Differences in vertical and horizontal distribution of fish larvae and zooplankton, related to hydrography - DTU Orbit (27/12/2018)

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Planktonic fish larvae have little influence on their horizontal distribution, while they are able to control their vertical position in the water column. While prey and light are among the factors with an apparent influence on the vertical distribution, the effects of other factors are less clear. Notably, distributional differences between larvae of different fish species are poorly understood. Information on the horizontal distribution of larvae of 27 species and the vertical distribution of seven species of Gadidae, two Pleuronectidae and one Scophthalmidae, was compiled from one survey in the northern North Sea. Horizontally, fish larvae aggregated near frontal structures, correlating with high densities of zooplankton. Increasing length and decreasing numbers indicated an origin in the western North Sea, followed by an eastward drift. Vertically, the different species exhibited similarities but also notable differences in their vertical distribution. Most gadoid species aggregated in the upper (B40 m) or middle water column (40 m) during the day with an increase in abundance at shallower depths during the night, while all flatfish were distributed at greater depths under all light conditions. Hence, larvae differed in their distributional patterns, but the relative depth distributions among the species in the larval community generally remained constant.

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