

*Xiphophorus maculatus*, Sex Reversal



Female



Male

Strain code: SR

Phenotypes scored: Anal red (Ar), shoulder spot (ss), dot (D).

Introduction:

Both males and females in this stock are homogametic, i.e., the sex chromosomes in both sexes are YY. The Y-chromosome of this stock, which carries the gene for anal red (Ar) and shoulder spot, was derived from Belize platyfish (Bp) and introgressed into the Jp163 stock. The introduction of the Bp Ar gene into the Jamapa genetic background resulted in enhanced expression of Ar. The fish, particularly males, may show expression levels of Ar ranging from the appearance of a red dorsal fin to an entirely red fish. The Ar allele on the Y chromosome is linked to an unidentified P allele, which appears to delay maturation even later than the P-3 allele (about intermediate).

Sex determination / sexing:

Both males and females have the sex chromosomes YY. These fish can be sexed at about 2 months of age. Fish are carefully watched for sexual development for one or two months, to ensure there are no males with the females. Sex ratios are sometimes biased; therefore, sufficient numbers of offspring must be raised to insure both sexes are adequately represented. Fish mature at about 4 to 6 months of age.

Scoring:

SR fish are scored for Ar, the tail spot pattern, dot (D), and shoulder spot (ss). The tail spot trait is derived from the Jamapa fish.

Stock maintenance:

These fish are homozygous for all scoreable traits. Three to four matings are set up for each generation, i.e., reciprocal crosses between parallel lines. One or two females can be used in each mating. If only one or two pedigrees are available, the fish can be

inbred. This stock is known for biased sex ratios. Always retain at least one tank each of females and males from the previous generation until males and females of the current generation have been identified.

Stock source:

Prof. Klaus Kallman, the New York Aquarium, 4/15/93.