

Male crickets with bigger heads are better fighters, study reveals

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(PhysOrg.com) -- Observing and betting on cricket fights has been part of Chinese cultural tradition since at least the Sung Dynasty (A.D. 960-1278). This ancient practice has resulted in a detailed list of characteristics that Chinese practitioners think make for champion fighters. “Because money was involved, there was a strong incentive for the practitioners of this sport to observe their cricket fighters closely,” says Kevin Judge, a biology postdoctoral researcher at U of T Mississauga.

Interestingly, an 800-year-old Chinese text mentions that the best cricket fighters have the largest heads. In nature, male field crickets fight one another over territories and access to potential mates by using their pointed and pincer-like mouthparts as weapons. In a study published in the December 2008 issue *PLoS ONE*, a journal of the Public Library of Science, Judge and co-author Vanessa Bonanno show that, indeed, males with larger heads and mouthparts are more successful in fights with smaller-headed rivals. They also show that male field crickets have larger heads and mouthparts than females, which, “makes sense given that female crickets don’t fight over mates,” says Judge.

Field crickets, a diverse group of insects distributed around the globe, have been important subjects for researchers interested in studying the evolution of animal aggression and the settlement of contests between individuals. For all that study, the influence of heads and mouthparts as weaponry has been largely overlooked in field crickets, unlike their close allies, the New Zealand weta, says Judge.

The study by Judge and Bonanno, “tested theories of contest settlement and sexual selection, and how body shape has evolved to help males in competition with other males,” says Judge. By examining weaponry, this NSERC-funded study provides a new avenue by which researchers can understand aggression in field crickets, he adds.

Provided by University of Toronto

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