The great escape -- fleeing fish fall in line

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With the unappealing prospect of being eaten, one might imagine that during a predator attack it is a case that all fish escape at once in the desperate hurry to escape as quickly as possible. However, new research indicates that this is not the case, and in fact fish in schools escape using a relatively fixed chronological order. This research was carried out at the International Marine Centre (IMC) in Sardinia, Italy, and will be presented at the Annual Meeting of the Society for Experimental Biology in Glasgow.

Scientists mimicked an aerial predator attack by mechanical stimulation and used a high speed camera to record responses in schools of ten grey mullet each. Individuals within a school were then ranked according to the timing of their escape. The experiment was performed ten times at 10 minute intervals on a total of seven separate schools of grey mullet. Interestingly, results suggested that there is a trend for individual fish to maintain a given rank, indicating that the chronological order of escape responses within a school is maintained in successive startle events.

Head of the research group Dr Paolo Domenici stated, “Our work is the first to show that fish maintained under the same conditions, with no differential treatment, show a tendency for keeping a relatively fixed chronological order of escape. This implies that in a given school certain individuals may have a greater influence on the escape strategies of the whole school.”

Researchers are keen to explore whether the tendency to keep a fixed chronological order of escape corresponds to a leadership maintained over a relatively long period of time.

Source: Society for Experimental Biology