



Popular science summary of the PhD thesis

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Title of the PhD thesis	Blue whiting (<i>Micromesistius poutassou</i>): behaviour and distribution in Greenland waters
PhD school/Department	DTU Aqua

Science summary

Blue whiting is a widely distributed and highly abundant fish species in the North-Atlantic. Despite that the commercial fishery is one of the largest in the world, this deep living (200-600 m) species is little known to the public. The stock size has fluctuated greatly throughout the latest decades, affecting both fishery, management, and the advising procedure. The seas around Greenland are generally considered as fringe areas of blue whiting distribution and it is only caught sporadically here. With increasing ocean temperatures due to climate change, blue whiting may become more abundant and widespread in Greenland waters and could potentially be an additional target species for the growing pelagic fleet in Greenland. However, the necessary knowledge about the biology and the dynamics of the stock size in this region is lacking.

In this PhD, I therefore investigated the distribution and migration of blue whiting in Greenland waters, analysed potential environmental drivers of its abundance (together with other boreal fish species) and studied its diet and feeding behaviour.

The studies presented in the PhD, revealed new areas of its distribution, showed demographic differences between areas, and discovered that the abundance (together with other boreal species) in Greenland waters increase during years of warmer ocean temperatures. Furthermore, that abundance is linked to properties of major oceanic circulation systems (the subpolar gyre) of the North Atlantic. Finally, the most important prey groups and specific diel feeding patterns were identified. Together, these findings improved the general understanding of blue whiting, and other boreal fish species in this region and hopefully can contribute to informing decision makers of relevant fisheries in Greenland.