

Artificial Hybridization between  
Red Seabream, *Pagrus major* and Black Seabream,  
*Acanthopagrus schelegeli* : Cytogenetical Trait

In Soon Park<sup>+</sup>, Jin Hee Jo<sup>\*</sup>, Jun Wook Hur<sup>\*\*</sup>,  
Bong Seok Kim<sup>\*\*\*</sup>, Sang Jun Lee<sup>\*\*\*</sup>, Sun Rang Woo<sup>\*</sup> and In -Seok Park<sup>\*\*</sup>

Dadae Middle School, Busan 604-823, Korea

<sup>\*</sup>Division of Ocean Science, College of Ocean Science and Technology,  
Korea Maritime University, Busan 606-791, Korea

<sup>\*\*</sup>Research Institute of Marine Science and Technology, Korea Maritime  
University, Busan 606-791, Korea

<sup>\*\*\*</sup>Biotechnology Research Center, National Fisheries Research and Development  
Institute, Busan 619-902, Korea

<sup>+</sup>Corresponding author: ispark@kmaritime.ac.kr

Viable interspecific hybrids between red seabream (*Pagrus major*) and black seabream (*Acanthopagrus schelegeli*) were produced by artificial insemination of red seabream eggs with black seabream sperm.

Morphometrics assessed by body proportions indicated that hybrids generally displayed a morphology intermediate between the maternal and paternal species.

Overall cytogenetic traits (chromosome number and karyological analysis, estimation of cellular DNA contents using flowcytometry and evaluation of nuclear size in erythrocyte) of hybrid seabream were intermediate between the two parental species.

Hybrid seabream karyotype was constituted by each haploid set of parental species chromosome. Interspecific hybrid exhibited abnormal and retarded gonad development in both sexes based on histological analysis of gonads from adult fish.

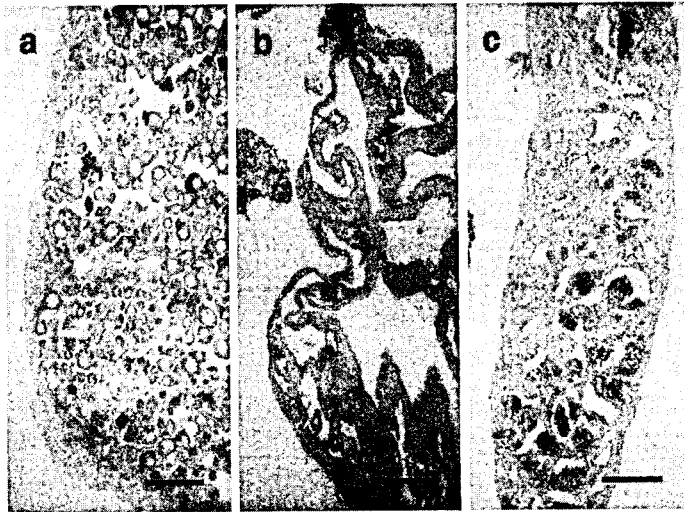
The sterility of the hybrids presents a significant advantage for their use in aquaculture, as potential escapes would not be capable of reproducing in the wild and contaminating natural stocks.

Nuclear DNA content of red seabream, black seabream and their hybrid (n=10)

Species	DNA content (pg/nucleus)
Red seabream	1.40±0.04 <sup>a</sup>
Hybrid	1.22±0.01 <sup>c</sup>
Black seabream	1.03±0.02 <sup>b</sup>
Cyprinid loach standard**	2.36±0.05

\*Values are means±SE. Values in different letters in a column indicate significant differences (P<0.0001).

\*\**Misgurnus anguillicaudatus* (from Park, 1992 and Kim *et al.*, 1993).



Microphotographs of gonad in (a) red seabream, (c) black seabream and (b) their hybrid. Bars are 10  $\mu$ m.

## References

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