

Green turtles eat plastic that looks like their food

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Some of the plastic found in green turtles. Credit: University of Exeter

Green turtles are more likely to swallow plastic that resembles their natural diet of sea grass, new research suggests.

The turtles strongly favour narrow lengths of [plastic](#) in natural colours like green and black, rather than debris of other shapes and colours, the study found.

Scientists from the University of Exeter and the Society for the Protection of Turtles (Cyprus) examined the guts of turtles found washed up on beaches in Cyprus.

Plastic was found in all turtles whose full gastrointestinal tract could be examined, with one found to contain 183 pieces.

The study could not determine what, if any, role the plastic had in the turtles' deaths. Most had likely died as a result of interaction with fishing nets.

"Previous research has suggested [leatherback turtles](#) eat plastic that resembles their jellyfish prey, and we wanted to know whether a similar thing might be happening with [green turtles](#)," said Dr. Emily Duncan, of the University of Exeter.

"Sea turtles are primarily visual predators—able to choose foods by size and shape—and in this study we found strong evidence that green turtles favour plastic of certain sizes, shapes and colours.



Green turtle swimming off Cyprus Credit: Emily Duncan

"Compared to a baseline of plastic debris on beaches, the plastic we found in these turtles suggests they favour threads and sheets that are black, clear or green.

"The sources of this plastic might include things like black bin bags, and fragments from items such as fishing rope and carrier bags."

Duncan is also a National Geographic Explorer and a team member of the "Sea to Source: Ganges" plastic expedition. She's currently working

on similar research on plastic pollution with turtle populations in Australia, supported by a National Geographic Society grant.

The study found smaller turtles tended to contain more plastic, possibly because they are less experienced (and therefore more likely to eat the wrong food) or because diet choices change with age and size.

Of the 34 turtles examined, the scientists were able to examine the full gastrointestinal tracts of 19.

All of these [turtles](#) contained plastic, with the number of pieces ranging from three to 183.

"Research like this helps us understand what [sea turtles](#) are eating, and whether certain kinds of plastic are being ingested more than others," said Professor Brendan Godley, who leads the Exeter Marine research strategy.

"It's important to know what kinds of plastic might be a particular problem, as well as highlighting issues that can help motivate people to continue to work on reducing overall plastic consumption and pollution."

More information: Emily M. Duncan et al, Diet-related selectivity of macroplastic ingestion in green turtles (*Chelonia mydas*) in the eastern Mediterranean, *Scientific Reports* (2019). [DOI: 10.1038/s41598-019-48086-4](#)

Provided by University of Exeter

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