

for a loftier grand slam

A Sacramento-San Joaquin Watershed Grand Slam has been on my mind frequently of late. Now I'm not gabbin' about some stupid fucking baseball game, nor the typical fisherman's "Sierra Grand Slam" - a brookie, goldie, 'bow, and brown in one day - an attractive if hackneyed ideal, and one that I've attained. No, no, no, I'm thinking of, pining for a *pithier* Grand Slam, a *native* California Grand Slam, one that simply can't be earned in one day since the four species I'm lusting for are far more formidable opponents than some meathead chucking fastballs or some high-elevation trout desperate to eat anything in their miniscule growing season. I'm dreaming of a native-minnow Grand Slam, of being the stud able to catch well, through all seasons, Sacramento squawfish, Sacramento splittail, hardhead, and hitch. And it's quite a lofty goal, given the lack of information about these four relative to the average game fish - trout, black bass - compounded by the restricted distribution of splittail, hardhead, and especially hitch. So to inform the growth, to accelerate the relationship, I felt it'd be worthwhile to kick down and couple some scientific juice about these bad muhfuggahs with my own experiences.

Okay, so the Big Four, evolving in the same watershed for millennia and deriving from a common ancestor, share many attributes. First, they get big, they live long, and they produce a ton of eggs, features that allow 'em to escape shrinking waterways during prolonged droughts while exploiting expanded waterways in the eventual wet year (Winemiller and Rose 1992), both recurring conditions in California. Second, all four are spring spawners that separate their bedrooms from their living/dining rooms: splitties dump eggs on floodplains but chew in turbid tidal waters (Feyrer *et al.* 2015, Moyle *et al.* 2004); squaws and hardhead shoot babies onto pea-sized gravels, often in small tributaries, but haunt deep pools when not lovin' (Grant and Maslin 1999); and hitch also pepper gravels with eggs, frequently in ephemeral streams (Feyrer *et al.* 2019), but chill in still or very slow-flowing waters (Leidy 2007, Jeffres *et al.* 2006). Third, they have both a chain of bones connecting their ear to their swimbladder ("Weberian ossicles") - an amplifier, basically - and a pheromone that warns others of danger, so they are very sensitive to sound and smell, useful features for a watershed that was frequently muddy (though all four can see pretty well, too - they have average-sized eyes, and splittail's skull shape facilitates downward vision). Deducing from the foregoing, two more attributes must exist: the Big Four must be exquisitely sensitive to flow changes, and they must feel very comfortable when light is low.

Now for a few notable species-specific quirks.

THE BETTER LARGEMOUTH

Squaws are unique among the four in that they own a big fuckin' mouth and aren't shy about using it: they are the only one of the four that chomps other fishes. For the most part, squaws munch benthic fishes: yellowfin gobies and prickly sculpins (Nobriga and Feyrer 2007). However, they aren't that picky and will happily nab an errant silverside, shad, small salmon, or even their own young (Stompe *et al.* 2020, Brown 1990) if they've the chance. Similar to other top predators, such as brown trout and largemouth bass, adult squaws will also feast on crowdads. Translating science into art, typical fish- and crowdad-imitating lures that work for trout and bass - swimbaits, jigs, and plugs - should also work for squaws. And fuck me, they do - I've banged lovely squaws from a foot-and-half to well over two feet on Pointers, on tube jigs, sculpin swimbaits, crowdad swimbaits, and, at night, buzzbaits and Sammys...with a little bit of

fish scent rubbed on the lures. Nevertheless, each lure type is not equally attractive to squaws through all seasons. A recurring pattern is that squaws will annihilate a fast-moving hardbait far more in spring and autumn than in summer or winter. Turns out that, unlike many other fishes, squaws swim fastest in cool water (Myrick and Cech, Jr. 2000) - they just don't have the legs to run down a rippin' jerkbait when it's either blazing hot or freezing cold.

THE BETTER SMALLMOUTHS

Grouping splittail, hitch, and hardhead together is sensible given all of 'em own cute little mouths that preclude piscivory. Instead, they're mainly bug-eaters: splittail chew clams and scuds and mysids (Feyrer *et al.* 2003); hardhead'll slurp aquatic insects and crawdads (Moyle 2002); and hitch'll feast on zooplankton, midges, and terrestrial bugs (Geary and Moyle 1980). Expressions of their small mouths and their low reliance on sight for feeding - they are far more susceptible to small, live baits than to lures, and they are delicate, prolonged biters, seemingly needing to knead and savor a bait to decide whether it's food even if the water's clear, not unlike either their non-native relative common carp or their common buddy Sacramento sucker. With inedible junk mixed with insects in stream drift, with inedible junk mixed with worms and scuds and clams on the bottom, with little light available in the murky water for quick prey identification, it's a starvation strategy for such fishes to feed in fast currents. Instead, where bugs and clams and worms concentrate, and where they won't get swept away by fast flows, that's a more profitable buffet. In a word: eddies. Splitties much prefer chewing in eddies at deep confluences from mid-flood to mid-ebb, and though hardhead will move into riffles at dusk, both hardhead and hitch - man, especially hitch - nearly always feed in mellow eddy water close to seams.

ACTUALIZATION

So how's a fish Romanticist put this info into practice to get some action with these lovelies? Welp, these big minnows demand more for success than the typical largemouth and the omnipresent rainbow. Gotta pay very fucking careful attention to river flows, especially in spring, and knowing small tributaries with good gravel is fuckin' KEY since pre- and post-spawners will be nearby eventually (don't be an asshole by fishing spawners). Can't ever ignore those big, deep, slow pools for hardies and squaws and hitch. Gotta do the business at dawn, dusk, at night under a big moon, or, if the water's turbid and/or the sky grey, during the day. Have to step upstream only and with a soft foot - don't wanna catch a fish that releases the danger cue and scares desired fish holding downstream, and don't wanna bang the gong of those Weberian ossicles. Need to be critical about pulling out a fast-and-jerky thing for the big-mouther during summer and winter. If small-mouthers are the quarry, fuck Christ - gotta keep the presentation slow and smooth and real and small, especially if the water's turbid, and gotta keep it on the soft side of those debris and foam lines. Distilled - gotta keep continuously attuned to Nature's myriad rhythms, get absorbed into those rhythms, for connection to come.

And going the cheap, lazy route to look for the hot tip on the game-fish-saturated Internet chatterboxes - ain't gonna help 'cause they've few words, fewer of value, on these magnificent, mysterious fishes. And maybe that's why the average modern fisherman shuns our big, beautiful native minnows - they demand too much from those willing to expend so little.

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