

BIOCONNECT

Fostering Sustainable Innovation Inspired by Nature.



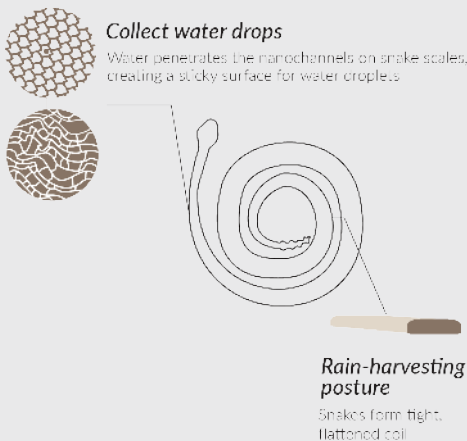
Biology:

Western diamondback rattlesnakes (*Crotalus atrox*) have a wide range in the United States and Mexico, and are found in deserts, grasslands, forests, and even along the coasts of the Gulf of California and Gulf of Mexico. They are identified by a triangular head and a diamond-shaped pattern along their bodies. Among their most striking features is a series of black-and-white bands near the rattle at the end of their tails.

The western diamondback rattlesnake is especially well suited for the desert, and they can go up to 200 days without water! But whenever it rains, or even snows, they can get a quick drink. All they have to do is flatten their bodies and form a tight coil. With their mouths, they are able to use suction to draw water from their skin. An engineer at Arizona State University recently teamed up with an evolutionary ecologist from the Chiricahua Desert Museum in New Mexico to take a closer look at the surface of rattlesnake skin. They discovered that the scales on rattlesnake skin are networked with microchannels (many tiny grooves). Water seeps into these microchannels and creates a kind of sticky surface for water droplets. This texture slows water flow so the snake can get a drink!

What can we learn from the Western diamondback rattlesnake about how to capture or absorb liquids?

Diagram:



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