



Creepy Crawly Cooking: Eat a Bug, Save the World

GRACER IS AN ENTOMOPHAGE - IN OTHER WORDS, HE EATS INSECTS. HIS DREAM IS TO GET EVERYONE TO DO THE SAME.

Krista Scott-Dixon

YOU NEVER FORGET YOUR FIRST BIG KILL.

Mine happened on a dark night in the swamps of North Carolina. I saw a brief flash of movement out of the corner of my eye. Startled, I whirled around to face my prey. I was unarmed and vulnerable. Just like my Paleolithic predecessors, whose instincts were honed razor-sharp by the unrelenting terror of facing a deadly predator, I grabbed a clublike object and swung it wildly with guttural screams.

Dieeeeeeeee!!

When it was over, I stood panting with exhaustion and adrenaline, a fresh carcass at my feet.

Boy are those cockroaches huge down South.

Now technically, that little impromptu safari was part sport hunting and part self defense. At the time, I didn't think to throw that sucker into a sandwich. After speaking to David Gracer, I might consider it next time.

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sects. And his dream is to get everyone to do the same. He’s both an adjunct professor of writing and literature at the Community College of Rhode Island and the purveyor of Sunrise Land Shrimp, which offers instruction and guidance on eating insects, complete with catering service. He’s been eating bugs for ten years, ever since a friend gave him a mealworm snack as a joke.

He doesn’t see anything particularly unusual about this. “I’m just a regular guy who’s into eating insects, and saving the world through the elegant logic of entomophagy.” Statistically speaking, he’s right: billions of people worldwide consume nearly 1400 species of insects in all forms: eggs, larvae, pupae, and adults. Insects have long been part of traditional diets across the globe, but they’re not just an evolutionary holdover. You’ve probably nibbled a few yourself, and I don’t mean the bugs-in-the-teeth ingestion that is an inevitable byproduct of mountain biking or the questionable content of your local fast food restaurant’s burgers: the red colouring used for Smarties and other food products (such as strawberry ice cream) comes from insects. Biotechnology researchers are exploring how to use insects and insect cells to produce a widely available, low-cost protein source that could help combat world hunger and use increasingly scarce farmland more effectively. And scientists in Japan are even examining insect farming for astronauts and space agriculture.

Small wonder (pardon the pun) that insects are a popular dish. For one thing, there are a lot of them. It’s probably no surprise to anyone who’s gone camping that insects make up nearly three-quarters of the world’s species.

They’re nutritious too. Many insects contain more protein by weight than meat. Indeed, researchers estimate that

crickets’ conversion of plant protein to animal protein is over five times better than beef. Once you discount the exoskeleton, insect protein is also highly digestible. Insects have a good fatty acid profile (i.e. higher levels of omega-3 and omega-6 fatty acids) and contain many valuable minerals, particularly zinc, iron, and calcium.

And insects are pretty easy to raise. They don’t mind cramped quarters, sleeping on the ceiling, or yucky food – heck, some of them will work for poop. This makes them ideal candidates for what Gracer calls “mini-livestock”: small animals such as frogs, snails, and worms that don’t need much investment or infrastructure but yield a lot of food return.

All this strikes Gracer as a recipe for solving many of the world’s problems. For him, the box of mealworms



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was a ticket to a deeper understanding of political ecology. “Even though it wasn’t very good,” he recalls, “it made me curious. And it snowballed” into full-blown insect consumption along with environmental awareness.

“Without knowing it, I was searching for some way to meaningfully spend my energies. I’ve always been a seeker after understanding, reconciling the human with the natural world. It’s a matter of curiosity, a matter of problem solving. I have a very deeply rooted theory that people who are passionate about their work have a job that for them functions as some form of figurative problem solving. I find the idea that humans can wise up, and live within their means environmentally, very alluring.”

You’d assume that such an expansive worldview means that Gracer is really just some guy who will eat anything. But no, it seems he grew up a picky eater. As an adult, he has more or less the same palate as the rest of us non-entomophages. “I’ve never eaten eyeballs or brains. I wouldn’t want to; although I might, if they were cooked, and real cuisine. I’ve eaten *hakkarl* [Icelandic fermented shark]. It was literally painful. It burned the inside of my mouth... I’m very fond of game meat along with cows and pigs and sushi. But sushi is the least sustainable food on the planet. I feel a bit guilty when I eat it. Cows and pigs are the SUVs of food. I don’t want to live like that.” He’s also choosy about his insects. “Next weekend I’m picking up quite a few pounds of pupae and larvae, lab reared, basically maggots. I’m going to turn them into food. I’ve eaten cockroaches. For me too there’s a line in the sand. Eating a tick, that just weirds me out.”

Essentially, I suggest to Gracer, there are two types of bugs one can eat: the crunchies and the creamies. He agrees. “Most insects eaten tend to be medium to heavy in the exoskeleton category. The only ones that are creamy are the non-adult stages. Of the three I’ve got from Asian markets,

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the giant water bug is like a crab. Ant pupae look like rice beans, very soft. Silkworm is sort of in between. Larvae, caterpillars, beetle grubs, and to some extent termites are all creamy. Beetles and ants are crunchy.”

For the novice entomophage, one of the easiest ways to begin is by blending insects into things. Crunchies can be milled into flour, while creamies can be used as thickeners in soups. In Providence, RI, where Gracer’s from, the Liberty Elm Diner experimented with baking cricket flour rolls, while the Blue Elephant restaurant offered silkworm chowder. Instructed by bug cuisine aficionado David George Gordon (who provides a recipe for cricket kebabs elsewhere in this issue), the legendary Vij’s in Vancouver created cricket chapatis.

The most common mode of preparation, says Gracer, is sautéing. “The majority of insects served to the public are either deep fried or roasted, boiled in salt water, sun-dried, or thrown into foods like beans. The best way to preserve them is to boil and dry them. Then they keep for a long time. That’s better than canning. Canning is no way to go. It’s uniformly horrendous. Frozen is a bit better, but not great. I have a theory that more than any other kind of food, insects benefit aesthetically from quick time consumption. In general, storing them for a long time doesn’t do them any favours. When I was in Thailand, having deep fried grasshoppers and caterpillars, by and large they were delicious. But the leftovers, not so good.”

Gracer’s a self-taught zoologist, and doesn’t think teaching literature is incompatible with teaching biology. He uses entomophagy in his classroom to teach students to think in new ways. At one point in the semester he brings in a Tupperware container of insects and offers a day off to students that try a bug. All students have to write an essay about their choice to eat (or not). Usually, he reports, about two-thirds of the class are adventurous (or want a day off badly) enough to try.

Nature, he says, is about stories. “You learn [to be a scientist] by learning the logic of stories. Ecology is not all that different from writing a novel. It’s cause and effect. When you have a literary character that does bad things, the logic of the story says bad things will happen. Ecologically the dynamic is the same. This same kind of logic

applies to humanity. Learning about nature from the point of view of storytelling gives me a lot of energy.”

Because it involves a sustainable, easily renewable resource that doesn’t allow much waste, Gracer argues that eating insects enables us to tell different stories about our relationship to ecosystems. “Entomophagy speaks to a different system about how humans feed themselves on planet Earth. If you don’t over-store store food, you’re not building population. If you’re not aggressively expanding population, you’re living smart. Having a lower population is a really good way to maintain the status quo and make sure your grandkids have a good life. If we over-store food, and make an acre feed 50,000 people, that’s no recipe for a better world. Entomophagy goes hand in hand with a different relationship to the planet than the one that most people have right now.”

Does this doom us to endless meals of cricket-flour muffins and meal-worm bisque? “I wouldn’t advocate for an insect-only diet,” says Gracer. “That’s just a silly idea. But if insects could make a 20% contribution, or 65, 70% for developing countries, that would be great.”

Gracer also proposes that insects could benefit agriculture even if we don’t eat them. “Think about it – it’d be a fairly simple technology to harvest one of these massive desert locust swarms, instead of poisoning them. What about making flour, or high quality animal feed? In the 1930s, Argentina offered grasshopper fertilizer on the open market. It’s higher in nitrogen and phosphorus than anything else. Grasshoppers used as fertilizer, how perfect is that? We’re spreading toxins when we don’t need to. Instead we could utilize insects in the food process, even if people are turned off by eating them. It’s problem solving! The chickens will love it! You’d have to do a couple of specific things, because the spiky back legs of grasshoppers will puncture chickens’ insides. But hog feed, chicken feed, y’know, it’s not that hard. Get yourself a couple dozen tons of the stuff.”

Gracer works tirelessly to educate consumers and chefs alike about the benefits of insects. He’s driven by a deep concern about worldwide environmental degradation. “Americans are so clueless about what’s going on in the world. The fresh water situation, oh my God! Fresh water

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is horrendous around the world. America has no idea. Even the parts that have fresh water shortages, I’m not sure they get it. Look what we do with water. It’s obscene.” He dreams of eventually addressing the General Assembly of the UN to argue his case for the benefits of insect consumption. Perhaps a new human environmental epic will begin with some of nature’s smallest creatures.

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