

STRANGE SCIENCE

## THE DANCE OF THE DUNG BEETLE, PART 1

What's cuter than a dung beetle wearing tiny boots? Lots of things, actually, but according to biologist Eric Warrant at Sweden's Lund University, "They're the cutest animals you can imagine"; he also admits that "most people find them a bit revolting."

Cute or not, these are no ordinary bugs. In a 2012 study, the Swedish research team discovered something new about dung beetles: they dance on top of their balls of dung to cool off from the African heat, which can reach 140°F. And yes, they discovered this by placing tiny silicone boots on a group of test beetles, which kept their feet cooler. The booted beetles spent much less time dancing on the ball than the barefooted beetles.

Why is this significant? Just as Jane Goodall's chimpanzee research taught us that humans aren't the only tool-making mammals, "Dung beetles are the first example of an insect using a mobile, thermal refuge to move across hot soil," said lead researcher Jochen Smolka. "Insects, once thought to be at the mercy of environmental temperatures, use sophisticated behavioral strategies to regulate their body temperatures."

So now we ask: Is there anything cuter than a dung beetle wearing tiny boots? Go to the next page to find out.

## THE DANCE OF THE DUNG BEETLE, PART 2

It's long been known the male dung beetle rolls mammal feces into a ball several times larger than itself and then rolls it backward to its hole, where it will feed the entire beetle family. It's also been known that beetles, like all insects, use the sun to navigate, but they've also been observed rolling the dung balls at night, even when there's no moon. How do they know where to go? That's where the tiny hats come in. In 2012, researchers led by Lund University's Marie Dacke set up a testing area where the beetles couldn't see the horizon. Then they put tiny hats on some of the beetles that blocked out the stars. Those beetles didn't know where to go. The researchers discovered that they were navigating by the band of stars we call the Milky Way galaxy, which is much brighter and more prominent in the southern African sky. Not bad for a dung beetle.