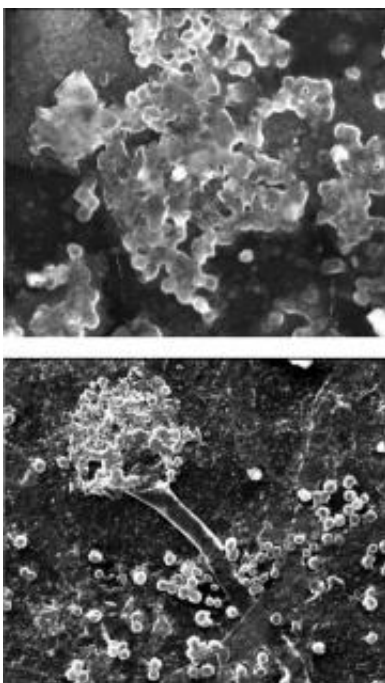


The fungus among us: An eco-friendly way of decomposing BPA-containing plastic

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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*, a monthly journal.

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*,
pubs.acs.org/stoken/presspac/p...ll/10.1021/bm9008099

Provided by American Chemical Society

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