

# Jump for your life: Bipedal rodents survive in the desert with a hop, a skip and a jump

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Bipedal jerboas move in highly unpredictable trajectories using a diverse set of jumps, hops and skips. Credit: Talia Moore, Harvard University

Researchers have found that bipedal desert rodents manage to compete with their quadrupedal counterparts by using a diverse set of jumps, hops and skips. A new study, to be presented at the Society for Experimental Biology meeting in Valencia on July 6, suggests that it is this unpredictable movement that allows the bipedal rodents to coexist in Old World deserts with quadrupedal rodents.

Research headed by Talia Moore at Harvard University analysed, for the first time, jerboas' bipedal [locomotion](#). She said: "Bipedal jerboas and quadrupedal jirds share the same habitat, predators, [food source](#), and active hours. It appears that their different forms of locomotion create differing predator evasion abilities, allowing jerboas to forage further from their burrows, thus limiting interspecific competition. In this way these Old World desert rodents can occupy different niches."

The researchers found that bipedal desert rodents move with highly unpredictable trajectories, while sympatric quadrupedal desert rodents move in much more predictable trajectories.

This study involved using inverse dynamics to calculate the forces exerted by bipedal jerboas when jumping vertically, as well as the [relative contributions](#) of individual muscles and tendons to the jump.

The researchers collected trajectories of bipedal jerboas and sympatric quadrupedal jirds in the field to quantify the maximum performance and predictability of the escape behaviour of these species in natural conditions.

The Concord Field Station at the Department of Organismic and Evolutionary Biology at Harvard University is the only breeding colony of jerboas in the US, and has the only jerboa colony specifically for scientific research in the world.

**More information:** This work will be presented at 14:45 on Saturday 6th July 2013.

Provided by Society for Experimental Biology

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