



Photo Credit: flickr.com

### **Sister Cricket's Bugapalooza**

By Emily Nye

When was the last time you swatted away a pesky fly or mosquito? How about noticing a column of little black ants marching across your garden path (or your kitchen floor)? And when did you last notice that cricket's persistent chirp just outside your bedroom window?

Chances are that just reading these words brings up feelings of familiarity...and maybe even some squirming or itchiness. But hold on before you grab that canister of Raid.

This week's talk will introduce you to a new way of looking at insects. Paige Giberson will provide you with a fascinating glimpse into their value, and in particular their nutritional value. Read on to learn some facts about entomophagy (the science of consumption of insects as food) that will prepare you for Sister Cricket's Bugapalooza.

## Insects: The Fundamentals

The word “insect” comes from the Latin *insectum*, meaning “with a notched or divided body.” Insects are part of the Arthropod group, and their 3-part body consists of a head, thorax, and abdomen. Insects have three pairs of jointed legs, antennae, and compound eyes.



Stag Beetle Photo: maxpixel.net

A United Nations report cites that insects:

- Have an external skeleton for protection
- Are the only winged invertebrates
- Are cold-blooded
- Go through metamorphosis to adapt to changing seasons
- Reproduce quickly and have large populations
- Respiratory systems can tolerate high altitude flight, air and vacuum pressure, and radiation
- Usually do not need parental care (DeLong, 1960).

The full UN report is available to download as a free [PDF document](#):



Insects are one of our planet's most diverse groups, with more than 1 million different species. They are EVERYWHERE on Earth (even Antarctica). While we tend to dwell on their negative qualities, such as bites and infestations, in fact insects keep our ecosystems in balance.

They play several important roles. For one, they are essential in pollinating plants and crops. Many insects feed on other insects, so in addition, they naturally control some harmful pests. "Disgusting" is how we might describe critters like larvae, worms, flies, and termites, but they are critical in helping us break down organic waste.

Throughout the ages humans have found ways to cultivate valuable insect-based products like silk and honey. And now, as Earth's population is predicted to expand beyond 9 billion by 2050, we are seriously considering insects as an alternative food source to sustain our human species.



### **Good Reasons to Eat Insects**

Eating insects has been going on for a long while. Humans have been consuming them for thousands of years. There are more than 1900 edible insect species. More than 2 billion people around the world already incorporate raw or cooked insects in their diets. That includes 36 countries in Africa, 29 countries in Asia, 23 in the Americas, and 11 in Europe (Holland, 2013).

These countries have figured out some of the following top reasons to eat insects.

1. They provide a nutritious food source for humans.

They are high in protein, minerals, and vitamins. Grasshoppers contain not only a similar protein content found in beef, but less fat.

2. Insect meal could substitute for the expensive ingredients fed to farm animals (such as fishmeal and soybeans).

3. They produce less greenhouse gas than livestock.

4. They are abundant, and easily collectible.

Because insects are so adaptable, they can also be grown and harvested in drought-resistant areas.

5. As a food source, they don't require much care and feeding.

They have such effective metabolism rates that they require less food and water to sustain them. That means humans don't have to use up much land to grow and collect them.

6. The business of edible insects ("mini-livestock") can improve the livelihood for humans. Think economic development—at both local and global levels.

7. And finally: edible insects can be tasty!



Mealworm larvae Photo: Flickr.com

### **Insect Delicacies from Around the World (Hale, 2018)**

- Fried crickets are a popular street snack in Thailand.
- In Indonesia, dragonflies can be eaten as either a savory or sweet treat.
- The mopane worm of Zimbabwe is eaten flattened and dried.
- Silkworm pupae are prepared in several ways in Korea, including in hot broth.
- Incorporating insects into cuisine is gaining popularity in Japan. A recent insect tasting event featured cockroach skewers, and bee-larva couscous.
- Locusts are kosher! The Jewish holy book, the Torah (based on the first five books of the Old Testament), says that it is acceptable to eat four different kinds of locusts (Hebblethwaite, 2013).
- Chef Moshe Basson runs a Jerusalem restaurant that specializes in Biblical foods. His instructions were to clean them off after boiling them in broth, rolling them in seasoned flour, and deep frying them.
- Closer to home, Cowboy Cricket Farms of Montana produces crickets for food manufacturers. Cricket entrepreneurs Kathy and James Rolins found that cricket flour was the way to go. Their farm produces a range of products, including “Chocolate Chirp” cookies (<https://www.cowboycrickets.com/our-story>)





Chrysalis on a plate

Photo: Commons.wikimedia.or

### **A Change of Taste**

The edible insect industry has a considerable challenge ahead, though. What would it take to create a taste for eating insects?

Especially here in the western world, we find insects to be disgusting. Even with all the logical reasons mentioned here, most of us just don't relish the idea of, well, cricket relish, or stinkbug salsa, or grasshopper gumbo. According to behavioral scientist Val Curtis, "We have innate response to things that might make us sick by feeling disgusted and, therefore, don't want to consume them (McCoy, 2019).



Photo: Flickr.com

Researchers have found that marketing a delicious taste (dragonflies are similar to softshell crabs) and pleasant dining experience (exotic!) were more likely to persuade consumers to taste insects. Perhaps this takes our attention away from the “ickier” concept of insect eating.

An interesting culinary parallel is how other formerly unappetizing foods gained popularity. According to history.com, lobsters were once considered the “cockroach of the sea.” They were so populous they were seen as “trash food” and fed to servants and prisoners. As American railroads grew, club cars served inexpensive food like lobster. Travelers who didn’t know the lobster’s lowly reputation loved the crustacean’s taste, and a new delicacy was born. Perhaps the edible insect market can take a page from the lobster’s rise to status and stardom.

When the public sees celebrities like Justin Timberlake (who was seen serving insect dishes at a publicity event) and Nicole Kidman (whose Vanity Fair video featured

her cooking some buggy recipes) people have a change of heart (or a change of taste buds) The public loves cooking videos, so that could be yet another taste-changer.

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Watch this video of Chef Yoon educating Kelly and Ryan about insect cuisine:

<https://youtu.be/5b0RluSz7vA>

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### Summary

While eating insects might not provide all the solutions to feeding our growing population, it is certainly an option to consider. Sister Cricket's Bugapalooza will teach you more about this complex subject. Even if you're a little squirmy about bugs, Paige is sure to enlighten you about our insect friends.

Who knows—maybe one day we'll be able to purchase our own cricket flour at Trader Joe's?

### Works Cited

Anthes, E. (2014, 14 October). Could insects be the wonder food of the future?

Retrieved from BBC:

<http://www.bbc.com/future/story/20141014-time-to-put-bugs-on-the-menu>

Blair, H. (2018, 14 November). 10 Worldwide insect delicacies. Retrieved from Listverse:

<https://listverse.com/2018/11/14/10-worldwide-insect-delicacies/>

Creepy, crawly cuisine: Exploring insects as the future of food. (2018, 23 February).

Retrieved from Nippon.com:

<https://www.nippon.com/en/nipponblog/m00138/>



Delong, D.M. (1960). Man in a world of insects. The Ohio Journal of Science. 60(4): 193-206

Food and Agriculture Organization of the United Nations. (2013). Edible insects: Future prospects for food and feed security. FAO Forestry Paper 171. Rome.

Hebblethwaite, C. (2013, 23 March). Eating locusts: The crunchy, kosher snack taking Israel by swarm. BBC News: Retrieved from:  
<https://www.npr.org/sections/thesalt/2019/01/10/677826823/should-hyping-edible-bugs-focus-on-the-experience-instead-of-the-environment>

Holland, J.S. (2013, 14 May). UN urges eating insects; 8 popular bugs to try. Retrieved from National Geographic:

<https://news.nationalgeographic.com/news/2013/13/130514-edible-insects-entomophagy-science-food-bugs-beetles/>

Insects are food. (2009). Retrieved from:

[http://www.insectsarefood.com/what\\_is\\_entomophagy.html](http://www.insectsarefood.com/what_is_entomophagy.html)

McCoy, B. (2019). Should hyping edible bugs focus on the experience instead of the environment? Retrieved from NPR:

<https://www.npr.org/sections/thesalt/2019/01/10/677826823/should-hyping-edible-bugs-focus-on-the-experience-instead-of-the-environment>