

## #RESEARCH

### Reusing Soft Plastic Bottles



In new reusable bottles, close to 500 different substances remained in the water after an additional rinse. Over 100 of these substances came from the plastic itself.

Reusable bottles made from soft plastic release several hundred different chemical substances in tap water, research finds. Several of these substances are potentially harmful to human health. There is a need for better regulation and manufacturing standards for manufacturers, according to the chemists behind the study. We were taken aback by the large amount of chemical substances we found in water after 24 hours in the bottles. There were hundreds of substances in the water-including substances never before found in plastic, as well as substances that are potentially harmful to health. After a dishwasher cycle, there were several thousand," says Jan H. Christensen, professor of environmental analytical chemistry at the University of Copenhagen's department of plant and environmental sciences.



Christensen and fellow researcher Selina Tisler detected more than 400 different substances from the bottle plastic and over 3,500 substances derived from dishwasher soap. A large portion of these are unknown substances that the researchers have yet to identify. But even among the identified chemicals, the toxicity of at least 70% remains unknown.

Photo-initiators are among the toxic substances in the water which worry the researchers. These are known to have potentially harmful effects on health in organisms, such as being endocrine disruptors and carcinogens. Furthermore, the researchers found a variety of plastic softeners, antioxidants, and release agents used in the manufacture of the plastic, as well as Diethyltoluamide (DEET), commonly known as the active substance in mosquito spray.

They tested three different types of drinking bottles, all of which are found in Danish stores. Two of the bottles are made of biodegradable plastic, according to the manufacturer. Both new and heavily used bottles were used. The bottles were tested both before and after machine washing, and after five extra rinses in tap water.

The researchers carried out a so-called non-target screening (NTS) using a liquid chromatograph and a mass spectrometer, where, as with traditional methods, it is not limited to analyzing the substances that are suspected to be present, but instead screen for all substances present.

In their experiments, the researchers mimicked the ways in which many people typically use plastic drink water. People often drink water that has been kept in bottles for several hours. The researchers left ordinary tap water in both new and used drinking bottles for 24 hours, both before and after machine washing, as well as after the bottles had been in the dishwasher and rinsed thoroughly in tap water.

"What is released most after machine washing are the soap substances from the surface. Most of the chemicals that come from the water bottle itself remain after machine washing and extra rinsing. The most toxic substances that we identified actually came after the bottle had been in the dishwasher-presumably because washing wears down the plastic and thereby increases leaching," explains Tisler, a postdoctoral researcher in the department of plant and environmental sciences.

In new reusable bottles, close to 500 different substances remained in the water after an additional rinse. Over 100 of these substances came from the plastic itself. She emphasizes that they have yet to conclude whether the water in the bottles is harmful to health, as they currently have only an estimate of the concentrations of the substances and toxicological assessments have yet to be completed.

The researchers suspect that bottle manufacturers only add a small proportion of the substances found intentionally. The majority have inadvertently occurred either during the production process or during use, where substances may have been converted from other substances. This includes the presence of the mosquito repellent DEET, where the researchers hypothesize that as one of the plastic softeners degrades, it converts into DEET.



What would you call COVID-19? A pandemic or something else? Though epidemics and pandemics have been a part of the world history since the beginning of time, what was so special about this pandemic that brought the entire world to a grinding halt? Was it that dangerous a virus? These questions riled Brian Pottinger to such an extent that this retired journalist from South Africa lost his temper and decided to find the answers which resulted in an eye-opening book "States of Panic: Covid 19 and the New Medieval"

## Was Shut-Down Ever Essential? (...1)



Shailaza Singh  
Published author, poet and a YouTuber

### #COVID

But how was it that the virus never spread to Shanghai or Beijing from Wuhan but travelled all over the world?

Brian says, "Initially people argued that this virus was transmitted by droplets but then they started saying that it was an airborne (transmitted through air) infection. No matter what the medium may be, I don't think that masks by any means can completely stop the transmission. However, where masks really help is that they help in stopping the transmission of the disease from the wearer to the other person. In that sense, the Chinese habit of wearing masks dates back to the breakout of the SARS (severe acute respiratory syndrome) epidemic in 2002. Since that pandemic, the Chinese people have been quite particular about wearing masks in public places. I think the discipline that the Chinese population has about wearing masks was the prime reason that helped in controlling the virus. The Chinese quickly isolated the area of Wuhan and locked down the population. Moreover, the biggest factor that helped in arresting this virus in that country is that China predominantly has a young and healthy population unlike UK or USA."

**Novel Virus Not So Novel**

The book says, "The rate of discovery of new viruses has been about 3.57 species per year although there has been a discernible decrease in the recent years. The important point to grasp is that the emergence of a new or 'novel' virus (one that has never been recorded before) is neither exceptional nor necessarily

daunting. We have annually been discovering new and novel viruses on an uninterrupted basis since 1901 when the first "filterable agent" was uncovered in yellow fever virus. New and novel viruses have been hitting us every year for the last 120 years, but we have never found it necessary to close down the world. So why did we do it for COVID-19?"

Brian further writes, "What was so 'novel' about COVID-19 that we had to close the world when three to four new or novel viruses hit us every year and at least once a decade our species is subject to a virulent infection of some nature that claims millions of fatalities?"

"Why were we so terrified when we knew very early on that more than 80 percent of those infected would get it so mildly that they might not even notice and that less than five percent would suffer seriously enough to lead to hospitalization, that its target group was overwhelmingly the elderly and then 77% of the fatalities had prior severe underlying conditions?"



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Predictions overflow

Historically Speaking

In his book, the author has devoted a chapter on each of the epidemics that has hit human race so far in the recent history.

The first in his list was the Black Death that was a plague caused by bacteria that infected people in Europe from 1347 to 1352 which had the case fatality rate or CFR (the proportion of people diagnosed with a certain disease, who end up dying of it) of about 60. He says that the estimated deaths from that plague in today's context were about 265 to 400 million people. He talks about how when nothing helped, people started blaming God and Jews for the plague. Similarly, the Spanish Influenza which lasted from 1918 to 1920 which was an NIH1 strain of coronavirus that swept to Europe took away 17 million people (which was about one percent of the world's population). Though the disease was called Spanish Influenza because



### World Whale Day

Plants of the ocean are celebrated on World Whale Day, which aims to raise awareness of these magnificent creatures, their beauty as well as their ecological value to the planet. The annual day, World Whale Day, was founded in Maui, Hawaii in 1990 to honour humpback whales, which swim off the coast of this tropical island. This day was started as an idea by Greg Kauffman, founder of the Pacific Whale Foundation, to raise awareness about the threat of extinction faced by humpback whales.



Black Death

origins in China and besieged the world in 2002-2003. It had a CFR of 11% which was way more than Covid-19 which has a CFR ranging from 0.1% to 1%. However, during this period, the Chinese authorities were quite late in informing the international community about this novel coronavirus which still has no vaccine till date. The virus mainly attacked the elderly and people with previously underlying conditions. Nevertheless, the world was not locked down despite the high CFR.

The author further states that in 2012, Middle Eastern Respiratory Syndrome or MERS-CoV killed 866 out of 2519 people that it had infected in the Saudi Arabia. Interestingly though the CFR was 36, there were no lockdowns or public attention since it was in Saudi Arabia, a country which wasn't as important or media savvy as UK or USA.

Brian talks about Swine Flu (H1N1) which 2009-10 killed 1849 people out of the 1,63,270 people it had infected in United States and Europe. This caused the US government to declare a public health emergency which led to the popularization of Roche's Tamiflu as a vaccine all over the world. The World Health Organization or WHO which led to the setting up of call centres where agents who had no knowledge of anything remotely associated with medicine handled calls from millions of people who were advised to take Tamiflu and rest. The author says that though it had been clear from the initial research that this was a relatively benign strain of the seasonal flu, WHO declared this as a global pandemic. Later on, a lot of authorities in Germany and other parts of Europe publicly accused WHO of creating public hysteria by declaring normal flu cases as a start of the new pandemic to serve the interests of big pharmaceutical companies which according to the author was a feat that was repeated in 2020.

Brian also talks about severe acute respiratory syndrome (SARS-CoV-1), another illness that had its reputation, including world-famous red wines and elaborate dishes. A favourite pet name, however, is "my cabbage" (mon chou), and of course, the intention is the same. It is a term of endearment. Italy is another country known for its culinary delights. A man without a woman is like spaghetti without Parmesan, is a common Italian saying. The nickname "little onion" seems a bit strange. Certainly, any dish sautéed with onions tastes delicious, but chopping the vegetable is not always a pleasure. It's the same with love - you have to put in the effort to make it taste and work in the end. Speaking of affectionate names involving food: In Spanish, "my fatty" is supposed to be a term of endearment. It seems a couple would have to be looking back at many years together for that to be okay, because quite honestly how would you react if you were called "fatty" on a first date, regardless of the intention?

**Love 'Goes' Through 'The Stomach'**

Besides flowers, chocolate is a popular gift on Valentine's Day because love and food go hand in hand - according to a German idiom, "love goes through the stomach." Pet names in some countries suggest that food is love and love is food: "my licorice" (dropje) in Dutch and "plum" (sveske) in Danish. Licorice is a national favourite in the Netherlands, so the pet name seems logical. Plums in Denmark sound more exotic, which just might be the intention. In English, it is not uncommon to hear people say "pumpkin," "cupcake" or "sweetie."

It gets interesting when you turn to francophone countries. French cuisine has a very upscale

## #LOVE

Some nicknames may seem odd at first glance, but they are always meant to convey love. Here are some pet names people around the world call their sweethearts.



## Nicknames From Around The World

Long lines in front of flower shops, people with boxes of chocolate tucked under their arms, maybe along with a love note - lovers in many countries all over the world celebrated February 14, Valentine's Day. That goes hand in hand with the terms of endearment reserved for that special significant other, with every culture having a different idea of what the ideal pet name should sound like.

**Heart and Liver: Body Parts Are Essential**

There is no need to be offended if a Chinese calls you "heart liver." On the contrary, you might want to feel flattered and seriously ponder whether that person is "the one." Calling someone heart liver, "xin gan" in Chinese, is a sign of affection and love. Just as a person cannot live without these two organs, a "xin gan" is someone you can't imagine living without.

People in the countries of East Africa who speak Kiswahili also turn to body parts for terms of endearment. A hug is guaranteed if you call someone "nyongo mkalia ini." "Nyongo" means gallbladder and "ini" means liver. "Mkalia" can be translated as "sitting." If you are someone's "nyongo mkalia ini," you are literally their gallbladder sitting on the liver.

The gallbladder is located under the liver and because the two organs are so difficult to separate, it's easy to apply that to life as a couple. What could then be a better way to show love than to whisper "nyongo mkalia ini" in someone's ear?

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**Rabbits and Lambs**

In Germany for example, classic pet names include "Schätz" (treasure), "Hase" (rabbit), "Mäuschen" (little mouse) or "Bärchen." In Russian, people like to call a loved one "my swallow" while in Polish, the term of endearment would be "Zabka" (little frog).

In Bulgaria, the choice of pet name depends on the status of the relationship. In cases of young love, partners are often affectionately called "little lamb," a term that can eventually become "sheep" over time. And if love is not on the horizon, Bulgarians have a plan B for Valentine's Day. According to the Orthodox calendar, February 14 is Trifon Day, a celebration to honour the wine-makers - with great amounts of wine. Bulgarians celebrate and drink a lot that day, either for love or to nurse heartbreak.

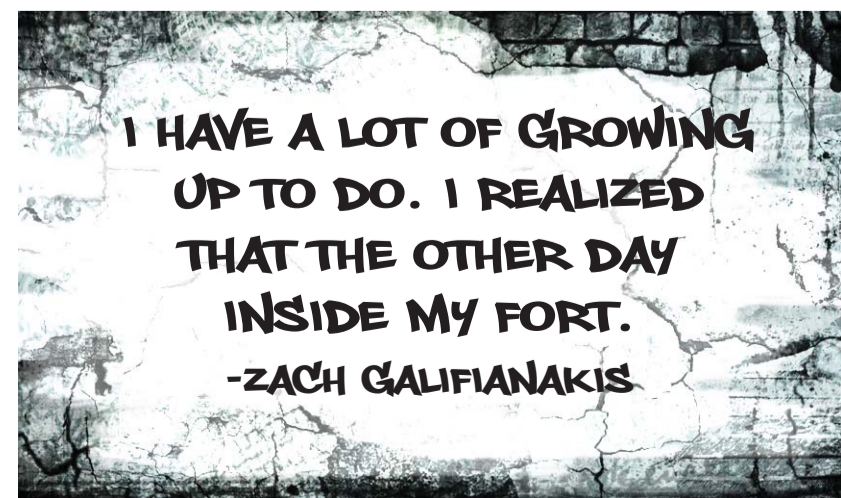
Some languages come up with terms that use diminutives to the fullest - the smaller the scale, the more a person is loved. Poles, for instance, are true masters of diminutives, usually using them for first names. Loved ones also inevitably become a "sloneczko," or little sun.

It seems the phenomenon of what becomes a pet name has not really been analyzed by researchers. "Clearly, really very questionable words can take on the function of 'pet names,'" says Dietlind Kremer, head of the Names Advisory Service at the University of Leipzig. That "intimate world of names" needs more research, she told DW, in particular with "research involving food: In Spanish, 'my fatty' is supposed to be a term of endearment. It seems a couple would have to be looking back at many years together for that to be okay, because quite honestly how would you react if you were called 'fatty' on a first date, regardless of the intention?"

In the meantime, whatever you call your sweetheart, remember the words of 20th-century German author Hermann Hesse: "Happiness is love, nothing else."



### THE WALL



### BABY BLUES



By Rick Kirkman & Jerry Scott

### ZITS



By Jerry Scott & Jim Borgman