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## What's a trash fish?



Why do we label certain unfortunate fish species as "trash fish"? Which characteristics lead us to do so? While some traits are obvious, others are less

apparent. First and foremost, most species we consider trash fish on the Gulf Coast simply aren't appealing to our palate. But one man's trash fish is another man's delicious dinner; for example, bluefish (*Pomatomus saltrix*) are popular table fare along the East Coast of the United States, but are seldom eaten along the Gulf Coast. Sometimes, a fish can shed the "trash fish" moniker; for instance, gray triggerfish (*Balistes capriscus*), one of the tastiest fish in the Gulf, was once considered a trash fish!

This month, we'll explore some of the Gulf Coast's most notorious trash fish, and take a closer look at some of their most interesting characteristics. Who knows - perhaps you'll be inspired to try one! But then again, perhaps you shouldn't...

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## Crevalle jack, *Caranx hippos*



The crevalle jack, *Caranx hippos*, are a popular game fish due to their size, strength, and aggressiveness. They are found on both sides of the Atlantic, and can be caught in shallow estuaries to offshore waters out to the continental shelf. One of the largest jack species, crevalle jack typically weigh in at greater than 30 lbs. They are often found in large schools, though larger individuals can sometimes act more solitary. Crevalle jacks are not typically consumed in the United States; however, they are an important commercial fish in many Central and South American countries. Their populations are currently considered stable throughout most of their range, and they are typically unregulated in the recreational sector.

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# Hardhead catfish, *Ariopsis felis*



HARDHEAD CATFISH  
*Ariopsis felis*  
Illustration by Joe Jewel, MS DMR

Hardhead catfish, *Ariopsis felis*, are easily one of the most despised fish species found in the northern Gulf of Mexico. They are euryhaline (tolerant of saltwater and freshwater), and inhabit coastal waters and estuaries from North Carolina to Mexico. They are relatively small, typically less than 3 lbs, with venomous serrated spines located on their fins. After spawning, males protect the eggs *in their mouths* for weeks until they hatch (our next species, the gafftopsail catfish, does this as well). Hardheads are considered foul tasting by most, which when combined with their painful spines and slimy scaleless skin, makes catching them a major nuisance for recreational fishermen.

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# Gafftopsail catfish, *Bagre marinus*



GAFFTOPSAIL CATFISH  
*Bagre marinus*  
Illustration by Joe Jewel, MS DMR

Gafftopsail catfish, *Bagre marinus*, are easily distinguished from their cousin the hardhead due to their long barbels and long trailing fin extensions on their pectoral and dorsal spines. They are about twice as large as hardheads, frequently growing to over 7 lbs. They also occupy a much greater range than the hardhead and can be found in coastal waters ranging from New England to Brazil. In the United States they are not typically consumed; however, they are considered better eating than hardheads and some locals swear by their taste. South of the United States, gafftops are a valuable commodity, making up over half of the entire commercial fishery for the state of Tabasco, Mexico.

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## Trash Fish Science

While they may not be your first choice at a restaurant, these trash fish are critical components of Gulf Coast ecosystems. One of the most important ways these trash fish influence their ecosystems is through their diet. Understanding their diet is critical for understanding how shifts in these species can potentially affect other fish species.

Knowing this, we decided to investigate the diets of these trash fish using an advanced genetic technique (DNA metabarcoding) to reveal everything these fish have eaten, no matter how digested the prey items are.

### **What's on the menu?**

*Crevalle jack* - As most recreational fishermen already know, crevalle jacks are

veracious predators that will consume pretty much anything they can sink their teeth into. They will frequently follow shrimp trawlers, gorging themselves on trawl discards until their stomachs swell to the size of footballs. Surprisingly, one of the jack's favorite prey appears to be catfish (despite their spines)! It is not uncommon to find crevalle jack stomachs filled to the brim with the remains of small catfish. We have even seen large catfish spines on the exterior of jack stomachs, indicating that the spine had punctured the stomach wall without killing the jack. Some of the other interesting things we have found include sharpnose sharks and red snapper.

*Hardheads and Gafftops* - Despite their similar appearance, hardheads and gafftops appear to feed on very different prey items. We have found that hardheads feed predominantly on invertebrates, such as shrimps and crabs, and only rarely consume fish. When a fish is found in the stomach of a hardhead, there's frequently evidence that it was scavenged. However, with gafftops, fish make up the majority of prey items found in their stomachs. Interestingly, we have also found that gafftops will frequently consume hardheads that are up to half their own size. This difference in prey preference likely explains why both catfish species can persist in such high densities in the northern Gulf of Mexico.



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Contributing authors shown with their favorite fishes: Amanda Jefferson (triggerfish), Extension associate, and Matt Jargowsky (red snapper), Mississippi State University graduate student



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