Kangaroo rat important factor in the ecology of our desert

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a desert place

Natural beauty through preservation

Presented by:
CONSERVATION COMMITTEE of the
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Since you live in the desert, or are visiting here, there is a good chance you may have seen the amazing kangaroo rat. He's a fawn-colored rodent about 14 inches in length, including his long, slender tail.

He has powerful legs, which he uses for propulsion exactly like a kangaroo — hence his name. Driving at night, you are likely to see him in your headlights, bounding along at a furious rate propelled by his sturdy hind legs, his tail straight out behind him like the rudder of a ship.

The kangaroo rat is very important to the ecology of the desert because he eats only dry seeds, which are plentiful, and turns them into meat — kangaroo rat meat — which is a staple in the diets of many predators, such as snakes, owls, hawks, foxes and coyotes.

This remarkable little animal, whose diet, as we said, consists only of dry seeds, never takes a drink! But since every animal needs water, the question arises, where does the kangaroo rat get his?

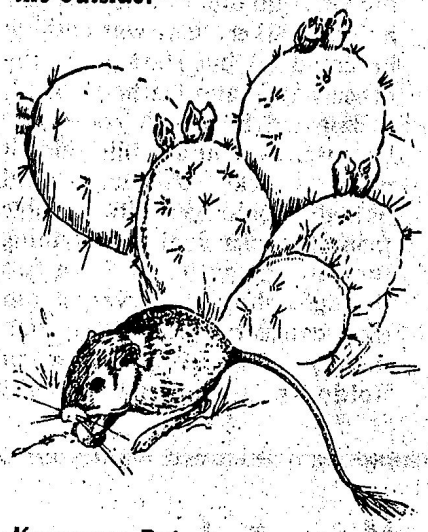
The answer is a fascinating one. Over the aeons he has developed bodily characteristics which have greatly reduced his need for water. Unlike other animals, he does not sweat or pant, thereby conserving significant amounts of water. He makes up for the lack of these cooling devices by avoiding the daytime heat in underground tunnels.

Next, his kidneys are at least five times as efficient as man's; hence he can produce urine which is highly concentrated and contains very little moisture. Lastly, its droppings are very hard and dry and practically devoid of water.

As a result of these water conservation devices, the kangaroo rat's water deficit, the amount of water he must obtain for survival, is very small. And the way he gets that tiny, but essential, bit of water is the big success story of this extraordinary animal: he makes it himself.!

How is it done? The water is formed as a by-product of the digestion of those very dry seeds which are the staple of his diet. In the digestive process, the food is chemically separated into its components; atoms of hydrogen and oxygen so produced are recombined into molecules of metabolic water.

All animals produce a small amount of water by this means, but only the kangaroo rat has succeeded in so reducing his water need that he can subsist solely on self-produced water without ever taking a drink on the outside.



Kangaroo Rat