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How to Develop an Appetite for Insects

Scientists who study bugs are thinking harder about how to turn them into good food.

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Repeat after me: entomophagy.

It's derived from Greek and Latin: "entomon," meaning "insect," and "phagus," as in "feeding on."

Some think it's the future of food.

In 2013, the Food and Agriculture Organization of the United Nations released a report declaring the need to swap traditional protein sources for insects to support a sustainable future. The report helped drive an explosion of efforts all dedicated to making mealworms your next meal.

Presenters at a 2018 conference in Georgia, Eating Insects Athens, published papers this month in a special issue of the Annals of the Entomological Society of America. The volume showed how people who study insects scientifically are now spending more time thinking about eating them.

Here are some highlights of what the researchers found:

Thank Christopher Columbus

While Aristotle and Pliny the Elder both indulged, Christopher Columbus ascribed the insect-eating of indigenous inhabitants of the New World to savagery. An Rong Xu for The New York Times

When Christopher Columbus returned from the Americas, he and members of his expedition used the insect-eating of the native inhabitants as an example of savagery, and as justification for dehumanizing people he would later enslave, said Julie Lesnik, an anthropologist at Wayne State University and author of "Edible Insects and Human Evolution."

While it wasn't the only factor, the colonial era deepened the stigmatization of entomophagy in mainland Europe, and in turn among European settlers in the Americas. Further distaste grew as insects threatened profitable agricultural monocultures supported by slavery and industrialization.

It wasn't always that way. Aristotle loved cicadas. Pliny the Elder preferred beetle larvae. They weren't that different from insect eaters among other cultures on other continents.

Those who experienced colonialism may lead the way

Evidence of insects in written reports, fossilized feces and mummies found in caves across North America, and corroboration from nearly every other continent, suggest humans have valued insects as food for millenniums.

Today, billions of people still consume more than 2,100 insect species worldwide. Even in the United States, Kutzadika'a people, or "fly eaters," cherish salty pupae from Mono Lake in California.

Some shoppers may be following suit, purchasing popular cricket flour and protein bars from manufacturers like Chapul in specialty shops and on Amazon. That company is named after an Aztec word for cricket, and pitches itself to customers as aiming to reduce water usage by livestock in the American West and connecting with native cultures' food knowledge.

Undoing centuries of entomophagy-phobia

Black soldier flies excel at converting waste products to protein. Andrew Testa for The New York Times

Many of us were programmed early in life to fear insects, and developing an appetite for them won't be easy.

"It's O.K. if you think it's gross. It's totally fine," said Dr. Lesnik. "You didn't ask to be programmed this way."

But entomophagy advocates think reprogramming can transform people's attitudes toward insects. For instance, kale, sushi, lobster and even olive oil or tomatoes were once scorned and unfamiliar in some cultures.

But change can come about. With education and by acknowledging negative feelings toward eating insects, adults can try to resist passing them to their children.

"It will really benefit them if they don't think bugs are gross," she added. "Because it's our kids' generation that's going to have to be able to solve those problems."

Still, insects aren't yet beef or chicken

In the United States, black soldier flies, good at converting waste products to protein, have long been used as feed for poultry and farmed fish.

To better understand how to produce more of them, researchers have just characterized their reproductive systems — from the tracts' shapes to the sperm tails' lengths. They have also discovered that larvae raised in relatively low densities are more likely to survive, grow heavier at each life stage and develop more quickly.

That kind of research could be a model for eventually mass producing other insects for human consumption, like mealworms or crickets, which we're a long way off from growing in ways that could feed the masses. While years of agricultural research have guided industry regulations aiming to make beef, poultry and pork healthier and safer, and less wasteful of what they eat, similar research and rules for most insects are a long way off.

When insects are and are not filthy

Rice pilaf and termites, prepared by Brooklyn Bugs, a company that promotes entomophagy. Justin Butner

Here's a conundrum: When an insect is in our food, the Food and Drug Administration considers it "filth."

But as long as manufactured insects are "free from filth, pathogens, toxins," the Department of Agriculture says it's food.

While regulations are clear about insect food sales, they're more like guidelines for insect food and feed production. The lack of stronger regulations may be limiting the number of insect-based foods on the market today.

Even if consumers become more comfortable with the idea of eating insects, they won't stay that way without specific regulations meant to ensure quality and safety. That's a goal supported by industry groups like the North American Coalition for Insect Agriculture, recently formed, in part, to work with regulators as more bugs are introduced into our diets.