

Scientists reveal game of thrones in crab world

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Male fiddler crab. Credit: ANU

Crabs that invade smaller crab species' habitat overpower and evict incumbents from their burrows, but the two species ultimately co-exist and join forces against other invading crabs in a game of thrones once they establish territorial boundaries, new research finds.

Lead researcher Huon Clark from ANU said the finding overturns the theory that interactions between species of fiddler crabs result in the dominant species pushing the weaker ones out of a habitat.

"There appears to be mutual benefits for these different crabs to live alongside each other in the same habitat," said Mr Clark, a PhD student at the ANU Research School of Biology.

"It reduces the competition for mates for the larger crabs, which in turn offer protection to smaller crabs against bigger crabs seeking to take over their burrow.

"We found that while the smaller species of fiddler crab is impacted in a negative way by the arrival of the larger species, they can co-exist quite

harmoniously once the larger species settles in."

Mr Clark said climate change and habitat loss may result in more species of fiddler crabs interacting and sharing territories that were previously the domain of only one species.

Male fiddler crabs are known for having one claw that is considerably larger than the other. Fiddler crabs are found in mangroves and [salt marshes](#) and on sandy or muddy beaches of West Africa, the Western Atlantic, Eastern Pacific and Indo-Pacific.

Mr Clark said [fiddler crabs](#) were crucial to the ecological health of mangroves, salt marshes and muddy beaches around the world.

"There are a lot of anthropogenic disturbances that we can continue to look at to ensure we have a better understanding of how our actions impact the natural world. Marine and intertidal organisms including crabs are great [species](#) to do this work with," he said.

Lab leader Professor Pat Backwell received funding for the research from the Australian Research Council.

The research is published in the *Royal Society Open Science* journal.

More information: H. L. Clark et al. Territorial battles between fiddler crab species, *Royal Society Open Science* (2017). [DOI: 10.1098/rsos.160621](https://doi.org/10.1098/rsos.160621)

Provided by Australian National University

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