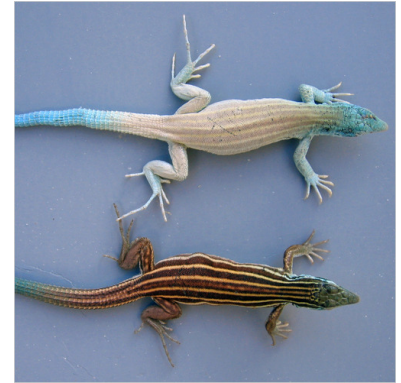


White Lizards Evolve in New Mexico Dunes

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New York Times Observatory: By [HENRY FOUNTAIN](#)

Photo Credit Erica Bree Rosenblum



(1) The White Sands of New Mexico are a good place to study evolution in progress. One reason is that the terrain, gypsum dunes white as a sheet of paper, is so different from the surrounding area.

(2) Another is that the dunes formed only about 6,000 years ago. “From an evolutionary perspective, that’s really the blink of an eye,” said Erica Bree Rosenblum, a professor at the University of Idaho who has been studying evolution at White Sands for much of the past decade.

(3) Her focus has been on three lizard species that elsewhere are dark skinned but in White Sands have each evolved a white-skinned variety that makes them hard to find. “It’s really obvious what’s happened,” Dr. Rosenblum said.

(4) “Everybody got white so that they could better escape from their predators.”

(5) It’s a great example of convergent evolution, of species independently acquiring the same traits.

(6) One question about convergent evolution is the mechanism by which it happens. Sure, these three lizards all developed white skin, but did they do it in the same way? Dr. Rosenblum and her colleagues have provided answers to this question in a [paper](#) in The Proceedings of the National Academy of Sciences.

(7) “At first blush it seems like the answer is yes,” she said. In at least two of the lizard species, the researchers found that mutations on the same gene, linked to the production of the skin pigment melanin, were responsible.

(8) The second part of the story is more interesting, Dr. Rosenblum said. In the two species, the mutations are different, and the molecular mechanism by which less melanin is produced is different, too.

(9) And, she said, the different mechanisms have had an effect on how the white-skinned trait has spread through the populations.

(10) In one, the mutation has made the white-skinned trait dominant; in the other, the mutation has made it recessive.

(11) So, according to basic Mendelian [genetics](#), the trait spreads more quickly in the first lizard species than the second.