

Greenland Halibut in the North Atlantic are genetically homogeneous: a response to Roy et al. (2014)

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Roy et al. 2014 report panmixia in the Northwest Atlantic in Greenland halibut (*Reinhardtius hippoglossoides*), based on 12 microsatellite markers. This is a valuable contribution to an understanding of stock structure questions in this benthic species. The authors emphasize the novelty of their result, in contrast with “most previous work in this species, including studies performed over similar spatial and temporal scales”, and includes in their list of such previous work our analysis of mtDNA variation in seven Northwest Atlantic and transatlantic samples (Vis et al. 1997).

Roy et al. (2014) characterize our data as showing “... little evidence of lineage sorting throughout the species’ range.... Notably, however, [they] point to a switch in the abundance rank of the two most predominant haplotypes within the GSL [Gulf of St. Lawrence] relative to other regions and **equate this as additional support for a separate GSL stock.**” [emphasis in bold added].

We did not. In our Discussion we stated, “Three major genotypes are present at approximately equal frequencies in all populations, except that the relative abundances of the two major genotypes are reversed in the [GSL] sample (the difference is not statistically significant). There is no indication that such genetic variation as exists is subdivided among geographic samples....

Intermixing among Greenland halibut ... appears to be sufficient to produce a single genetically homogeneous population in the North Atlantic.”

Where our UPGMA – neighbor-joining phenograms show GSL as the outlier, we explained, “The relative distinctness of the [GSL] sample reflects the reversal in relative frequency of the two most abundant genotypes. Otherwise, samples from opposite sides of the Atlantic are typically more similar than are geographically contiguous samples from the Northwest Atlantic.”

Roy et al. ’s (2014) results are consistent with previous reports of panmixia in Greenland halibut, including ours, based on genetic analyses of mtDNA (Vis et al. 1997). In our opinion, it would be incorrect to consider this a novel finding.

References

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Received 4 December 2014. Accepted 17 February 2015.

Paper handled by Associate Editor Paloma Morán.

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