

Crickets show sex-specific personality differences in habituation to predator attacks



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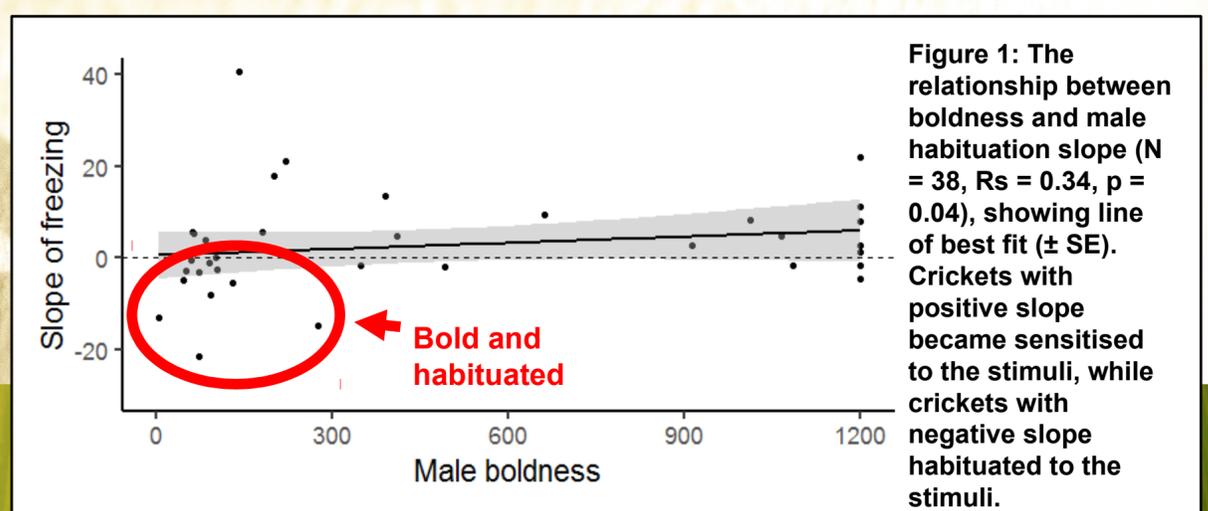
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BACKGROUND: Animal personality (consistent differences in behaviour between individuals) is observed across species from insects to primates, and the personality of predators can influence predator-prey interactions. However, personality of prey and its effect on predator-prey interactions is rarely studied.

AIM: To improve our understanding of animal personality and its influence on predator-prey interactions, I explore whether personality (exploration, activity, boldness) is linked to prey habituation to repeated predator attacks.

RESULTS: Bolder males were more likely to habituate to simulated predator attacks, while shyer males were more likely to become sensitised. On the other hand, no personality trait was linked to habituation to the attacks in females.



Photos by Sam Hurenkamp

DISCUSSION: Bolder males were more likely to habituate to the attacks. This shows that prey response to predators is influenced by personality. The interaction between predator and prey personality should be a focus in future studies. The sex difference could be due to different neurochemical mechanisms underlying boldness.

CONCLUSION: Boldness and habituation to threats are linked in male field crickets. Prey individuals with different personalities can respond differently to predators.

METHODS: 76 Mediterranean field crickets (38 males and 38 females) were purchased as last instar nymphs and raised to sexual maturity in the laboratory. After personality assays for exploration, activity, and boldness, a simulated predator attack test was performed. The test was performed by poking the ground behind the cricket on a test arena 10 times in a row to simulate predator attacks, and recording the latency to remain immobile after the attack ('freezing'). The repeatability of personality traits was tested by conducting several personality assays.

