Kratom: The Supplement That Will Kill Godzilla

By Josh Bloom — January 13, 2016

[1] U.S. Marshals, acting on a request from the U.S. Food and Drug Administration [2] seized yet another ridiculous "dietary supplement," and this one's a doozy. About 90,000 bottles of a bunch of garbage with the brand name RelaKzpro, which is sold by Dordoniz Natural Products of South Beloit, Illinois, were confiscated.

The substance that got them raided is called kratom, and it is derived from leaves of the *Mitragyna Speciosa* tree, prized for its natural psychoactive effects. *M. speciosa* is indigenous to Thailand but it's banned there, so why is this pharmacologically active drug considered to be a legal supplement here?

That is a mystery of our bizarre Dietary Supplements Health and Education Act of 1994 (DSHEA) law which exempts drugs if they are called supplements [3]. "We have identified kratom as a botanical substance that could pose a risk to public health and have the potential for abuse," said Melinda Plaisier, the FDA's associate commissioner for regulatory affairs. "The FDA will continue to exercise our full authority under law to take action on these new dietary ingredients, especially if they ignore the notification requirements, as part of our commitment to protecting the health of the American people."

At the risk of missing out on a life experience, I doubt I'll be trying this stuff anytime soon. Here is how one user described its effects. He is one damn fine writer, stoned or not.

"Very quickly, anxiety and feelings of profound wrongness set in. I was getting closed eye visuals of people who seemed to be covered in mold or fungi and hearing a kind of toothless mumbling that disturbed me immensely. It sounded like the noise a severely mentally challenged person might make, and my head was full of thoughts of ordinary people subjected to ruinous torture and experimentation."

That's some damn fine prose. Crazy, but nothing short of a work of art. What's in there? Keep reading. It's beyond belief. If, after reading this article and knowing what kratom does, you still want to get your hands on some of it, it couldn't be easier. It's available online [4] and with the exception of four states legally.
If there were ever a Cy Young award given for a pharmacological fastball going by regulators, this stuff would be in contention. Why? For starters, kratom is not one chemical substance, it is a mixture of more than 40. Twenty-five of them belong to a broad class called alkaloids nitrogen-containing chemicals that are found in plants, many of which are potent poisons.

A single drug can have multiple side effects, sometimes from interacting with enzymes or receptors that it was never intended to affect. This is called off-target toxicity. Antidepressants are notorious for having multiple psychological and physiological effects. But, when 40-plus chemical compounds, many of which have never been studied, are involved, you might expect to see quite a bit of this.

You would be right. Mitragynine itself, the major psychotropic alkaloid that gives kratom its properties binds to a Costco shopping cart full of receptors. Below is a table with a partial list of some of the known receptor targets of mitragynine, and the function of those receptors. Keep in mind that this table does not speak to the relative binding affinities of the drug to the receptors in question—something that is crucial when evaluating pharmacological effects.
Pretty impressive. This stuff will not merely interact with just about every receptor in your body, but also the guy sitting next to you on the subway. Perhaps the warning label should look like this:

True or not, it wouldn't be much of a stretch to argue that something with a receptor binding profile such as this could kill Godzilla. Who knows? Maybe it already has. This may infuriate Mothra fans, but you just never know.
Of course, a concoction of drugs that hits every receptor in the universe would be expected to have an impressive array of pharmacological properties. This would seem to be true, as described by a bunch of people who tried it.

It is rather humorous to note how the same drug elicits the exact opposite effect in different people:

"During my class, I felt more interested in what the teacher had to say then I normally would" and "I could barely focus. I'd notice split seconds where my mind would just black out."

"All of a sudden I could swim 1.5 miles non-stop, no problem" and "I literally don't do anything besides lay on my couch when I'm on kratom."

"Sometimes it makes me feel like the world is just so beautiful and I just start crying." and "Human faces appeared to be altered. ... For example, an old fat granny who had trouble walking, made [me] feel really miserable and horrified of life's reality, just by looking at her.

"I spoke with a doctor and there is virtually no side effects. and "My] symptoms include: intense/full body itching, nausea, dizziness, drowsiness, sweating, urinary retention, blurred vision, dry mouth, thirst, trembling, shallow breathing, slow heart rate."

"I use kratom as a pre-workout before I go to the gym or the dojo. About an hour after a nice dose I feel like I can kick holes in walls and shit." and "The pain was so intense I was very worried about crashing on my way [to the ER."

"Recently [my fiancee and I] have both experienced a rather unpleasant side effect; we feel cross-eyed" and "I have notice improved eyesight. Specifically colors seem slightly brighter and my
"Since using kratom I have noticed some major improvement in my digestive process" and "I was feeling hot and sweaty and extremely nauseous. I eventually went to the bathroom and vomited green sludge."

Saving the best for last (don't blame me I didn't write it): "My [girlfriend] insists kratom gives her the runs." and "I noticed my poop is forest green and much wider. | In fact, when pooping I feel as if I m being anally raped by Shaq! " Well, isn't that charming? Good dinnertime talk too.

Any of these side effects might get a new drug rejected by the FDA. But all of them together?? And the exact opposite response in different people? I've never seen anything like it. Since this stuff is obviously 50 shades of strange, I can't help but wonder how much lobbying against this the self-appointed guardians of human health (that are supposed to be environmental groups), such as Natural Resources Defense Council and Environmental Working Group have to say about it. Not a thing. Not SourceWatch either.

Kratom is actually dangerous, but maybe they are too busy trying to strong arm companies into removing harmless traces of BPA, formaldehyde and parabens from their products to tackle something that is a legitimate health risk but has no giant corporations to extort money from. If you want to check their websites to see their position on kratom, I'll save you the time:

No Results Found
The page you requested could not be found. Try refining your search, or use the navigation above to locate the post.

This is another example of a drug (this time, a concoction of 40+ drugs) that has no business being sold anywhere but is being sold by supplement companies. It may or may not have some utility, but like many supplements, it can be dangerous. It can literally make you crazy. Yet, thanks to the Hatch Act (DSHEA) of 1994, this can be done legally, at least for now. Now, that's really crazy.