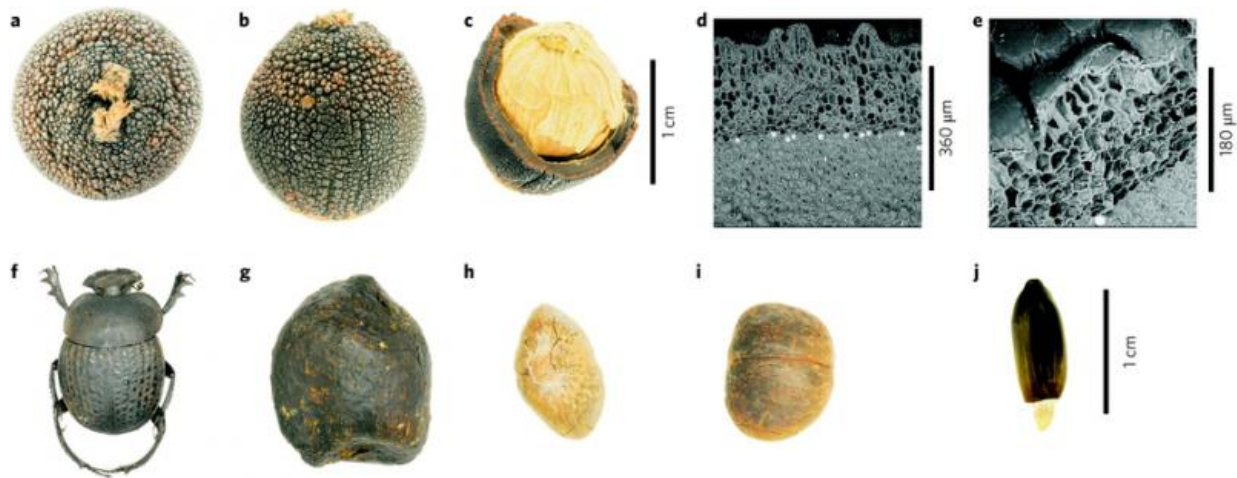


Fecal mimicry found in seeds that fool dung beetles

October 6 2015, by Bob Yirka



a–c, Vertical (a) and side (b) views of a *C. argenteum* seed as well as one that has been cracked open (c) showing the endosperm and thick woody inner seed-coat layer and the outer tuberculate layer which together form the husk. d,e, Scanning electron microscopy (SEM) of the outer, tuberculate layer and inner seed-coat, with white silicon granules at the boundary between the two layers. f, *E. flagellatus*. g, Bontebok faeces. h,i, Vertical (h) and side (i) views of an *L. sessile* seed. j, *Cannomois grandis* seed with white elaiosome. Credit: (c) 2015 *Nature Plants* 1, Article number: 15141 (2015) doi:10.1038/nplants.2015.141

(Phys.org)—A team of researchers with the University of Cape Town and the University of KwaZulu-Natal, both in South Africa, has found an example of a seed from a plant using mimicry to fool a beetle. In their

paper published in the journal *Nature Plants*, the team describes their study of the relationship between the seeds and beetles and the deceptive dispersal they witnessed.

Many examples of plant or animal mimicry have been noted in prior studies, but no examples of a plant using mimicry to disperse [seeds](#) have been documented, until now. Prior research had revealed that seeds of a grassy plant known as *Ceratocaryum argenteum* were somehow dispersed, but no one had looked into how it was occurring. The researchers with this effort write that they believed it was due to mice carrying them about. To find out for sure, they dropped 195 of the seeds near monitoring stations in De Hoop Nature Reserve and recorded what occurred with video cameras.

The researchers found that over the course of a single day, dung beetles moving through the area had grabbed approximately half of the seeds and rolled them to nearby locations, where they subsequently buried them. Dung beetles, as their name implies, normally grab animal droppings and bury them for eating later and for using as a place to lay their eggs.

After making the recordings, the researchers dug up all the seeds that had been buried by the beetles and found no trace of dung beetles around, nor any sign of eggs being laid, suggesting the beetles only discovered the ruse after attempting to eat them or when the time came to lay eggs. Thus, the group surmised that the [dung beetles](#) had been fooled into carrying the seeds to a distant locale and planting them and had received no reward whatsoever for their efforts.

Upon inspection, the researchers noted that the seeds looked a lot like bontebok (a type of antelope) dung—a closer look also revealed that the chemical composition of the seeds closely resembled dung as well—which the team suggests means, the seeds smelled enough like

dung samples to fool the beetles.

More information: Faecal mimicry by seeds ensures dispersal by dung beetles, *Nature Plants* 1, Article number: 15141 (2015) [DOI: 10.1038/nplants.2015.141](https://doi.org/10.1038/nplants.2015.141)

© 2015 Phys.org

Citation: Fecal mimicry found in seeds that fool dung beetles (2015, October 6) retrieved 29 April 2024 from <https://phys.org/news/2015-10-fecal-mimicry-seeds-dung-beetles.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.