You get a line and I'll get a pole, honey
You get a line and I'll get a pole, babe
We'll go down to the crawdad hole
Honey, baby, mine.

— Traditional folk song

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Going down to the crawdad hole is as much a part of spring in Louisiana as the azaleas blooming. Hordes of people spend their weekends along ditches and bayous hoping to snag some of the dirty-brown looking crustaceans.

And for the most part, that's what you find. Dirty-brown mudbugs. But two Baton Rouge men - Jay Huner and Ronnie Bean - are spending their time concentrating on crawfish that are quite different from the ones we see on a daily basis - crawfish that are different in color and in texture.

Huner and the folks at Southern University's Center for Small Farm Research also are spending their days fishing crawdads out of the pond. The difference is that a few of their crawdads are some unusual colors. Like yellow. That's right, yellow.

Blue and white crawfish have been around for some time, but researchers are now finding an even rarer strain - the yellow crawfish. Huner, a professor of fishery biology at Southern, said the yellow crawfish is, like the blue and white crawfish, a gene mutation.

The crawfish we're all used to fishing out of the bayou is called a red swamp crawfish. "So these actually are yellow, red swamp crawfish," Huner said. "Which is a real tongue-twister.

The yellow crawfish first were reported in Spain by Albert P. Gaude III, director of University of Southwestern Louisiana's Crawfish Research Center. About 50 pounds of crawfish from LSU's ponds and 1,000 pounds from ponds north of Monroe had been sent to Spain. Gaude went there in the mid-1970s to see how the crustaceans were doing. While there, he found the yellow crawfish. Later, researchers at LSU found yellow crawfish in their ponds.

Southern stocked some of its ponds with crawfish from LSU and, lo and behold, now they've got yellow crawfish.

But before you begin thinking the crawdads you'll be eating in the future won't be that familiar brown before cooking and bright red coming out of the pot, these yellow crawfish are rare. How rare? About 1 in 1,000, Huner said.

Actually all the color mutations of crawfish — blue, white and yellow — are rare and make up less than one-tenth of 1 percent of all the crawfish harvested.

The color mutations are caused by simple recessive gene mutations, Huner said. Of the blue crawfish there are two colors — light and dark. "The very dark blue is what we call sex-linked, and basically, what happens there, if both genes show up in the male he dies. He's never born. And so basically what you find in the dark blue is the female," Huner said.

But researchers aren't sure yet what gene or genes cause the yellow crawfish. It may involve a simple pair of genes, as is the case with the blue and white mutants, or it may involve a number of genes so that some crawfish will be yellower than others, Huner said. Research is under way to determine the inheritance patterns of this unusual crawfish.

The color of crawfish also is influenced by the crustaceans' environment. When crawfish are grown in an area without green plant material available, they tend to be lighter in color. "You could take a perfectly normal crawfish and grow it in an aquarium without green plant material and it would come out greenish-blue. And people would say, 'Oh, I've got a blue crawfish.' Technically they're right, but genetically they're wrong."

So far it doesn't appear that the color difference is either an advantage or disadvantage to the yellow crawfish. "It's either neutral or has some negative connotation, and the reason I say that is if there was any advantage many more would have them," Huner said. "But it could just be simply neutral. Since there's no advantage to it, it just occurs and that's it."
Ronnie Bean with his soft-shell crawfish harvester

But if color doesn’t have any effect on a crawfish’s life—the hardness of its shell does. And if you’ve been to a restaurant lately, you know soft-shell crawfish are in demand.

Ronnie Bean, who is working with Josef Sternberg on crawfish ponds he owns west of Baton Rouge, is trying to help meet that demand. Bean and another man have developed a soft-shell crawfish harvester that coaxes the vulnerable mudbugs up into the water.

Until now, catching soft-shell crawfish was sort of a matter of chance, unless you raised them in a tank, watched for when they began to molt and then grabbed them. Bean thinks it has real potential as a market.

Actually, all crawfish have soft shells—several times during their lives. Bean said a crawfish will shed its shell about 13 times before it reaches maturity. But the crawfish go into hiding when they shed the skin, “because their neighbors would happily eat them,” Bean said. “That’s why there are people who’ve been crawfishing all their lives and don’t realize there are soft-shell crawfish out there.”

Since these shedding crawfish won’t venture out into a trap, Bean started looking for a way to harvest soft-shell crawfish in ponds. About six years ago Bean was working for Con-Agra, which was allowing LSU researchers to use some of their facilities for a project on harvesting crawfish. “The student kept coming up with a lot of soft-shell crawfish in the catch, and he was throwing them back. He thought he’d ruined his research project.”

Bean realized the “marketability” of such an idea and went to work. He and his partner have obtained patents for their harvester, and the harvesters should be available next year on the market.

The way it works is this: A long tray-type device is attached to the front of a boat. It’s supplied with electricity from a generator in the boat, and a current is pulsed through the water forcing the soft-shell crawfish to swim to the top of the water. They’re then picked up in the tray, pulled up into the boat by another device and the person driving the boat puts the soft-shell critters on ice and keeps the hard-shell ones for regular use.

“It’s a tickling device that makes them swim,” is Bean’s description of his invention. “A good analogy would be a tickler on a shrimp trawler.” While the harvester does bring in soft- and hard-shell crawfish, it’s not as efficient on hard-shell crawfish at this time. That’s something Bean is hoping to refine.

In fact, he said the harvester has the potential to revolutionize the crawfish industry by getting rid of one of the big bottlenecks in the industry—traps.

“There are two bottlenecks within the crawfish industry that, until they’re solved, are going to keep this from being a major agricultural enterprise. One of them is peeling the crawfish by hand. It costs a dollar a pound and is very labor intensive. We need to develop a mechanical peeling machine.

“On the other end, from the farming standpoint, it’s harvest. It may cost alone to harvest 100 acres of crawfish about $15,000 a year, and until that can be eliminated and harvesting mechanized, you’re not going to have farmers who can survive on 30- or 40-cent-a-pound crawfish.”

Bean is reluctant to give a figure while the harvester is being manufactured but estimates it may run in the $15,000-$20,000 range. That sounds like a lot, but you have to weigh it against conventional costs. In addition to the $15,000 for bait alone for a 100-acre farm, you also have the costs of traps—at $6 apiece.

Bean won’t be involved in manufacturing the harvester. He’s licensed another group of people to do that. They’ll lease the harvesters rather than sell them, so they can maintain the equipment, he said.

Meanwhile, the market for soft-shell crawfish continues to grow. Bean said crawfish from the ponds he works with the harvester are being sold as far away as Japan and Sweden.

He classifies the soft-shell crawfish he catches in two categories: butter soft and paper shell. The butter-soft crawfish can just be sauteed and eaten. The paper-shell ones are best fried. Either way, “they’re good eating,” he said.

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