

Beetle mating requires strong grip as defensive behavior

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A large male *B. cornutus* undergoing a grip strength trial. Image: PLoS ONE 7(8): e42738. doi:10.1371/journal.pone.0042738

Sexual selection in the Forked Fungus Beetle favors larger body and horn size, and a new study investigates the relationship between these traits and the beetles' grip strength, which is crucial for the male to hold on to the female and shield her from other males in an elaborate courtship ritual. The full results are reported on Aug. 15 in the open access journal *PLoS ONE*.

During the courtship ritual, male beetles grab onto the female, sometime for several hours, which would seem to favor males with stronger grip. A

video of this behavior is included with the published paper. The authors of the study, led by Vincent Formica of Swarthmore College, tested the grip strength of 84 beetles, both male and female, by tying a piece of thread around the beetles' bodies, allowing them to wrap their legs around a small rod, and then pulling the beetle vertically until they released the rod.

The researchers found that [grip strength](#) was very consistent for each individual, that males overall have a stronger grip, and that this [sexual dimorphism](#) appears to result from a complex relationship between body size and leg length. Their results, they write, suggest that there is a suite of traits that influence grip performance and therefore might affect sexual selection.

More information: Benowitz KM, Brodie ED III, Formica VA (2012) Morphological Correlates of a Combat Performance Trait in the Forked Fungus Beetle, *Bolitotherus cornutus*. *PLoS ONE* 7(8): e42738. [doi:10.1371/journal.pone.0042738](https://doi.org/10.1371/journal.pone.0042738)

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