

# **The Saltatory Search Behavior of Larval Cod (*Gadus morhua*)**

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## **Abstract**

Accurate descriptions of larval fish foraging behavior are necessary for modeling energy gain through prey encounter rates. Larval cod use a saltatory foraging strategy; they swim in discrete bursts and search for prey during the periods between bursts when speed is minimal. The goals of this research were: first, to observe the behavior of larval cod in large volumes to reduce confinement effects; second, to observe behavior throughout early development; and third, to observe if larval cod adjust their foraging effort in response to foraging conditions, in this case prey density. An observation system employing stereo-paired video cameras was developed that allowed recording behavior of individual larvae throughout a large volume in three dimensions. The observed behavior shows that the burst phase of the foraging cycle remains constant regardless of the presence or absence of prey while the duration of each search event becomes significantly longer when prey are absent, perhaps reflecting a greater time investment to process each search volume more thoroughly.

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