

Sculpins! July 12, 2021

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! It's Monday, July 12 2021. and we're excited to talk about all the fish. I'm Katrina Liebich. With the US Fish and Wildlife Service in Alaska.

I'm Guy Eroh, and I hunt down the chickens of the stream.

Our fish of the week is the sculpin. Sculpins are a really under-appreciated group of actually like really pretty interesting bottom dwelling fishes found along the freshwater marine continuum. And in general, they tend to be super well camouflaged and have large pectoral fins and big heads that taper down into basically their tail. And I guess they're just kind of opposite of that classic, sleek, roving fish type that folks are used to.

The first time I ever saw a sculpin I had no idea what was. It must have been when I was in, I guess, elementary school because I just kind of gotten into fly tying and I'd come up with my own pattern, I don't think it really mimicked anything. Looking back, I guess, is maybe a little caddis fly or something. I was really just using the materials I had on my desk, it was a little amber bead, some pink yarn, and then wrap some peacock hackle around that when I was fishing with that using a dry dropper, because that's the best fly fishing combination and fishing for trout up in the mountains out in northern Utah. And you know, you catch cutthroat here and there maybe an occasional rainbow. But then every once a while you'd pull up this really weird looking fish, it was kind of flattened top to bottom had this really big head, a huge mouth. And unlike trout, that all have the softened rise that it was covered in spine spines and the fins kind of like you'd see in a perch or a bass. But then also on the gill covers just spikes everywhere. And I had no idea what it was I had to try. And this was before we had cameras on our phones and anything like that. So I was just having to describe it to some of my parents' friends who knew fish, and a lot of them had no idea what it was because it's not a common fish that people try to catch. But eventually I found someone who uttered the word sculpin. And it's just it's a name that really sticks in your head. So I went back and we did have internet at the time. And I looked it up. And that's exactly what it was. And we were actually catching really big sculpin for the area, or for the species at least, I mean, they're usually pretty small fish, it can be hard to catch, you know, somewhere in the like two to three inch range for the ones that we were catching, were somewhere around five or six inches and hey, you know, fought like little trout. And I've since I got other stories that I could tell. But that's my first sculpin story.

And what kind of sculpin was that?

Probably a modeled sculpin. The sculpins are some that have these really big ranges and some that are really restricted to just individual lake systems. So I'm guessing that from by by where I was fishing, it was probably a mottled sculpin. But since then, you know, I've come across some other ones - prickly sculpin, Coast Range sculpin out in Oregon. We had a we had an episode a couple weeks back on the sticklebacks and I mentioned that when I was catching those things in between my feet, there's also all these other sculpins around I think those are mainly prickly sculpins. And whereas most freshwater sculpins that I know of, they tend to like really like good cobble habitat where they can get in between the rocks and kind of hang out and wait for fish and large aquatic invertebrates to kind of float on by and they're definitely ambush predators. These ones really live and thrive on this sandy habitat. And

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that's kind of more common for your coastal sort of species where they can go back out into the estuary if they want or come back into these coastal streams, and they really thrive on the sand. So that's kind of an interesting difference. But between the two, and then of course, there's marine sculpins. Fully marine sculpins. I was actually when I was up in Alaska working with you, we went down to Kodiak Island to sample some fish one time and we're catching some of these freshwater ones. And one of the guys on Kodiak bear with was surprised that sculpin came into freshwater because he was always familiar with the marine species. And when I was up there, I actually was surprised that there was any marine scuppernong because all that I was familiar with with a purely freshwater one. So I don't know much about these marine ones. But I think those are the ones that people eat right.

I don't Yeah, I mean, they're kind of a I don't know people don't target him a whole ton. I think when you're fishing for lingcod and rockfish you tend to catch sculpins and Irish Lords a lot just because they occupy the same habitat. They do have like a really big kind of bony head though in general and a fairly small body. So I don't know how much folks are eating them. you certainly can the meats just fine, but yeah, I don't think they're a huge target. I was gonna mention, you mentioned trapping on Kodiak, and I was reading something super interesting today. And it's kind of the most fascinating thing I've read about a fish recently

Please tell.

There are these two scientists. So Ellen Marsden and Harrison Toby, they discovered that sculpins can get into spaces that are smaller than their heads. Have you heard about that Guy?

How do they do that?

I guess they can compress their head and change the shape of their head. So they were trapping trout or something. And they were finding sculpin pretty large sculpin in their traps that were larger than the holes. So they ended up doing a big study about, yeah, how they can fit into spaces smaller than their head, which is, I think, fairly rare for animals to be able to do.

So they're kind of like a newborn human infant in that way, like their head, their skull is multiple bones and they're able to...

I think so I got more like reading. I was like, yeah, that's a that was just like, fascinating. I don't know if they can all do that. But definitely, yeah, at least one species can.

Wow, that's, that's impressive. I had not heard about that.

So in terms of marine sculpins, here in Alaska, and kind of down the Pacific Coast, there are I think, at least three dozen that come in from like a handful of families. And they range from tiny tide pool sculpins that are a few inches all the way up to the giant Cabazon sculpin, which I think can get around three feet and upwards of 30 pounds. So fairly large. In general, though, they tend to be a foot ish or less. I was kind of going through the names, and there's a lot of them and it's just kind of doing a it's worth doing a read through just to get a sense of what they look like. So I'm just going to read some

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names to you guys, you've got your hook ears, your smooth heads, buffaloes, antlered armor head butterflies, spiculate, thorny, staghorn warty thornback, rough skin, rough spine, big mouth, spiny head, smooth cheeks, tadpole blob, grunts and of course, your lavishly colored Irish lords, which are truly regal looking with their pinks and reds. Some of them have these really intimidating looking antler like appendages, and clubs and spines on their heads. They have them like coming out of their cheeks. So if you catch one of these, it might look a little bit intimidating, you'll see kind of those spines coming out of their cheeks, potentially, depending what species if you get a, I don't know, an arm, an antlered, or one of those buffaloes. But those are primarily from what I understand defensive in nature. So given their size, their you know, like I mentioned a foot or less in general, and if they're going up against something like a lingcod they really want something, you know, some added protections. And there are other species too. Like we talked about sticklebacks with those spines, it's basically you know, they want to prevent going into somethings mouth and getting swallowed. So they'll use those spines as defense to protect themselves from larger predators like lingcod.

So it's both a size thing and puncturing kind of thing.

Yeah, they are really cool looking

I'm guessing some of those other appendages because you sometimes see stuff coming up or like above their eyebrows and things like that is some of that for camouflage. What kind of habitats are these marine ones living in?

Yeah, it seems like camouflage. I think there was one called maybe an eyelash sculpin. I got to look that up again. But definitely matching the bottom habitats where they're found. So both in coloration, they're modeled as well, they have different, you know, just they're kind of bumpy looking. So I think they're just kind of blending in with that bottom environment. They play a really important role in the food webs in the marine habitat. So pretty cool.

They play a pretty important role in the freshwater food webs, too. They're they they're certainly a predatory species eating these, even though they're small, they'll eat these macro invertebrates that are always floating downstream, and they'll often eat smaller fish too. But then they're also oftentimes some of the favorite prey for larger fish in that systems, whether those are river bass down in the southeast or trout throughout the mountains. And I imagine in the salt water systems, they can be eaten by other things as well.

I was reading that they'll actually harass divers a little bit if they get near their nest.

I don't know if this is true for the marine ones, but I know in most of the freshwater ones that the males are actually nest guards, which isn't always common among fishes. But yeah, the males I think they'll spawn with multiple females different times throughout the spawning season, but every time they have a nest, the males will be pretty aggressive and guard that nest.

So Guy when I see those freshwater sculpin, they tend to have those big pectoral fins. What are those? What's the purpose of having fins like that if your bottom dwelling stream fish.

So you got to think in a stream. If you're living on the bottom and you want to be in this area where you've got lots of food running past you, you're probably going to be living in these riffles areas. And station holding as a small fish in a riffle area can be very hard. So that's one of the reasons you do want to be living down on the bottom is you're going to have a lot slower current down in the rocks where it's getting all turbulent up, turbulent-ed up. But then also having these really big pectoral fins can sort of just help you to stay in place. So you're not getting just pushed down the stream.

Yeah, and that's probably you mentioned them kind of being like the chickens in terms of how they move. And I think from an energy standpoint, yeah, I mean they are not built for speed their body form and they're not built for like sustained roving around kind of movement. So...

we've talked about rockfish on the show, which is a group of fishes that look in some ways similar to the sculpins if you weren't familiar with the two, and we talked about how when you pull those up the gas bladder, the swim bladder expands, and it will push the stomach out of the fish's mouth, do you see anything similar, because these are also bottom dwelling fish, when you pull up these sculpins from the bottom of the ocean,

I haven't. So these guys there on the bottom, they're built for being on the bottom and they've all been lost that swim bladder through time. So you're not going to see their guts coming out of their mouth when you pull them up from a depth.

down in the southeast. I spent some time down there. And we often will catch a few species of sculpin you know, the chicken of the sea. That's a tuna brand. But the chickens of the stream now that's what the sculpin are. Because when you go around to chase them, you know they're I don't know if you've ever chased a chicken Katrina, but I've chased my fair shares you have?

Oh, yeah, we got chickens

Oh, yeah, describe chasing a chicken.

Um, well, they are not super agile, but they will definitely run n squawk and sometimes leap into the air a little bit. I try not to chase them too much.

In my experience chasing chickens, they'll run around. And if you kind of stop, then they'll stop, they'll go a little bit and stop. They might fly up to the roof and stop. But they don't go away. If you're chasing like a pigeon, or a heron or an eagle. They'll go off and they'll fly far away, but not the chicken. So that's why these are stream chickens. As you go around, you chase them and they'll just dart away and come to another spot.

So Guy, say you pull up one of these gnarly looking sculpin. You want to keep it. How are you going to prepare it?

Alright, so as we've learned throughout this episode, I am mainly familiar with the freshwater ones and they're not something that you particularly want to eat. But if you're talking about like, say a Cabazon or one of these larger marine sculpins, you definitely can eat them. I've never personally cooked one. But I watched a video on YouTube before we recorded this podcast and this is what they did. The first thing they did, which I thought was pretty smart for cooking a really spiny fish like this, they took a big pair of scissors and they just cut off all the spiny fins just sheared them off, made it easy. And that's that seemed like a good start to me. Then, you know, typical just kind of they gutted the fish took out all the entrails, then they kind of took their knife and they scored the outside of each side of the fish. They left it head on and everything. Then they chopped up some lemon grass and they sort of beat it with the other end of the knife took some stems of cilantro. And then they had some skinned ginger and they all they chop that all up and they shoved it inside the fish. And then I guess they stuffed it they placed it inside the fish. Then they took it and they put it in on like a little vegetable steamer that was covered in banana leaves. And they just steamed the whole thing. And supposedly that kind of got the flavor into the fish. And then they served it with some sort of sauce made from jalapenos and onions and cilantro and all kinds of good sounds out of it sounded really good. And now as we've talked about on this show, before, the type of flesh that you're gonna get with a fish is related really to its the way it makes its living. This is a classic sit and wait predator. So even though I haven't tasted them, I'd be willing to bet that this fish has some really good white flesh on it because they're kind of sitting around. They don't need all that red muscle for constant movement for aerobic respiration going on in there. So they're probably just relying on anaerobic respiration. Just sit and wait and pop up. Get that fish and so they probably are white meat fish.

Yeah. And I was reading people makes ceviche with them, too.

Oh, that sounds good. Sounds good.

That'd be good.

Oh, yeah, you really want the citrus with those white foods.

I think it would be cool to do like a sculpin challenge and see if you can catch all the freshwater and the saltwater ones because they I mean, they're cool. I think that would be a really fun challenge to do.

Oh, totally.

I challenge anybody who's up for that to go catch all the sculpins in the marine and freshwater environments.

I'm gonna try and catch some prickly ones when I'm out in Oregon later this summer. I'll let you know how it goes.

Okay, sounds good. Well, we hope that everybody gets out there and enjoys all the fish and go catch some sculpin they're super cool.

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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 and story edited by Charlotte Moore. Production management by Gabrielle Montequin. Post production by Alex Brower. Fish of the 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 things 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