Hey to all you fish enthusiasts out there and sucker lovers. Whether you're an avid angler or just curious about fish, we'd like to welcome you to Fish of the Week! It's Monday, October 4 2021. And we're excited to talk about all the fish. I'm Katrina Liebich with the US Fish and Wildlife Service in Alaska,

and I'm Guy Eroh

Sucker lover.

Ah, not quite a sucker lover, but you know, I appreciate them enough. I know some people who are really fond to the suckers I don't feel like I'm quite on their level and don't want to pretend like I am but...

Just a sucker liker.

I appreciate a good hog sucker a red horse a quill back. I like them. Big Mouth small mouth buffalo.

Sweet. So it's just Guy and I on this episode, we're talking about suckers, obviously. And one of the species we'll touch on for sure is the longnose sucker. There's a lot of cool species out there, though. So I'm guessing we'll be talking about suckers more in the future. So yeah, I guess my question to you is what's in a name? Why are these things called suckers?

Well, it kind of goes down to their mouthparts. As soon as you see a specimen, you can usually tell why they have that name. It's usually related to colors or possibly other animals and suckers you just look at their mouth and their feeding behavior. And they're getting down and they're sucking on the rocks and getting their food that way. So as soon as you hold one, you see the lips, you can tell why they're called the sucker.

Yeah, they're pretty fleshy, those lips. Very strange looking. So they're almost exclusively native to North America. There's one in China and one in Alaska and Russia. What characteristics do these fish share in this family, I know there's 60, 70 some species in this group.

So there's a lot of diversity within how they look, we did mention those big fleshy lips that can be either plicate or pappilose. Having these kind of taste and chemical receptors on them. They'll feel their way and taste what's there at the bottom of the water where they're feeding. But among the fish, there's a lot of diversity in their body shape, some of them can be really tall and robust. Others can be more long and slender or tubular-like. They belong to the super order ostariophysi which is really prominent order within freshwater fishes. And one feature of that is that they have this what's called a Weberian apparatus that makes them really good at sensing sound. And they are they have a connection between their swim bladder, which we talked about on the show before, which helps them maintain buoyancy, but it also can act as like an amplifying chamber, and then that can pass up through some modified vertebrae in their neck and actually connects directly to their inner ear so they have this kind of super hearing ability. They also have shrek stoff and a shrek reaction, which is a German term. Shrek stoff means like fear stuff/fear substance. And it's kind of a cool response where if the fish gets

injured as this this chemical is in their club cells, and it creates a reaction among the other because a lot of the times these guys are in these large aggregations that it can tell them "Okay, there's a predator in the area or for some reason, our friend over here got injured, so we need to be on the alert, and we'll put into a fear response." These fish are known for having oftentimes large spawning aggregations down in the southern United States, the red horses are sometimes called the salmon to the south. Because these large runs of fish often a lot of the native peoples down there relied on their spring migrations to come in and as a food source, they would eat them, you know, so generally a pretty cool fish or group of fish rather, how big are we talking? You can have these really kind of small species hog suckers tend not to get too big, oftentimes, you'll find them less than 12 inches. Then you got some like the buffaloes which can get upwards of 100 pounds I believe the longnose sucker up there in Alaska, it maxes out somewhere around 23 to 25 inches and around seven eight pounds but I imagine it's oftentimes smaller than that.

You mentioned the big mouth buffalo and I was reading something really interesting about them it said that the oldest buffalo Guess how old it was?

130

112

Okay.

So it's actually the oldest freshwater two earliest fish that we have a record of so that's quite a bit older than my grandma. I thought that was super cool.

When I was growing up in Utah, we had like our fourth grade social studies class and the teacher made a big point about you know, we only have bison in this country we don't have true buffaloes Of course referring to you know, like the water buffalo and stuff that you'd find over in Africa and Asia is like no buffalo in the United States, just bison. But then you go to fish school. It's like ah, we got at least three species of Buffalo. And also, I'm not a big linguist guy, but you know the sense the buffalo buffalo buffalo buffalo buffalo buffalo buffalo buffalo. This is a side side...talking about the mammal now. It's called a tautonym which it means that the the genus and species name is the same thing. So for bison the North American bison the genus and species name is bison bison. And for the plains bison, the subspecies also bison so it's bison bison bison. So if you wanted to you can make that buffalo bison bison bison buffalo bison bison bison buffalo buffalo bison, bison bison buffalo. And that's a legit sentence. But talking about tautonyms because that's this transition that I decided to use. I think they're kind of cool. And in fact, the longnose sucker up in Alaska is one of several species in Alaska that has a ton of them it's Catostomus catostomus.

I know I love those because they're easy to remember.

Yeah, and Catostomidae is also the family which I don't know if our audience really knows about type genre for our family or, and type species for genus. But Catostomus is the type genus for Catostomidae

and Catostomus catostomus is the type species for the genus Catostomus. So this is the suckiest sucker out there.

So in terms of like range, we know that the longnose sucker I mean, it's found throughout all of Alaska, essentially, except the islands, and then it's found through a lot of the actually, I think all of the Canadian provinces and some of the territories and then down into the kind of northern states within the lower 48. Do you know how that range compares with some of the other suckers that you've been talking about, I mean, maybe it's got just kind of that large, expansive, kind of huge range, but very northern.

I would say that it is a lot larger than a lot of the ones that you can get down the south east. In the southeast you see a lot of this speciation has gone this isn't exclusive to suckers. You see, like a lot of these specific drainages have fish of over time evolved in their own species, but that superficially appear similar to others, like take hogs suckers, for instance, you have the Roanoke hog suckers that are distinct to the Roanoke drainage, the Alabama hog suckers, you got the northern hog suckers. And that's all he just kind of drainage hop, and you'll find these whereas the long nose sucker is a single species that exists are really long range without a ton of other sucker species in there. So a lot of these species are you'll find a more in the in the temperate zone. But there are a few that get up into the sub Arctic and Arctic like the northern. A lot of people when they think about suckers. You know, they're thinking about lollipops, or if they're thinking about suckers as fish, I think about the Plecostomus, which is an armored catfish. And it's actually a really cool example of form, evolving to exploit a specific niche and perform a specific function in a different ecosystem. So even though the Plecostomus and catostomids are not particularly closely related, they have this similar physiology, because they serve similar roles in their ecosystem.

Yeah, so I mean, you see that with animals all over the world, but they have filled a specific niche, and they're kind of lower down in the food chain. Like you mentioned, they're, you know, eating everything from algae here in Alaska, they're eating invertebrates. They have snails, mollusks, fish eggs, so they're just serving that niche. They're the bottom dwelling species in freshwater. So you have other species that are, you know, occupying different columns in the water and feeding up the food chain a little bit more. But yeah, you can see species like this kind of across the globe that fill a niche, and that's what animals tend to do. And it's really neat that suckers have filled this niche throughout much of North America, which is where the Catostomidae is primarily located.

I'm guessing here, I might be wrong. But in this mucking up on the bottom, which is kind of a lot of times what they'll be doing is that resuspending the nutrients that are in the substrate and allowing that to get resuspended in the water column. And I imagine that significant contribute to productivity in that system and the nutrient cycling where you have, then the phytoplankton able to take up that stuff that was otherwise sort of down in the bottom.

Yeah, and that might play a really important role up here in Alaska in particular, because you have all those fish coming in from the ocean, like the salmon bringing in marine derived nutrients, and those nutrients are going to get, you know, deployed up through the freshwater food webs as well. And I don't

think we perhaps know a ton about the suckers but that seems like something that they would help contribute to.

They definitely are indicator species or type of fish that tends to need high quality water in order to be successful. And now that's not true for every single species of soccer out there. But these longnose suckers, I would I would guess they need this cool, clear water in order to be successful. And so when you find a system that has suckers in it, and high abundance, that is a good indicator that's probably a healthy system. You go down in the southeast, you see issues with sediment pollution, which can be an issue because these guys actually go on oftentimes large, predictable migrations. And so when you have dammed up systems that can also negatively impact the sucker population. A lot of people think about these fish migrations is coming from the salt water and going up into the freshwater. And that's the migration that's taking place. But there's oftentimes purely freshwater migrations, where that's coming up from a lake into a stream, or coming from a different part of the river and then going upstream, it's usually downstream to upstream.

Yeah. And we were that about Arctic grayling earlier from one of our guests in terms of that those large freshwater migrations and how fish need different habitats throughout the year, where they overwinter, where they spawn or where they feed or different kinds of parts of their life cycle. So yeah, for sure.

You know, suckers are not necessarily a species that a ton of people are going after. I know there's like certain species that they are, but in general, like, these are not trash fish. They're actually you know, native, really important part of the ecosystem. And Guy, I'm wondering if you've heard any kind of thoughts from folks on suckers. I know when I was in Maine, I was talking to a lot of people about fish, and they'd be like, "man, I hate suckers. They suck your toes." stuff like that. I mean, what are some things we want to tell folks about these fish?

Well, yeah, you bring up the point that they are often referred to as rough fish or trash fish, which is a term that in and of itself, you know, some people out there really take pride in targeting the trash fish or the rubbish. I don't think there's anything in particular that's wrong with the term but yeah, they do superficially, at least some species resembles some invasive species like common carp that's native to Eurasia. And so some people do conflate the two and say, okay, we need to get these out of the system so that we can support what are considered sportfish usually fall into one of the categories of being easy to catch getting large towards the top of the food chain, and or eat well,

they're good fighters.

Yeah. So suckers, they can get big, and we mentioned if you can hook them, they fight well, but the big thing that I think keeps people from going after him is they are hard to hook I have many times tried quite hard to catch suckers and and failed miserably. I'm not very good at it. But when you can hook them, they can really put up a very strong fight. Now, I mentioned earlier that a lot of the native peoples down in the southeastern us they relied on these runs, much like the Alaska Natives rely on runs of salmon. That said, they're very bony, and your typical Westerners probably not going to be quite fond of picking out all those bones, but you know, they are edible.

So speaking of that, what have you used to catch a sucker? What kind of lure using like a bacteria lure or algal...?

Most people that I know that are successful talk about using worms, the only sucker that I have ever caught that wasn't foul hooked was and I actually I caught at the same time I caught a stone roller which they're one of them. They're an algae scraper, so I was surprised but I was going out and I had that size 30 hook, which if you don't know that's like I can probably fit 10 of them on my pinky fingernail. They're very small. And I went up and I turned over some rocks and I dug off like just picked off these little tiny may fly larva, and I would put one on the hook and I just, I'd had to cite fish for it. We talked about those lips, they're super sensitive. And so they feel any bit of like a piece of metal or a hook in there, they can spit it out like that. I knew that there was one of these Alabama hog suckers rounded real little on this little side stream that goes down into the Conasauga River. And I just I just saw me came out a landed sort of right on top of where I had my mayfly larva and I just waited a couple seconds and I took all the patience that I had in my body to not just try and pull that thing out immediately when I got there but I weighed just enough to get em so

nice

That's the only one I've got I've foul hooked some quill backs I think quill officially a quill back carp sucker and those things were super strong. I was in the Potomac River, but again just foul hooked them foul hooked white suckers before. I just have trouble with them. I can't. I've tried. I've been that goofy guy up on like blue water trout streams in Montana, trying to catch longnose suckers who with you got everyone out there with their 1000s of dollars worth of Orvis and Simms decked out head to toe $1,000 fly rods and I am out there chucking worms try to catch a sucker. I'd hook into 17,18 inch rainbow trout and be disappointed.

You gotta keep trying. Get the sucker slam.

I would appreciate and I'm sure the suckers would appreciate if they're native that you don't kill them because they are doing and important stuff that helps keep the ecosystem where it needs to be for the sport fish. And if you are a very talented angler and can go out and catch these fish you know they are well worth their pursuit.

Yeah, I mean, I guess my final thought would be that I, you know, just like to see folks appreciate some of these non game species a little bit more. They're super cool. They're important for the environment and they have a really neat history within our North American continent.

So we hope you guys get out there and enjoy all the fish and definitely appreciate those awesome suckers.

Thanks for listening to Fish of the Week! My name is Katrina Liebich. And my co host is Guy Eroh. Our production partner for this series is Citizen Racecar. Produced in story edited by Charlotte Moore. Production management by Gabrielle Montequin. Post production by Alex Brower. This other week is a production of the US Fish and Wildlife Service, Alaska Region Office of External Affairs. As the Service

reflects on 150 years of fisheries conservation. We honor thank and celebrate the whole community, individuals tribes, the state of Alaska, our sister agencies, fish enthusiasts, scientists and others who have elevated our understanding and love as people and professionals of all the fish