

**Genetic Characterization, Morphometrics and Gonad  
Development of Induced Interspecific Hybrids between  
Yellowtail Flounder, *Pleuronectes ferrugineus* (Storer) and Winter  
Flounder, *Pleuronectes americanus* (Walbaum)**

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Viable interspecific hybrids between yellowtail flounder (*Pleuronectes ferrugineus*, Storer) and winter flounder (*Pleuronectes americanus*, Walbaum) were produced by artificial insemination of yellowtail flounder eggs with winter flounder sperm. However, mean fertilization rate, hatching success and early survival up to 3 weeks post hatch were significantly lower than those of parental pure cross controls ( $P < 0.01$ ). Overall, cytogenetic traits (karyological analysis and estimation of cellular DNA contents using flow cytometry) of hybrid flounder were intermediate between the two parental species. Microsatellite assay was used to distinguish the parental genomes in the hybrids; in most cases, one allele was specific to each of the parents. Morphometrics assessed by body proportions indicated that hybrids generally displayed a morphology intermediate between the maternal and paternal species. Interspecific hybrids exhibited abnormal and retarded gonad development in both sexes based on histological analysis of gonads from adult fish. The sterility of the hybrids presents a significant advantage for their use in aquaculture, as potential escapees would not be capable of reproducing in the wild and contaminating natural stocks.

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