Jellyfish on the menu

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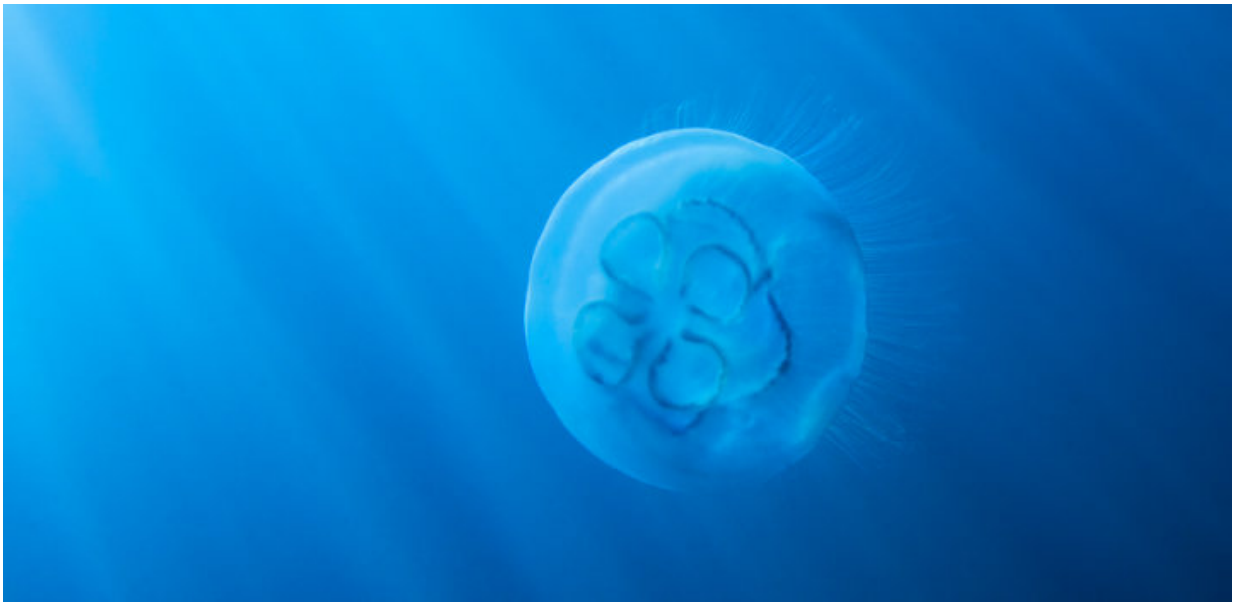

Credit: University of East Anglia

Squid, sole, dogfish, herring and cod all feed on baby jellyfish – according to new research from the University of East Anglia and the Centre for Environment, Fisheries and Aquaculture Science (Cefas).

The moon jellyfish is commonly found around the coastlines of Britain. They're known for their translucent white colour and gentle swimming movements.

Until now, they were thought to have very few predators. But new

findings published today in the journal *Royal Society Open Science* reveal that they are a veritable feast for a number of fish species.

Lead researcher Philip Lamb, a PhD student in UEA's School of Biological Sciences, said: "Localised outbreaks of jellyfish cause a variety of ecological and economic problems such as overrunning fish farms and damaging revenues from tourism. But until now there has been little known about some fundamental aspects of their ecology – particularly their role in food webs.

"It is hard to identify jellyfish predators because they are digested very quickly due to their soft-bodies.

"The only known jellyfish predators, in the Irish Sea, were small populations of Leatherback turtles and Sunfish. However both of these are rare and not thought to play a significant role in controlling jellyfish populations."

Thanks to new technological advances, the research team were able to study DNA in the guts of 50 potential predators. They extracted genetic material known as mitochondrial DNA (mtDNA) from more than 2,500 fish caught in the Irish Sea and compared these genetic fragments against a DNA database.

"By studying tiny fragments of DNA present in fish gut samples, we have even been able to detect jellyfish which have been highly digested," said Lamb. "We were really surprised by the results."

The team found jellyfish mtDNA in nine of the 50 potential predators investigated – in whiting, herring, dragonet, Dover sole, dab, squid, sprat, poor cod, and lesser-spotted dogfish.

Herring and whiting were found to feast on jellyfish frequently, while

the others appeared to be minor predators. Looking at the jellyfish life-cycle, the team suggested that the majority of jellyfish eaten would have been juvenile.

'Jellyfish on the menu: mtDNA assay reveals scyphozoan predation in the Irish Sea' is published in the journal *Royal Society Open Science* on November 29, 2017.

More information: Jellyfish on the menu: mtDNA assay reveals scyphozoan predation in the Irish Sea, *Royal Society Open Science*, rsos.royalsocietypublishing.or … /10.1098/rsos.171421

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