

Southern Flounder Exhibit

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Outline:

- Introduction -- why is sex determination important?
 - support valuable fisheries
 - show great promise for aquaculture
 - can help increase number of female flounders which is valuable to aquaculture
 - females grow faster
 - females reach larger adult sizes than males
- Objective of study
 - determine whether southern flounder exhibit temperature-dependent sex determination (TSD)
 - determine if growth is affected by rearing temperature
- Methods
 - Southern flounder strip spawned
 - Hatched larvae were weaned from natural diet to high protein pelleted feed and fed until full 2x a day
 - once reached 40mm, placed in either 18, 23, or 28C water for 245 days.
 - Gonads were preserved and later sectioned
 - Sex-distinguishing markers were used to distinguish males from females
- Histological Analysis
 - Picture of male differentiation
 - Picture of female differentiation
- Findings
 - How Temperature Affects Sex Determination
 - How Rearing Temperature Affects Growth
 - Growth Does Not Differ by Sex
- Results
 - Sex was discernible in most fish greater than 120 mm long.
 - Effect of Temperature
 - High (28C) produced 4% females
 - Low (18C) produced 22% females
 - Mid-range (23C) produced 44% females
 - Up to 245 days, no differences in growth existed between sexes
- Conclusions
 - Sex determination is temperature-sensitive.
 - Temperature has a profound effect on growth.
 - Mid-range temperature maximizes the number of females and promote better growth.
 - Although adult females grow larger than males, no difference in growth occurred in the first 245 days.
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