

Fish of the Week: Lampreys February 1, 2021

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Hey to all you fish enthusiasts out there. Whether you're an avid angler or just curious about fish, we'd like to welcome you to Fish of the Week! I'm Katrina Liebich with the US Fish and Wildlife Service in Alaska.

And I'm Guy Eroh, an amateur curator of fish stories.

It's Monday, February 1st, 2021, and we're excited to talk about all the fish. This week's fish is the lamprey.

Our guests today are Trent Sutton from the University of Alaska Fairbanks.

Hi, how's it going? Good. How are you? Good.

And we've also got Sabrina Garcia with the Alaska Department of Fish and Game. Hey, Sabrina.

Hey, Katrina. Thanks for having me. We just never get enough talking about lamprey. So we're so excited.

Lampreys are fascinating. They're ancient from an evolutionary standpoint, and we've got more than one kind in Alaska. And Guy I know you've got some really special feelings about them?

Well, I just want to start out...Most of the fish that we're going to talk about on this podcast, there is no question that they are a fish. They meet everyone's sort of definition. But this is the one group of fishes that we have that I think might need to be defended as fish. Because talking from kind of a phylogenetic standpoint, most of the fish that we have are going to be within the Actinopterygii the ray-finned fishes and they're more closely related that is the share a more recent common ancestor with you know, birds and mammals, and they do with the fish that we're about to talk about the lamprey. These fish are so ancient that their evolution actually pre-dates jaws. And I don't mean that Spielberg movie, I mean, actual hinging, biting anatomy. These species of fish have existed since before any animal developed that kind of biological technology. Now, what they do have is like an oral disc, they used to suck and hold on to things. But despite this innocuous name of the oral disc, the business end of the lamprey is something straight out of a horror film. They aren't large fish, so they don't elicit the same kinds of reactions to say great white sharks, but I tell you, a 20 foot lamprey would make a perfect movie monster. So that's one thing I definitely want to talk to our guests about today is whether this actually even is a fish.

Okay, so first things first. Can one of you describe what a lamprey looks like for us so folks listening can get an idea.

Yeah, sure. So we have five species of lamprey in Alaska. They look very different than most fish they have that sort of very foreboding looking mouth structure with the with the teeth that most people kind

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of get freaked out about. They used to latch on to the side of fish and hang there and rasp a hole on the side and and drink their blood like a vampire. Commonly people mistake lampreys eels, you hear people refer to lampreys as eels quite often. So they they a very eel-like appearance, their elongate, cylindrical, ranging anywhere from a couple of inches to a couple of feet in length, but they're not eels, they don't have paired fins, which is one of the differences you see between a lamprey and an eel because the eels does have have pectoral fins. They have gills like fish do but different and they don't have an operculum like that gill flap where the gills reside, they have these they have a branchial basket. So you can see this sort of elastic basket on the side of the head with these holes on the side. And that's where the water flows in and out. They are fish for sure. But they are probably the least fish like of the fish, maybe hagfish or maybe which are pretty close related and prayer are are not very fish-like either, but there's definitely some clear distinctions between them and other fish species.

Super cool. Thank you.

So I'm curious, Sabrina, how do people go out ilf they want to try to interact with this really cool fish? How do they go and do that?

So there's a really amazing commercial and subsistence fishery for one of the lamprey species the Arctic lamprey. The Yukon River has about 40 villages along its length and some of the villages in the lower and middle River. Once the ice freezes, they actually go out and they cut holes, these rectangular holes, in the ice and they use either dip nets or eel sticks and eel sticks are basically like a two by four wooden plank that they hammer nails into so as the these lamprey runs migrate through their villages, kind of like a salmon run where they come in these pulses, and they pass by these villages in these like dense concentrations and they've got all sorts of cues for when they think the lamprey runs are going to make it through their village. They go cut these holes in the ice and essentially just dip out these these Arctic lamprey from from the ice. And starting in 2003, they had to subsist it was typically a subsistence fishery and starting in 2003 they actually started to fish for them commercially using those same traditional gear types. To my knowledge, there isn't recreational fishing for lamprey just because it just takes really specialized gear. It's not like you know when you go ice fishing, you've got a rod in reel you put some bait on it. They're like salmon - by the time they start their migration into the river, they're not feeding anymore. So by the time they come in, their focus is on getting to their spawning grounds and spawning. So it would be pretty tricky to fish for them recreationally I think unless you went out in the ocean when they were feeding and happen that you know, get one of the Arctic lamprey that wants to predate on another fish.

When these lamprey enter the river to go undergo their upstream spawning migration, they're extremely lipid rich, they're they're basically little bags of fat. And, and they, they don't feed it all from the time they enter the river until they spawn. So if they're entering the river as early as September, they're spawning, usually the next June or July. That's a pretty long period of time to go without feeding. And we had some we had some shipped up here last last year. We received them in October, and the very last one finally died in the beginning of September last year, so went almost 11 months without feeding in the lab before it finally expired.

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They are really great bait I've heard for ice fishing. So whenever we we take samples from the commercial fishery and get measurements on length and identify sex and we always have folks asking us for the lamprey for some bait for their burbot ice fishing. So I've heard it's great bait, but maybe not a target recreational species.

I do have an anecdote to add to that from a recreational standpoint. So I know of two situations where or two cases where people have been on ice fishing for burbot. So they have set lines out in the in the Tanana River here locally, and have caught somehow Arctic lamprey on their hooks. So I don't know if they're just swimming by and somehow get hooked on their line. Or if they're attaching to something that maybe hooked or maybe a burbot that has been hooked. I'm not sure exactly. But so not directly trying to catch them recreationally but incidentally catching them using recreational gear. And I will verify that they do make excellent bait. When I've been out collecting larval land prey in town, especially in Fairbanks in the Chena River, I've had people come up and ask me what I'm doing. And then they talk about the way they go and harvest larval lamprey the uses is burbot bait is to go dig for them so they'll take like a five gallon bucket and cut the bottom off of it and then they can scoop mud into that or they can just go shovel it out and dump it up on the shore and then pick through it and pull out the larval lamprey and you're allowed to do that I believe I think Fish and Game allows that I'm not sure all the regulations along with that but they are used as bait and they apparently make great bait which makes sense because I've seen I've been I've been electro fishing for larval lampreys and I've seen burbot come up behind me and pick off lamprey they're swimming by so they like to eat them.

That makes sense with them being kind of a bottom up bottom fish. We actually talked about burbot what a couple of weeks ago and yeah, that's really interesting.

Hey there everyone. One thing we want, you know, always keep in mind regardless of what you're fishing for his safety. Every week, we're going to give you one or two tips that you can use to stay safe while you're angling. Today, we're talking about some of the equipment that you will want if you do end up going through the ice. The first tool is a flotation device. Whether this is simply a life jacket that you have under your coat, or a specially designed inflatable suit, you'll want something that can help buoy you up while you're on the water. next piece of equipment our ice picks. These look similar to large corncob holders that are designed to be worn around your neck when ice is slippery, and you can use these to pick into it and help pull yourself out of the water. Finally, you're going to want either a dry bag or a dry box. And you use this to store cell phone space blanket and possibly a change of dry clothes. Anything that you don't want to get wet should be kept in this container so it'll be usable if you do end up getting soaked. Hopefully you'll never have to use any of this stuff while you're out ice fishing but as my father used to tell me better to have them and not need them than to need them and not have em.

So I have to ask, have you guys eaten a lamprey before?

I never have.

It seems like this is a kind of a group of species that people really used to eat a lot. I mean you look back at like the European records up in like the Baltic countries England Scandinavia. This was historically a fish that was eaten a lot but that ever since people kind of came over here. They haven't

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been super popular. I was reading somewhere that the coronation pie for Elizabeth the Second Queen of England was actually a lamprey pie.

Yeah, I read that King Henry of England. He like lustfully would eat lamprey. And in fact, they said he might have just died from overeating lamprey in particular but yeah, it's it seems like it was a very popular dish so it'd be kind of neat to maybe revive some of those old recipes that are online.

Yeah was a one of the ways that lamprey are prepared over in sort of Western Europe. So non England like Spain and Portugal is a I've heard they hang them above a frying pan, they cut their heads off of the blood drains out into the frying pan, and then they and then they once the blood is all sort of drained out and collected. They dropped a lamprey into the frying pan and fry them up in their blood in eat them that way.

Wow.

Now, of course, we've mentioned that this is a subsistence fishery, I just wondering if any of y'all have know how Alaska Natives go about preparing lamprey.

One of the one of the methods that I've heard is they, they cook it into this kind of like almost like a lamprey spread. And they take it, they'll spread it on, on bread, or they'll just eat it straight. And they'll take it out with them during winter hunting. Because it's so fatty, it keeps Pete keeps folks pretty warm when they're out there in the cold. So I think that's a pretty popular way to eat it.

I actually got to eat one this last year. And it was actually really good. It kind of tasted like I don't know if you guys have had salmon bellies or salmon cheeks. But yeah, that really kind of rich, fatty flavor. It was pretty good. But I'll try anything.

So I was really sad that you had such a like great experience eating lamprey. And I wish that I had gone over to your house to try it for the first time. Because the first time I tried it, we had cooked it two different ways. We've smoked some first and the amount of fat and that dripped off of these lamprey like we had a bucket underneath the smoker that we were constantly having to take out. Oh, unfortunately, my friend's dog got into that bucket and ate all of the oil and proceeded to like projectile vomit a little bit later because it was like so much oil from these fish that we made it that way which I did not I did not like at all because it's just like eating the most like the fishiest fish you can ever think of that's just soaked in oil. And then we decided that maybe if we panko-ed it and then fried it and served it with you know eight pounds of tartar sauce we might be able to stomach it. And if it's if it's breaded and deep fried. You can you can have some but sounded like you guys really loved it.

Yeah, it was a good, really good

So I have to show this. So I know no one else can see this but the folks here but it's a can of it's written in Japanese so I can't read any of it. So a few years ago at the Alaska AFS meeting in Anchorage, I met a biologist who is from Japan. And he gave me this bottle of...it's got a lamprey on the front of it. It's this orange bottle. And apparently one of the one of the uses of lampreys. They make fish oil pills out of

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these. So there's actually this is full of this like you would buy. You buy fish oil pills. Now I've not eaten any of these. And I'm reluctant to do so I some of my graduate students have volunteered to eat some and he said they were extremely fishy tasting. So I've not been so courageous enough to try to try to eat one or not. But I probably need to put that on my list of things to do at some point in time.

That's awesome. Now we really appreciate you guys coming on the show. And I learned a lot and they're really a fascinating fish. Yeah, I think there's a lot to learn about them. And yeah, potentially, you know, ways for folks to interact with them, whether it's seeing them in the water or learning about some of these subsistence fisheries or eating them at a market in Seattle or wherever. That's super cool. Thank you.

Any time

Thanks so much Trent and Sabrina.

Thanks for listening to fish of the week. My name is Katrina Liebich and my co host is Guy Eroh. This show is produced by David Hoffman of Citizen Racecar assisted by Garrett Tiedeman and Kelsey Coors. Fish of the week is a production of the US Fish and Wildlife Service, Alaska Region Office of External Affairs. As a 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 elevate our understanding and love as people and professionals of all the fish.