



The CRAYFISH TALE

CRAYFISH AND HEAVY METALS

If you are like me, you also like sea food. After deciding to cut down on red meat, my wife and I often extend our vegetarian food with an occasional entrée of fish and, of course, crayfish.

But lately we have read several articles concerning the problem of toxic metal poisoning in the meat of large fish such as swordfish, tuna and Chilean sea bass and even halibut. These are big fish, and they are at the high end of the food chain. In other words, they eat the small fish with small amounts of toxic elements, but in time the bad toxins accumulate and finally become dangerously high for human consumption. So we avoid the foods that have been found to contain too much of these dangerous metals or toxins.

Research shows that methyl mercury can cause a developing brain to fail making crucial neural connections, leading to possible lowered intelligence and concentration problems. The EPA recommends that young children and women of childbearing age limit their consumption of foods that may contain mercury, such as fish caught in contaminated lakes and streams.

Among the many metals we should be concerned about are lead and mercury for which there is no need in the

human body even in minute amounts for optimum health. Several agencies in many countries have developed tables indicating what level of heavy metals is dangerous for our health, especially if we are youngsters or pregnant.

As these tables all differ to some extent, I come to the conclusion that we are talking about something that is not an exact science. Most of these tables concern themselves with ocean fish and sea food that is large such as swordfish and tuna.

CCF, the nonprofit Center for Consumer Freedom, arrived at a conclusion about the mercury levels in the fish Americans eat, and the public health consequences these levels might bring. They collected 142 samples of fresh and canned fish from 36 retail stores in the Washington, DC, metropolitan area. The samples included tuna, swordfish, farmed and wild salmon, Chilean sea bass, and rockfish (striped bass).

Then an independent laboratory in Seattle performed tests on these samples to determine the concentration of mercury in them. Mercury levels ranged from 2.85 parts per million (ppm) in some swordfish samples to less than 0.01 ppm in the lowest sample of farmed salmon. Yet, the Food and Drug Administration concluded that every fish sampled in this study was safe to eat.

But what about crayfish? Do

they also contain some of these

dangerous toxins? As they are seafood, and we are warned about too much heavy metal in some sea foods, should we not be concerned about our intake of crayfish too?

To start with, there is an important difference between crayfish and large fish at the top of the food chain. Crayfish live in fresh water and not in the oceans which are known for the increasingly high levels of toxic heavy metals like lead, cadmium and primarily mercury. In addition crayfish are relatively small and at the low end of the food chain. So maybe we have nothing to worry about. Let's see.

Fresh water sources are not free from heavy metal toxicity. Often there is a natural amount of lead or mercury in the water that simply comes from sources which we have very little control over. One such is mercury carried in air masses from across international boundaries.

Then there are the localized sources emanating from industrial sites such as factories or mining operations. Those are the sources to be concerned about. Mercury is emitted primarily by incinerators and power plants that burn coal. The Environmental Protection Agency (EPA) says that 846,000 miles of U.S. rivers and 14 million acres of U.S. lakes are so tainted with mercury that eating their fish could pose health problems for children and pregnant women. Almost every freshwater body in the world is contaminated to some extent with mercury from sources all over.

It was much harder to find data that showed how much of these unwanted metals are found in crayfish or other crustaceans. But I tried. And naturally, my main source for this data was my old friend the Internet and the search engine Google.

Let's see what I found. In a publication issued by the Louisiana Academy of Sciences I find this encouraging statement. "The study found mercury levels in crawfish too low to pose a significant health risk." Being in Louisiana, could they possibly be biased? And in Wisconsin, mercury determinations were made on crayfish sampled at 34 locations along the Wisconsin River. Residue levels of mercury in crayfish abdominal muscle ranged from 0.07 to 0.56 ppm on a wet weight basis; a lot lower than the Louisiana group found acceptable.

Another study finds that the purging of crayfish is a process which aids in the removal of unabsorbed toxic and other (!) material from the digestive tract.

The findings concerning mercury in crayfish are confusing to say the least. You have to read between the lines. However, with the exception of pregnant women and very young children, I believe that older, or shall we say, more mature people, have little to worry about. Even if you have ingested some species that may have had high mercury levels, one source points out that methyl mercury is removed from the body naturally although it may take over a year for the levels to drop significantly. To check the level of mercury contamination in your local lakes or rivers, check this web site: www.epa.gov/ost/fish.

As a crayfish lover of many years, I do check my local waters to avoid obvious health threatening pollution. But as I am neither pregnant nor a tiny tot any more, I merrily thaw out my 30-packs of frozen crayfish twice a month and enjoy it immensely. The neural connections be damned. Join me!

Trapper Arne

