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The sweet scent of plastic lures seabirds to a dangerous snack

Seabirds often mistake garbage for grub

J.J. Harrison

By **Emily Benson**

Birds may follow their noses to dangerous, fake feasts. Bits of plastic left in the ocean develop the same scent that certain seabirds use to locate food – and the aroma could lure hungry birds towards morsels of litter instead of their natural prey.

Plastic pollution fouls oceans across the globe: there are more than 5 trillion pieces of plastic swirling around the world's seas. All that trash makes its way up the food chain, resulting in poisoned fish and leaving birds with bellies full of plastic.

It is not entirely clear why some creatures mistake garbage for grub, says Matthew Savoca at the University of California, Davis.

Perhaps plastic looks like a tasty treat – to human eyes, for example, a suspended plastic bag resembles a drifting jellyfish. But many seabirds and other marine animals find dinner by sniffing out their quarry. “And yet no one's actually tested the way plastic smells before,” Savoca says.

Attractive stink

Some seabird species are attracted to a particular stinky sulphur compound as they seek out small marine crustaceans, called krill, to eat. Dying algae cells emit the rotten-egg odour, so it is often an indication that algae-eating krill are nearby.

Savoca and his colleagues wondered if small plastic beads left to marinate in the ocean might become covered in sulphur stench-producing algae. To test the idea, they tied mesh bags containing plastic beads to two buoys off the Californian coast.

Marinated plastic beads emit a sulphurous stink

Matthew Savoca

After about three weeks, the beads were retrieved and stashed in airtight vials. Gas from the

sea-soaked samples contained the sulphur compound, unlike plastic beads that didn't take a dunk.

If something other than being munched by krill is causing algae to die – desiccation due to bobbing in and out of the water on floating plastic beads, for example – that could create an olfactory trap for seabirds, tempting them towards sulphur-scented areas where they may swallow trash instead of krill.

Plastic everywhere

To see if the sulphur-seeking seabirds devour more plastic debris than related birds, the researchers combed through 55 studies involving 13,350 birds. Birds that belong to species that sniff out the sulphur compound consumed plastic about six times more often than those that don't use sulphur to search for food.

That suggests the birds haven't had time to adapt to their rapidly changing environment, Savoca says.

“Fifty years ago, there was pretty much no plastic in the environment,” he says. “And now it's found in every ocean, in lakes and rivers, in sea ice – everywhere.”

Sight and scent

It is plausible that a keen sense of smell could help certain bird species find food, says Richard Veit at the CUNY College of Staten Island in New York. Still, most seabirds are likely to rely on their vision, he adds.

“A lot of these plastic pieces are bright red or orange or strange colours,” Veit says. “To play devil's advocate, how can you really say they're not finding these by sight?”

In fact, both the sight and the scent of plastic could entice birds into eating trash, Savoca says.

“If you want to eat something and it not only looks like food, but it also smells like food, you're going to be more likely to eat that thing,” he says.

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