Scientists create pollen-based sunscreen that won't harm corals

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So-called "traditional" sunscreens can negatively affect marine life due to the chemicals they contain to block ultraviolet radiation. These components, such as oxybenzone and octinoxate, are released from swimmers' skin when in contact with water and enter ecosystems, potentially causing serious harm.

Previous studies have shown that these chemicals affect coral development and lead to bleaching, leaving them vulnerable to potentially fatal infections. In 2022, an article published in ' Science' revealed

that contact with oxybenzone causes coral cells, as well as anemones, to produce toxins that weaken and ultimately kill these animals.

This finding has led to the banning of sunscreens containing ingredients like oxybenzone in some tourist destinations, such as marine parks in Mexico. So, what alternative can beachgoers offer to protect their health and that of the ecosystems where they enjoy their summer vacations? The answer may lie in pollen.

A group of scientists led by Nanyang Technological University in Singapore says they have created a sunscreen based on camellia flower pollen that absorbs and blocks ultraviolet radiation as effectively as, or more effectively than, products currently available in stores.

In laboratory experiments, researchers found that conventional sunscreens caused coral bleaching in just two days and death in six. On the other hand, the pollen-based sunscreen did not affect the corals, which remained alive and healthy.

Furthermore, the team says, in an article published in the journal ' Advanced Functional Materials' , that the sunscreen they created even helps to reduce the surface temperature of the skin.

According to Nam-Joon Cho, the study's first author, pollen grains are "naturally resistant" to ultraviolet radiation because their outer "capsule," the exine, must protect the genetic content inside from adverse environmental conditions, including sunlight, ensuring that the grain remains intact.

“We wanted to develop an affordable and effective natural sunscreen that wouldn't cause allergies in humans and was environmentally friendly,” he emphasizes.

According to its creators, this sunscreen comes in the form of a gel that, when applied, is no thicker than a human hair and is transparent, and can be a great help in conservation efforts for marine ecosystems, where thousands of tons of conventional sunscreen reach them every year, harming not only the corals, but the entire web of life that forms around them.