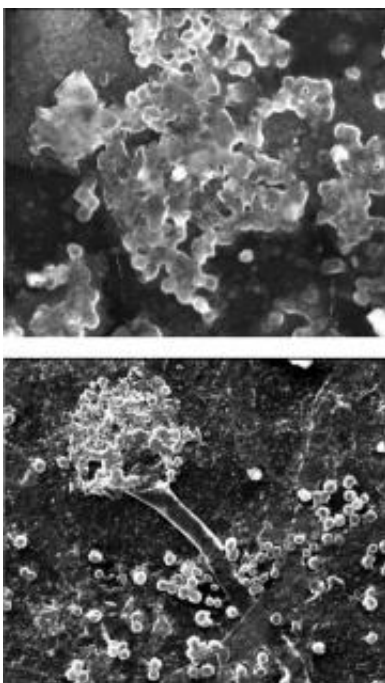


The fungus among us: A new way of decomposing BPA-containing plastic

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Fungi may provide an eco-friendly way of decomposing polycarbonate plastic waste that contains bisphenol A. Credit: American Chemical Society

Just as cooking helps people digest food, pretreating polycarbonate plastic — source of a huge environmental headache because of its bisphenol A (BPA) content — may be the key to disposing of the waste in an eco-friendly way, scientists have found. Their new study is in ACS' *Biomacromolecules*.

Mukesh Doble and Trishul Artham note that manufacturers produce about 2.7 million tons of plastic containing [BPA](#) each year.

Polycarbonate is an extremely recalcitrant plastic, used in everything from screwdriver handles to eyeglass lenses, DVDs, and CDs. Some studies have suggested that the BPA may have a range of adverse health effects, sparking the search for an environmentally safe way of disposing of waste plastic to avoid release of BPA.

The scientists pretreated polycarbonate with [ultraviolet light](#) and heat and exposed it to three kinds of fungi — including the fabled white-rot fungus, used commercially for environmental remediation of the toughest pollutants. The scientists found that fungi grew better on pretreated plastic, using its BPA and other ingredients as a source of energy and breaking down the plastic. After 12 months, there was almost no [decomposition](#) of the untreated plastic, compared to substantial decomposition of the pretreated plastic, with no release of BPA.

More information: "Biodegradation of Physiochemically Treated Polycarbonate by Fungi", *Biomacromolecules*.

Provided by American Chemical Society

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