrations Through Feathers

The makeup of feathers can now be used to track the migration routes of elusive migratory birds. In an effort to pinpoint the wintering grounds of the North American black-throated warbler, Dustin Rubenstein of Dartmouth College measured the carbon and hydrogen isotopes that accumulate in the birds' feathers during their lengthy migrations. This chemical signature is specific to the plants and insects a bird has eaten, which in turn reflects the geographical region where the bird grew the feather. Rubenstein reports in the journal *Science* that warblers which breed in the northeastern United States winter in the western Caribbean, on Cuba and Jamaica, while birds that breed in the southern United States head for the eastern Caribbean, near Puerto Rico and Hispaniola. The technique is more accurate and less expensive than traditional methods of tracking birds with leg bands. The findings suggest a link between deforestation in Haiti and the decline of warbler populations in southern Appalachia. The technique promises to coordinate migratory songbird management by identifying bird areas in need of conservation.

Scientific American

InSight

Dugongs Face Extinction

The homely marine mammal that gave rise to tales of

mermaids faces extinction in the next 25 years, according to a warning by the United Nations Environment Program. Pollution, development, fishing and hunting by humans have left only only two thousand or so of these sea cows left. Dugongs once lived in tropical waters around the globe. But in the past century, a "catastrophic decline" in dugongs has eliminated populations once numbering in the hundreds from much of coastal East Africa and islands in the Indian Ocean. The animals reproduce slowly, and under ideal conditions could only grow their numbers by a paltry 5 percent. With a paddle-shaped tail, walruslike whiskers and a chunky body, dugongs are vegetarians that feed on sea grass and grow up to 330 pounds. They are hunted for meat and their tusks, said to be aphrodisiacs. Female dugongs clasping their young to their chests while nursing in seaweed likely inspired lonely sailors to dream up the fishtailed sea woman.

[☒ Yahoo Daily News \(Reuters\)](#)

[☒ New Scientist](#)

Shooting Stars Sound Off

For centuries, people have told tales about the popping noise that accompanies meteor showers. But scientists merely poo-pooed the reports. Now, for the first time, the surprising sounds have been recorded--and are driving physicists who thought they knew all about shooting stars straight back to their calculators. Since sound travels much slower than light, scientists had reasoned, a meteor could not possibly be heard before it appeared. A new theory proposes that glowing meteor trails give off not only visible light, but also very low frequency (VLF) radio signals. These radio waves can travel to the ground at the speed of light, and could occur just as a meteor is sighted. To test the theory, Dejan Vinkovic of the University of Kentucky and colleagues traveled to a remote area in Mongolia far from background noise and radio interference. While the team recorded two electrophonic pops, they picked up no VLF signals. They still believe the noises are created by radio waves, but perhaps at a lower frequency than expected.

[☒ Nature Science Update](#)

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