*Note: Episodes of Outside/In are made as pieces of audio, and some context and nuance may be lost on the page. Transcripts are generated using a combination of speech recognition software and human transcribers, and may contain errors.*

**Taylor Quimby:** Um. So, Nate, this summer I was vacationing with my family at Moosehead Lake in Maine. It's way up there in the woods. Not very developed. Like you can't throw a stone without hitting a deer or like a turtle or something.

**Nate Hegyi:** Okay.

**Taylor Quimby:** And this place, it's this rustic cabin. My partner's grandfather built it by hand.

**Nate Hegyi:** Wow.

**Taylor Quimby:** So cool to be out there. You know, everybody sleeps in the same room upstairs. There's no TV. You know, you're playing Scrabble.

**Nate Hegyi:** Reconnecting?

Yeah.

[mux]

So the lake side of this cabin, you know, it's basically a bunch of huge windows. So you can look out over the water and see this beautiful view, but. But at night, you know, what that means is that there are just, like, hundreds, maybe thousands of bugs and moths just, like, stuck to these windows. And beyond that, it's just total blackness.

**Nate Hegyi:** The only sound is the just *[mimmicks the sounds of wings].*

**Taylor Quimby:** Yeah, the gentle thumping against the glass of like these big moths. And you get the impression that this. You know, you're in like a fortress under siege.

[mux swell]

So one night we're playing Scrabble. It's late. We're having drinks. The kids are in bed upstairs. But at some point, like I started to realize that a lot of the bugs on the glass are actually on the *inside* of the glass.

**Nate Hegyi:** Oh, it's like a horror movie.

**Taylor Quimby:** We go upstairs and it turns out that we had left one of the windows open without putting a screen in, like maybe at lunch time.

**Nate Hegyi:** Oh, no.

**Taylor Quimby:** And it wasn't too bad during the day because...

**Nate Hegyi:** They had plenty of other light sources to go to.

**Taylor Quimby:** Right.

**Nate Hegyi:** But then when it gets dark and your cabin is the only light in the woods... Here come the bugs.

[mux]

**Taylor Quimby:** We get upstairs where we left a light on and I could see thousands of bugs just crowded on the ceiling and walls, like, all around this corner of the room.

**Nate Hegyi:** No.

**Taylor Quimby:** And by the way, the kids are just, like sleeping. Totally not aware of this. And my my partner Jen is just standing there like, what do we do? I just walked over and one by one with my index finger, started to squish the bugs against the wall.

**Nate Hegyi:** You couldn't find something else? Well, I guess you wanted the kids to sleep.

**Taylor Quimby:** One by one for probably like 15, 20 straight minutes.

**Nate Hegyi:** Did you feel any remorse on the amount of life that you had been killing? Because I never do. When it comes to little bugs.

**Taylor Quimby:** The bigger the bug I did. So. Or maybe it's that, like, it feels grosser.

**Nate Hegyi:** That's really what it is. Yeah, I feel worse killing a wasp than I do a mosquito.

**Taylor Quimby:** The thing is, is like… Like you do what you have to do. Right? But it's like, what is going on in the minds of these bugs? They were outside and now they're inside. You know what I mean? Like what is their inner dialog in this moment?

**Nate Hegyi:** I was thinking the same thing when I had all the moths in my house, and I was reading about it, and I think for at least moths, it was just ‘moon’. ‘That light looks like the moon’. And they get inside your house because they're all, like flopping around lights because they think it's the moon guiding them on their migration. Yeah, they're just really confused. You're the one that's like out of place in that space.

**Taylor Quimby:** Arguably, *I'm* the monster.

**Nate Hegyi:** That's the moral of this story. You were the monster.

[theme swells]

The Secret Lives of Bugs: that's going to be the theme of today's edition of Outside/In Box, where we answer your questions about the natural world. I'm your host, Nate Hegyi. This time mostly along for the ride today, as Taylor and the rest of the Outside/In team picks through our mailbag of listener questions to learn about fireflies, metamorphosis and more.

**Taylor Quimby:** We're like, we're like a pair of podcasting chimps grooming one another for tasty morsels of bug knowledge.

**Nate Hegyi:** Yeah, we didn't need that. Didn't need that metaphor. That's good. I'm good with that.

**Taylor Quimby:** All right, well, how about this? We'll just cue the inbox tone.

[Outside/Inbox theme]

**Taylor Quimby:** Oh, there we go. So, Nate, I think we should start off with a question about one of the most mysterious biological processes on the planet. And this question was submitted via Instagram. So we DM'd the guy and we asked him to call in.

***Chris:*** *Hi, this is Chris calling from Massachusetts. My question is, what happens inside a chrysalis during metamorphosis?*

**Taylor Quimby:** Producer Justine Paradise took this question, and the two of you started off by talking about what you think of when you hear that word metamorphosis.

**Nate Hegyi:** Honestly, the first insect that comes to mind for me is a moth. Yeah.

**Justine Paradis:** I mean, I think that the monarch butterfly, though, too, is, I'd say maybe the platonic ideal of metamorphosis. What do you think?

**Nate Hegyi:** It's like the prettiest metamorphosis.

**Justine Paradis:** Yeah, it's like the prettiest one. So I use the monarch as my sort of case study here, and I called up Karen Oberhauser. Karen is an entomologist and director of the UW Madison Arboretum.

***Karen Oberhauser:*** *Metamorphosis is basically the definition of it is just changing.*

**Nate Hegyi:** That's a complicated word for something that could be much simpler. Why doesn't science just call it changing?

**Justine Paradis:** Science loves Latin, you know. Metamorph?

**Nate Hegyi:** Yeah, exactly.

**Justine Paradis:** So metamorphosis is not a term that we use to describe mammals, and that's because mammals like us basically have the same body as a juvenile as we do as adults. We just develop.

**Nate Hegyi:** Yeah, for the most part, except for that rough part that is puberty.

**Justine Paradis:** But all of the flies, ants, bees, they all go through what's called complete metamorphosis, which is four stages egg, larva, pupa, adult. And that's a lot of change for a little insect.

**Karen Oberhauser:** All of the changes are driven by hormones.

**Justine Paradis:** Can you imagine if during puberty that we, like, grew a tail or reabsorbed an arm or something?

**Nate Hegyi:** Oh my gosh. Sometimes it feels like you're growing a tail or reabsorbing an arm even though you're not.

**Justine Paradis:** But let's talk about what's happening when a caterpillar becomes a chrysalis. And a chrysalis, by the way, is a term we use only for butterflies. If it's another insect, it's called a pupa.

**Nate Hegyi:** Oh, I didn't realize that.

**Justine Paradis:** I know, and so what happens is the caterpillar is shedding its skin.

***Karen Oberhauser:*** *But instead of another larva skin, underneath it is the pupa or the chrysalis skin.*

**Justine Paradis:** So then inside the chrysalis, in the case of the monarch, some parts of the caterpillar literally dissolve like the caterpillar has the same six legs on the front that will have as a butterfly, but it doesn't need those big caterpillar muscles for climbing, so it.

**Nate Hegyi:** Just gets rid of them.

**Justine Paradis:** Gone. Same with the digestive system.

**Karen Oberhauser:** Oh, the digestive system really changes a lot from being able to handle all that milkweed that lets it grow so much to just handling nectar.

**Justine Paradis:** So bye-bye muscles, bye-bye certain digestive organs.

***Karen Oberhauser:*** *All of the material is then used to construct new things.*

**Justine Paradis:** So the caterpillar isn't turning into total mush, which is a common misunderstanding, actually, and one that I actually held before talking to Karen. Yeah, other parts do stay the same from caterpillar to monarch. For instance, the reproductive organs.

***Karen Oberhauser:*** *The testes are paired in a male monarch. And it's it is bright red inside the butterfly. It's an amazing or, you know, it's just this beautiful red ball, but it's also there inside the caterpillar. So that's an example of an organ that starts forming early on.*

**Justine Paradis:** So Karen told me that if you were to cut into a chrysalis, like, say, halfway through the process.

***Karen Oberhauser:*** *Halfway through you would pretty much see a butterfly, but it would be white.*

**Justine Paradis:** White because the pigment is still forming and the scales are one of the last things to develop.

**Nate Hegyi:** It would be white, and also really like peeved because you just cut into it halfway through its metamorphosis.

**Justine Paradis:** Yeah, you would have a kind of ruined the metamorphosis, I would say. Yeah. Don't do that. Yeah, monarchs are endangered, so don't do that.

[mux swells]

**Nate Hegyi:** I feel like I go through a form of metamorphosis every winter when I put on my cocoon of of winter hat and winter coat.

**Taylor Quimby:** It is funny how we use the word cocoon to describe wrapping ourselves in blankets. Or alternatively, sometimes you say burrito. It's like you're either in a cocoon of blankets or a burrito.

**Nate Hegyi:** Very dry burrito.

**Taylor Quimby:** Yeah. All right, so up next, I've got a question from Travis Bonnefoy, who asked us on Instagram, how do fruit flies just quote unquote, appear when you leave fruit out too long? You've experienced this.

**Nate Hegyi:** Yes, I have. I don't want to know the answer, to be honest with you, because I have an idea that it has something to do with eggs being laid.

**Taylor Quimby:** Okay. Well, let me answer that. Yeah, just hold that thought for a second. Okay. People used to think that fruit flies spontaneously generated back. You know, this is like, before we really understood a whole lot about biology. And you can kind of imagine it because they do seem to go from like, there's no fruit flies, and then all of a sudden you're just, like smacking them out of the sky left and right.

The truth is, is that 1 or 2 probably flew in a window. You know, they're teeny, or maybe it even came in with your produce. But as you pointed out, it's about eggs and about reproduction. So female fruit flies can lay about 100 eggs a day. They lay them on the skin of your gently fermenting fruits and veggies.

They actually mature a little faster in the summer, which is one reason we associate fruit flies with warm weather. And, you know, within a week, those eggs are full fledged adults ready to reproduce again.

And so, exactly as you said, by the time your kitchen is being swarmed, they have been gestating for days on the skin of your, you know, whatever it is that you're eating and you have very likely been gobbling up those eggs in mass all the while.

**Nate Hegyi:** So I was grossed out by this, but I'm thinking now: a great evolutionary trick. 100 eggs a day? Pretty cool. And maybe a little protein. Just a little bit of protein with your fruit.

**Taylor Quimby:** Exactly. As a vegetarian, I'm always hunting for more protein.

**Nate Hegyi:** Exactly.

**Taylor Quimby:** Oh, wait, does that mean it's not vegetarian though?

**Nate Hegyi:** It does. It does mean it's not vegetarian. You're an insectivore.

**Taylor Quimby:** Wow. Okay, you know what? I'll take it. Like maybe I should make an exception for crickets anyway, because I know that's the protein of the future.

[mux]

**Nate Hegyi:** Okay, we need to take a quick break and go wipe down my kitchen. We've got more of your questions coming up. But first, if you have something you want us to answer, make a voice memo on your phone and then email it to us at outside in at npr.org. And for our next theme, we are asking for questions on the topic of ‘blue’.

**Taylor Quimby:** Why is the ocean blue and not clear?

**Nate Hegyi:** Right? Why do we associate the color blue with sadness?

**Taylor Quimby:** I got one; why the heck do they call it a ‘blue-footed booby’? Like I get the blue foot part, but where does booby come from?

**Nate Hegyi:** Third grade me would really love to know. Yeah, no question is too weird or esoteric for this segment. Again, the email is outsidein at npr.org.

[break]

**Nate Hegyi:** Welcome back. This is Outside/In and we are currently rifling through your calls, your voicemails, your Instagram queries to answer questions about the secret lives of bugs.

**Taylor Quimby:** And for this next question, you are off vacationing, Nate. Lucky man. So, Felix filled in for you. I answered the question and the caller tape is a little iffy, so I will repeat the question afterwards.

***Doug:*** *Hi, my name is Doug. I'm calling from Elk, Washington, and your question about fireflies intrigued me. Is the bioluminescence that they produce in their butts the same as bioluminescence in the ocean?*

**Taylor Quimby:** Thank you. Is the bioluminescence that they produce in their butts the same as the bioluminescence in the ocean? So, Felix, you've seen fireflies, right? I sure have, okay. What about. Have you ever seen bioluminescence in the ocean?

**Felix Poon:** Not in real life. I've seen them in, like, documentaries.

**Taylor Quimby:** Yeah. Okay, so, you know, there are different forms of microorganisms, algae, bacteria, and also these things called dinoflagellates. And sometimes they can produce this beautiful blue-green glow. And when you move your hand through the water or a boat has a wake, you know, it's it's it's gorgeous.

**Felix Poon:** It sounds like so much fun.

**Taylor Quimby:** Oh, it's so cool. And my sense going into this story was that, you know, that kind of thing is rare and magical. But when I reached out to a woman named Deirdre Gibson, she's chair of the Department of Marine and Environmental Science at Hampton University, which is an HBCU in Virginia. She told me it's not nearly as rare as I thought.

***Deidre Gibson:*** *Bioluminescence is perhaps the most common form of communication in the deep ocean communication.*

**Felix Poon:** So it's like an Instagram post.

**Taylor Quimby:** Yeah, just think about it this way most of the ocean, more than 80% is in what's called the abyssal zone, which is deep enough under the surface that there is no light, there is no sunlight at all.

***Deidre Gibson:*** *And they estimate about 75% of the animals that live in the water column use some type of bioluminescence.*

**Felix Poon:** 75%. That's a lot.

**Taylor Quimby:** And here's what's wild is that the vast majority of organisms that do this, both in the ocean and on land, so fireflies and algae are using this same basic chemistry set. These organisms produce a special enzyme in their cells, called a luciferase, that reacts with another molecule that they produce, called a luciferin. Lucifer. The devil comes from Latin for light bringer, and so both of those words come from the same Latin root word for light.

**Felix Poon:** It's a super cool name.

**Taylor Quimby:** And when they react, they get excited, and they release some of that energy in the form of a photon.

***Deidre Gibson:*** *And the interesting thing about it is that reaction happens with very little heat emitted.*

**Taylor Quimby:** I think what's really cool is that even though the mechanism for how most of these organisms produce light is the same, there are so many diverse ways that light gets used.

So the firefly squid, for example, produces light from their underside so that if a predator is below them and they're like looking up the light from the surface, sunlight will blend with the light from their bioluminescence and act like a camouflage. It's something called counter-illumination.

There's also an animal called a brittle starfish. It has bioluminescent limbs, but they're also detachable, so if a predator is coming after it, it can break off a bioluminescent limb, and then the rest of its body goes dark and it tries to slip away unseen so that the predator just goes after the detached limb.

**Felix Poon:** Wow. So it's kind of distraction.

**Taylor Quimby:** Yeah, exactly. But then on the other side, you have predators who use lights to attract prey. So the anglerfish is a classic example. And the bioluminescence in its lure that's actually not being produced by its body, it has a symbiotic relationship with a bioluminescent bacteria that's harbored in that lure.

**Felix Poon:** Nature is so cool.

**Taylor Quimby:** It's like all you can say about this, right? Nature is just so dope.

**Felix Poon:** I don’t know, I'm kind of literally speechless. Like, this is pretty amazing stuff.

[mux]

**Taylor Quimby:** So when we initially asked for questions about bugs, we got a whole ton of them about everybody's favorite insect, the mosquito.

**Nate Hegyi:** So to answer them all in one go, a blood-sucking lightning round, you might say. I called up Lyric Bartholomay, a professor at the Pathobiological Sciences department at the University of Wisconsin, Madison. Lyric. Thanks for coming on.

***Lyric Bartholomay:*** *My pleasure.*

***Nate Hegyi:*** *The question I am dying to know the answer to is from our listener Mackenzie, who asked us on Instagram: Why do mosquitoes always bite me before anyone else? Like what gives?*

***Lyric Bartholomay:*** *So what we know about mosquitoes and their attraction to people is mostly from research that's done on mosquitoes that transmit malaria parasites to people in Africa and mosquitoes that transmit Zika virus to us in the United States. So there's a study that shows that the African malaria mosquito is more attracted to people after they've had beer, and to people who have recently eaten bananas.*

*We know from another set of studies this mosquito, Aedes aegypti, that transmit Zika virus, for example, that mosquito in one study was shown to prefer people who had blood type O and the same species in a different study was shown to like people who have blood type B. So there's conflicting results, even within a mosquito. And just imagine how complicated that gets when you start to look at 3600 different species.*

***Nate Hegyi:*** *You know, you talked about diet a little bit and Alison on Instagram asked, are mosquitoes more attracted to people who eat meat versus vegetarians? I guess apparently there are vegans on online forums like Reddit saying this is true from their own personal experience. So help us understand. Is it true?*

***Lyric Bartholomay:*** *It's not surprising if somebody has gone from one type of diet to another type of diet, that the things that they emit from their skin will change. So it very well could be that somebody who shifts to a vegan diet from an omnivore diet is going to react differently, probably would have different bacteria on their skin and probably would, you know, sort of be differentially attracted to a mosquito.*

*But as far as I know, there aren't good studies where somebody has actually, like taken a bunch of people and asked them to switch to a vegan diet and shown conclusively that is like a universal truth.*

***Nate Hegyi:*** *This next question is from @Elton appreciates on Instagram, and I'm going to paraphrase this question, but how does bug blood work?*

***Lyric Bartholomay:*** *Blood in bugs is really like bathing all of their organs. It's not neatly captured in veins and arteries like our blood is, but the cells in bug blood are there also for an immune response, just like you and me. You know, you get a scrape on your skin, and suddenly you've been exposed to all kinds of things. Your blood and your cells would come to that place and clot up the scratch, right. Like. And you'd get a scab. The same thing actually happens in a mosquito. So if I poke through the so-called skin of a mosquito, I actually can see a scab form in very short order.*

***Nate Hegyi:*** *So here's another big picture question. It's from Matt, also on Instagram. And he asked, are bug sprays and mosquito yard sprays toxic to other non-nuisance bugs and pollinators?*

***Lyric Bartholomay:*** *So sprays that you could buy at a big box store, or if you hired somebody to come and spray your backyard, you will also kill all of the pollinators that might come in contact with the leaves that have been covered in that spray.*

*And I also think it's really important to understand that there are agencies around the United States that are involved in controlling mosquitoes, and the sprays that are used in that context are actually a little bit different. If they're spraying to control mosquito larvae, those sprays are really environmentally pretty friendly and remarkably good at killing mosquitoes.*

***Nate Hegyi:*** *So this next and final question is from Emma and she asked us on Instagram are mosquitoes good for anything?*

***Lyric Bartholomay:*** *I would say like, well, are people good for anything? There are absolutely ecosystem services, as we would call them. There are some mosquitoes, for example, that are important for orchid pollination in the Pacific Northwest. We also know that there was a good study that was done in France that showed in a park setting where mosquito larvae were controlled really, really well. There were far fewer mosquitoes for birds to feed on, and then the birds had fewer chicks. And so it wasn't that the mosquito control was toxic directly to the birds. It's just the birds didn't have the same kind of nutrition. Right. And so they were producing fewer fledglings.*

***Nate Hegyi:*** *Okay. So I said that was the last question. But I actually have one more. Any parting thoughts or wild fun facts about mosquitoes that you want our listeners to know about?*

***Lyric Bartholomay:*** *So, yeah. So some of your listeners are probably fans of Jurassic Park. A fun fact is that if you watch that movie closely, you'll notice that the old guy who started the whole island walks around with a cane, and on the top of his cane there's like this sphere of amber. Well, the mosquito that was in the amber was a male mosquito. And male mosquitoes never feed on blood. And double down and make it even more poignant. That mosquito is actually a kind of mosquito where neither the male or the female actually ever blood feeds. So you find that that sometimes it blows people's minds to think that there are a whole bunch of mosquitoes out there that never, ever take blood.*

***Nate Hegyi:*** *Lyric Bartholomai. Thank you so much for joining us on Outside Inbox.*

***Lyric Bartholomay:*** *I hope that scratched the itch.*

[mux]

**Taylor Quimby:** So to cap things off, I thought I could answer one last very practical question. So let me play the tape.

***Jeannie:*** *Hey, outside. And this is Jeanie calling from Burlington, Vermont, and I'm so happy to have reached you after trying various other eight something something go order combination that led me to various other other named businesses. But here you are. I finally found you.*

**Taylor Quimby:** The number, by the way, is 1844-GO-OTTER. Although, what is an otter business?

**Nate Hegyi:** Otter Rescue Society.

**Taylor Quimby:** The Otter Emporium.

**Nate Hegyi:** "We sell otters,24 seven, fast delivery.

**Taylor Quimby:** Okay, here's the question.

***Jeannie:*** *My question is about bug spray. I've always steered away from Deet. That's kind of how I was brought up. Um, then I tried this natural repel with this product called Picaridin in it. I don't know how to say it. I don't know if it's safe. Am I just preferring it over Deet because Deet's got a bad name in my mind? Does Deet just have a bad name? Because it sounds kind of like DDT? Uh, and what's the deal with essential oils? Thanks. And I'll probably be leaving you another message soon. Bye.*

**Taylor Quimby:** What do you think, Nate? What do you use?

**Nate Hegyi:** I have very little tolerance for mosquitoes. So if you're going to see me out in a mosquito heavy area, I got the stuff that probably causes cancer. I got it all over me.

**Taylor Quimby:** You go. Yeah, you go with the Deet.

**Nate Hegyi:** Yeah, I go with the stuff that works.

**Taylor Quimby:** The way that you pose, that you can tell that this is something that like people have really strong opinions about bug spray. Yeah.

**Nate Hegyi:** I remember when me and you went hiking in New Hampshire and we got out the Deet and you were spraying it and you were like, do you not get it near your lips, your face? I will not ingest that stuff.

**Taylor Quimby:** You know what? Let me just let me just start there, okay? Deet is probably the most effective and almost certainly the most studied bug spray there is. It was developed by a scientist working for the US military back in the like World War two era. They were just like studying literally thousands of different compounds and chemicals to see. Like which ones do bugs not like. And yeah, I mean it was it's obviously very effective. Soldiers used to call it bug juice and they used it at much higher concentrations than we do today. Okay. And the safety issue that you're talking about. Yeah. You don't want it in your mouth for sure ingesting it. And especially if you were to like ingest a bunch of it. That's where it's really, really dangerous. From what I can tell, there isn't any science that say it causes cancer, which is kind of what I thought. It's actually seizures.

**Nate Hegyi:** Ooh, seizures. Like, I definitely expected cancer, but not seizures, truly.

**Taylor Quimby:** But the estimated incidence rate is about 1 in 100,000,000 people. If you compare that when you think of to the rate of things like West Nile virus, you know, 225 people died in 2021 from West Nile also works on ticks.

**Nate Hegyi:** That's great. Yeah. Ticks not good.

**Taylor Quimby:** The weirdest thing about Deet is that we don't know why it works.

**Nate Hegyi:** That's a little creepy. Yeah, I feel like we should know why it works. Yeah.

**Taylor Quimby:** Our colleague Jeannie mentioned Picaridin. Honestly, it's not that much different from Deet. So, you know, people use it as an alternative. But there are similar chemical compounds. Both have been shown to have some mild negative effects on the environment. Like fish are not fans of Deet, but it shouldn't be confused with DDT, which is a pesticide that was banned and is known for having really harmful effects.

**Nate Hegyi:** Yeah, I get them confused I think all the time like Deet and DDT.

**Taylor Quimby:** And I'll just tell you from like my web searching that like there's a lot of things that say like, what's the difference between DDT and D? And so you can tell that that's a common that's a common misconception, right? A more natural or kind of more natural product that also gets recommended not just by people, but also by like the federal government, our products that use oil of lemon eucalyptus.

**Nate Hegyi:** Whoa**.** Did not know that.

**Taylor Quimby:** So Consumer Reports has done tests where they actually take some brave souls and they like, volunteer to put their arm in a tank full of hungry mosquitoes.

**Nate Hegyi:** They better have paid those folks. I'm just saying that is not something you just volunteer your time and just do for the good of society.

**Taylor Quimby:** Yeah, I hope so too. But based off of those tests, those three that we talked about are the ones that get recommended the most stuff with Deet, stuff with picaridin and oil of lemon eucalyptus. As far as goes, by the way, anything over 30%. Consumer Reports says is not giving you any really additional protection.

**Nate Hegyi:** I'm going to have to look at my Deep Woods spray and see what percentage that is. Don't need to get the deepest woods.

**Taylor Quimby:** Other stuff, you know, essential oils, citronella. It's not to say that they're not effective, but again, they tend to be less studied. And frankly from what. Consumer report says, is they just don't last as long as well. So those are the trade offs that you're making. And I think for our caller, like there's no great answer that I can tell you. But that's that's the gist.

**Nate Hegyi:** What are you going to use? Knowing all this.

**Taylor Quimby:** I figure if you're not using it that much, then why not use the more serious stuff? And probably it's not too bad. I mean, it's like what makes things bad is constant, regular, high exposure.

**Nate Hegyi:** So if I’m not using it all the time, and you're being careful around your mouth like you taught me. You should be okay.

**Taylor Quimby:** Yeah. Don't puncture your bottle of Deep Woods and try and chug it down. That will be bad.

**Nate Hegyi:** Don't shotgun your Deep Woods insect repellent. That's what we're saying.

**Taylor Quimby:** We shouldn't even said that. It's going to be like the next tide pod problem.

**Nate Hegyi:** Peopleshotgunning insect repellent.

**Taylor Quimby:** [laughs]