

## Why the cockroach is hard to kill—and what its genetics teaches us about adapting to environments

The second-largest genome ever sequenced belongs to a small but fascinating creature. Called “xiao qiang” or “little mighty” in China, the American cockroach has a genome larger than that of humans.

It’s genetic code holds the secrets to how these insects can survive on so many different types of food and in such unfriendly habitats, or even how it can survive for a week without a head and grow replacement limbs.

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[Researchers] [found](#) that the [groups of genes related to the immune system, sensory perception, detoxification, and growth and reproduction were all enlarged](#), helping to explain how cockroaches are able to live in so many different environments — and why it’s so hard to kill them.

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Scientists are looking to species like the American cockroach to learn about how traits that make them incredible adapters and stubborn survivalists are encoded in their DNA.

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The American cockroach will regenerate lost limbs. By amputating limbs during their research and monitoring their regrowth, scientists found that genes in the cockroach’s DNA prompt healing and regeneration.

Cockroaches have long been [used in traditional Chinese medicine for treating cuts and burns](#), but researchers will study how the insects generate new tissue in hopes of unlocking future medical applications for humans.

**Read full, original post:** [Why We Can Learn a Lot From the Cockroach Genome About How to Adapt to Any Environment](#)