Tuna returns thousands of miles to spawn at birthplace

Atlantic bluefin tuna weighing as much as 700 kg, is the most sought-after of its kind, fetching as much as $50,000 in the Asian markets where its meat is prized, which explains its depleting numbers since the 1970s.

A team of international researchers led by Jay Rooker of Texas A and amp;M University (Galveston) adds a new chapter to this emerging story, providing critical insights into the population structure and mixing of North American and Mediterranean populations of bluefin tuna.

Despite the high level of mixing, the team also observed that over 95 percent of adult bluefin tuna returned to their place of origin in either the Gulf of Mexico or Mediterranean Sea to spawn.

In the current study, Rooker and fellow researchers examined the chemical composition of the fish's ear bone - the otolith - to identify individuals from different nurseries, according to Texas A and amp;M University release.

Chemical signatures in the form of stable carbon and oxygen isotope ratios served as a 'birth certificate' and were used by the researchers to determine the origin of adolescent and adult bluefin tuna (2-20 years of age or more) on spawning and foraging grounds in the Atlantic Ocean.

The study shows that trans-Atlantic movement and mixing of populations was high with over half of the juveniles collected in North American waters being of Mediterranean origin.

'North American fisheries for juvenile bluefin tuna appear to be supported to a large degree by the Mediterranean population, and thus the condition of this population will directly impact recreational fisheries for bluefin tuna in U.S. waters,' according to Rooker.

'Our data coupled with archival tagging data clearly show that the migratory patterns of bluefin tuna are more complex than previously assumed and information on mixing must be included in future assessments to ensure that rebuilding efforts are successful.'

These findings have been published in Science.

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