

Research reveals microplastic content levels in seafood

August 5 2020



UQ study authors Francisca Ribeiro and Elvis Okoffo analysing microplastics in seafood samples. Credit: University of Queensland

Levels of plastic contamination has been found in samples of popular seafood such as prawns, oysters and crabs, with the highest content found in sardines, according to University of Queensland research.

Lead author Ph.D. candidate Francisca Ribeiro from UQ's Queensland Alliance for Environmental Health Sciences said the study was an important step to understanding the potential harm microplastics in seafood could have on human health.

"We found [polyvinyl chloride](#)—a widely used synthetic plastic polymer—in all samples we tested, but the most common plastic in use today—polyethylene—was the highest concentrate we found," Ms Ribeiro said.

"From the edible marine species tested, sardines had the highest plastic content, which was a surprising result.

"Another interesting aspect was the diversity of microplastic types found among species, with polyethylene predominant in fish and polyvinyl chloride, the only plastic detected in oysters."

Microplastics are very small pieces of plastic that pollute the [marine environment](#) and are eaten by organisms of all types, from small larvae and planktonic organisms to large marine mammals.

Studies to date show that microplastics not only enter our diet from seafood, but also from bottled water, sea salt, beer and honey, as well the dust that settles on our meals.

The UQ research team found the total plastic concentration detected in each species was 0.04mgs in squid, 0.07mgs in prawns, 0.1mg in oysters, 0.3mgs in crabs and 2.9mgs in sardines.

The method developed and used by the UQ research team is a major step forward for plastic quantification techniques in seafood, as it allows results to be reported in a mass unit which hasn't been done before.

"We can now define what [microplastic](#) levels can be considered harmful to [human health](#)," Ms Ribeiro said.

The next phase of the research project is to identify the sources of the [plastic](#) contamination found in the [seafood](#) tested.

The study has been published in *Environmental Science & Technology*.

More information: Francisca Ribeiro et al. Quantitative Analysis of Selected Plastics in High-Commercial-Value Australian Seafood by Pyrolysis Gas Chromatography Mass Spectrometry, *Environmental Science & Technology* (2020). [DOI: 10.1021/acs.est.0c02337](https://doi.org/10.1021/acs.est.0c02337)

Provided by University of Queensland

Citation: Research reveals microplastic content levels in seafood (2020, August 5) retrieved 27 April 2024 from <https://phys.org/news/2020-08-reveals-microplastic-content-seafood.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.