



SOCIAL CHROMOSOME

Why is it so hard to kill fire ants? Can science help?

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Fire ants are so successful at invading our yards because they are, at their core, social creatures.

To kill an ant colony, as you may know, you must kill the queen. But fire ants, unlike most kinds of ants, often have multiple queens in a single colony. So you've got to get them all.

This property of multiple queens, known in science parlance as **polygyne**, also helps fire ant colonies spread like, ummm, wildfire across your yard.

The sociability of fire ant queens has long fascinated scientists. And now, thanks to genetics, they're starting to drill into the biological mechanisms that allow this to happen.



Fire ant queens (with wings) and workers. (Wikimedia)

A new paper in the journal *Nature* ([see abstract](#)), has identified the chromosome where the genetic quirks that make fire ants social are packed. Scientists are calling it the "social chromosome."

While you may be rolling your eyes at the genetics of fire ants, this is important stuff. The poison baits, toxic chemical sprays, powders and even pots of boiling water you've been dumping on your lawns hasn't been working, at least not as well as we might like. Fire ant mounds are everywhere.

If we really want to eliminate these pests from the places where we live, if we want to give our backyards back to our kids, it's going to take a deeper understanding of ants. Indiscriminately dumping poison everywhere isn't working.

That's where genetics comes in. Fully understanding the evolutionary basis of complex behaviors in these social creatures may very well help us control them as pests. We might be able to, say, knock out the gene that allows multiple queens to exist in a colony. It would be regicide, fire ant-style.

Note: Much of this post is based upon this [very fine blog post](#) describing the Nature paper. It was authored by **Scott Solomon**, an ant specialist and new biology faculty member at Rice University.

Posted By: [Eric Berger](#) | [Email](#) | [Twitter](#) | [Facebook](#) | Jan 18 at 5:15 am

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