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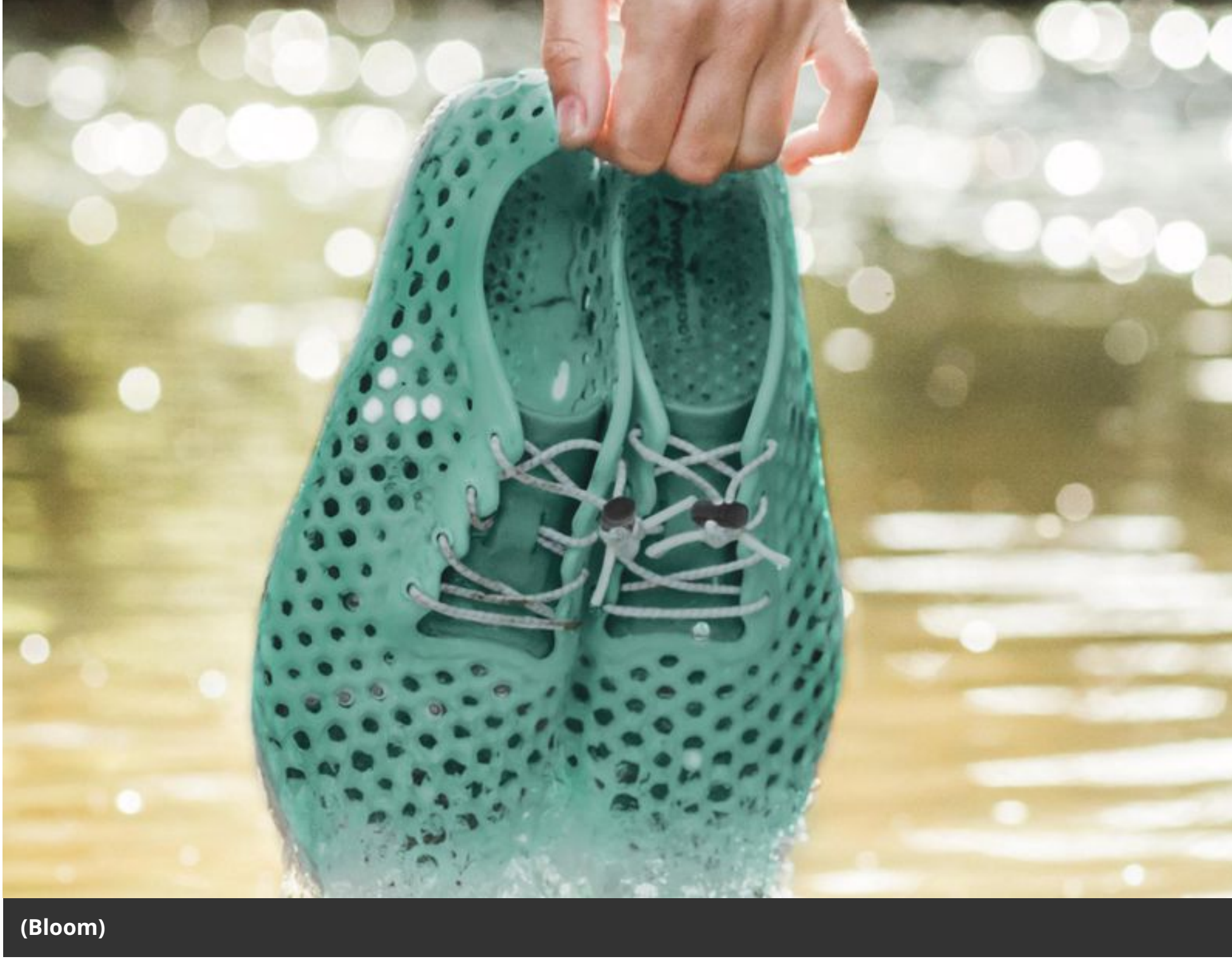
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These Sustainable Sneakers Are Made Using Algae

The shoes' manufacturers harvest harmful algal blooms and turn the goo into footwear



(Bloom)

By **Brigit Katz**
SMITHSONIANMAG.COM
MAY 31, 2017



Algae play an important role in a balanced ecosystem, but if they proliferate unchecked, the aquatic organisms release toxins that can have disastrous effects on humans, plants, and animals.

So in an effort to rid waterways of the slimy goop, a footwear brand and an algae-harvesting business teamed up and came up with an innovative plan to put excess algae to good use. As Stephanie Milot reports for *Geek*, the two companies will soon release the "Ultra III," a sneaker made from algae.

The new product is the brainchild of **Vivobarefoot**, which manufactures ultra-thin shoes, and **Bloom**, a company that uses algae to make flexible foams. The algae-based foams are sturdy but light-weight, making them a "naturally perfect material," for performance footwear, according to Vivobarefoot's [website](#).

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Speaking to Brittany Shoot for Smithsonian.com in October of last year, Bloom co-founder Rob Falken explained how the harvesting process works. "[W]e work with any type of blue-green algae," he said. "Blue-green algae is a polymer, so we basically vacuum it off a lake and dry it using our continuous solar drying process. Solar drying produces a charcoal-like flake, which we pulverize into powder. Once we have a pure powder—ours has no toxins—we make it into what is essentially a pellet, which we injection-mold into a panel and make a fiber out of it."

Transforming algae into foam helps clean bodies of water that are clogged with harmful algal blooms. These thick clouds of algae release a toxin called domoic acid, which accumulates in small fish like sardines and anchovies and then moves up the marine food chain. Eating seafood contaminated with domoic acid can cause people to experience [nausea and vomiting](#).

The toxin can be deadly, if it reaches high levels. And there are other dangers associated with excessive algal blooms. As Vivobarefoot's website explains, large growths of algae block sunlight and deplete oxygen in the water, which throws off the balance of marine ecosystems.

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Uncontrolled algal blooms can be attributed to a number of factors, some of them natural. But as Shoot notes, the phenomenon is on the rise due to many human-driven processes, like climate change and water contamination. Runoff from fertilizers and sewage is a major contributor to the problem because, as Robert Ferris of [CNBC](#) reports, it contains phosphorous and nitrogen, which is a food source for algae.

In addition to scooping harmful substances out of the water, harvesting algae offers an alternative to petroleum-based materials that are commonly [used in footwear](#). Instead, the new shoes can be a win for the environment. According to a Vivobarefoot [press statement](#), a single pair of their men's size nine Ultra III sneakers "turns 57 gallons of clean water to habitat and reduces 40 balloons worth of carbon dioxide from the atmosphere."

Vivobarefoot isn't the only brand to experiment with sustainable shoes. Adidas, for instance, has released a [sneaker made from trash](#) that was dumped in the ocean. Perhaps a new fashion trend is on the horizon: footwear that reduces your ecological footprint.

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Brigit Katz is a freelance writer based in Toronto. Her work has appeared in a number of publications, including NYmag.com, Flavorwire and Tina Brown Media's Women in the World.

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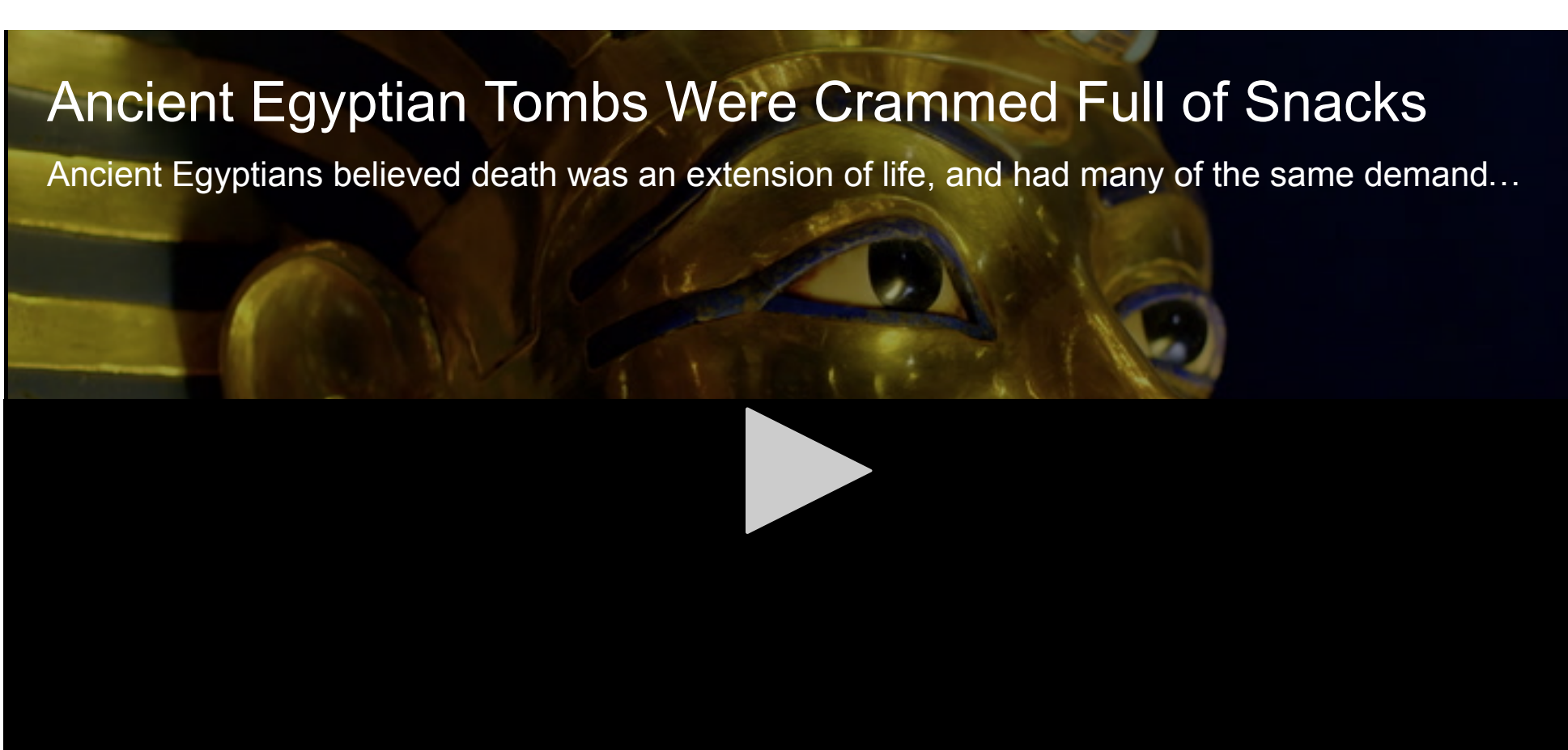
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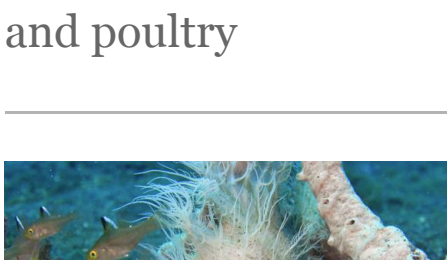


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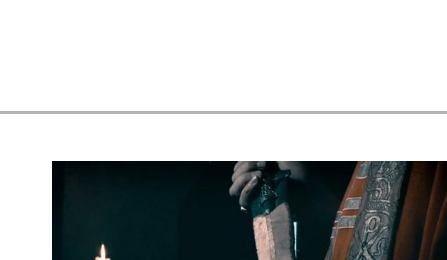
Ancient Egyptians believed death was an extension of life, and had many of the same demands. That's why tombs like those of Tutankhamun were packed with preserved foods like dates, meat, and poultry



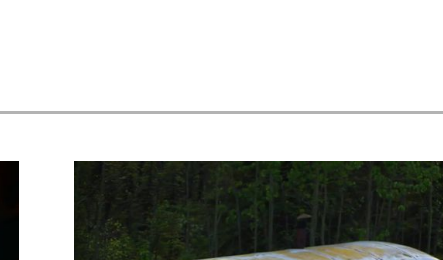
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Epa Sarah 3 years ago - +

Domoic acid is only produced by diatoms and diatoms are NOT a blue green algae. Is this error from the company or the journalist?

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FinaJaguarZ. 3 years ago - +

So...you will take runoff and sewage effluent, turn it into blue-green algae, then to plastic raw materials? You might start on the runoff before it gets into the Everglades, Florida. Sounds like a winner.

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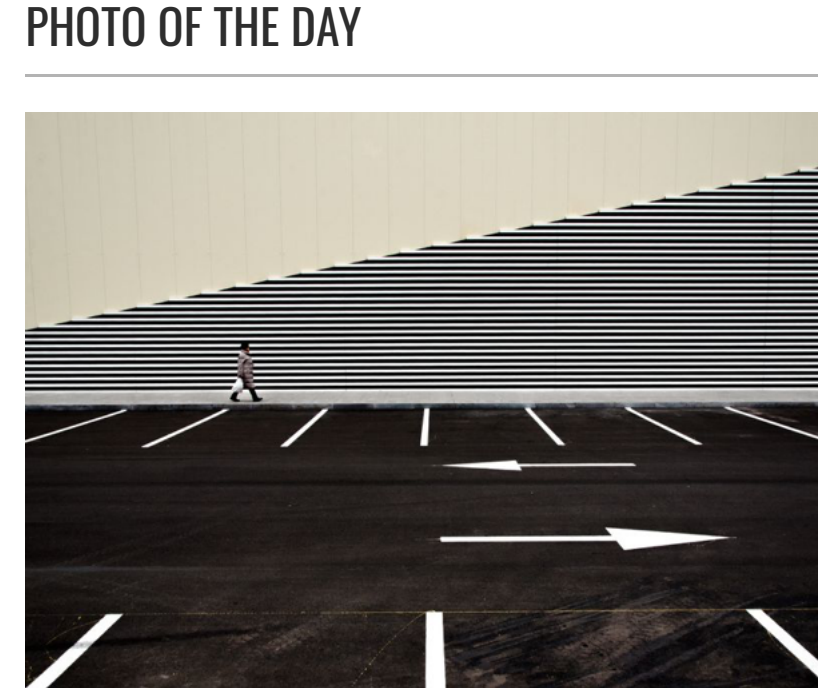
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