The consistent metabolic ratios found in 133 Chinese marine and freshwater fish species provide new evidence to support the idea that fish become sexually active and spawn for the first time in response to growth-induced respiratory stress. Increase.

Uses maximum and average size at first maturity over 200 Fish population. In 133 species of fish, Chinese and Canadian researchers indirectly Various consumption in these two sizes. They found it fish. When this ratio reaches about 1.40, it changes from boy to adult. Fish Biology Journal.

“The consistency of this ratio among the species we examined, and others Race Previously or currently studied-supports the idea that reproduction is initiated by a change in balance between Oxygen supply And demand. ” Dr. Daniel Pauly, Senior
Author and Principal Researcher at the Sea Around Us Initiative at the University of British Columbia, said.

"Reduced supply of oxygen to the body weight of individual fish appears to induce maturation and spawning. Therefore, growing fish are gradually oxygen-restricted and have currently identified thresholds. External stimulus For maturity and spawning, "he said.

Dr. Pauly’s Gill Oxygen Limitation Theory (GOLT) states that the gills (the organ that extracts oxygen from water and supplies it to the body) are two-dimensionally growing surfaces, and as the fish gains weight, the fish’s oxygen supply gradually increases. It suggests a decrease. Keep up with their bodies growing in three dimensions.

“There are times when an increase in fish weight leads to a relative reduction in gill surface area, which leads to a critical level of oxygen supply, which causes a hormonal cascade that causes the fish to mature and lay eggs in response to environmental stimuli. “I will,” said Dr Pauly.

GOLT is that Environmental stimulation Only at the beginning of the spawning season, it triggers the maturation and spawning process.

Dr. Cui Liang, co-author and researcher at the Chinese Academy of Sciences, said: “This has important implications for aquaculture companies who have long known the importance of dissolved oxygen in fish production.”

Dr. Pauly and Liang, the constant critical ratio demonstrated in this study is why climate change-induced temperature rise and deoxidation stressed fish survive and breed, why smaller sizes tend to breed. He said it could also be used to understand if there is.

Why fish really get sexually active

For more information:

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Data confirm the link between respiratory stress and fish breeding

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