Invasion rate and population characteristics of the invasive round goby Neogobius melanostomus: effects of density and invasion history - DTU Orbit (09/11/2019)

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Round goby Neogobius melanostomus is currently one of the most wide-ranging invasive fish species in Europe and North America. The present study demonstrates how the distribution of round goby has expanded from 2008 to 2013 at a rate of about 30 km yr−1 along the Danish coastline in the western Baltic Sea. Further analyses showed that fish from an established high-density round goby population were slow-growing and displayed poorer condition (weight at age and hepatosomatic index) compared to fish sampled from recently invaded locations (i.e. at the forefront of the distribution range). The established population revealed a broad age distribution and a 1:1 gender ratio, while fish from a recently invaded site were primarily of intermediate ages with a male-biased gender ratio. Otolith analyses suggested that the oldest individuals from the recently invaded area experienced superior growth conditions only in the most recent years, suggesting immigration into the area as adults. Our results suggest that intraspecific competition for food may cause continued dispersal of the species and that population demographics likely relate to invasion history.

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