

Xiphophorus hellerii, Jalapa



Female



Male (Rr)



Male (rr)

Strain code: Jalapa

Phenotypes scored: Male coloration: red (Rr) or black (rr).

Introduction:

Specimens of this stock were first collected in the spring of 1963 from a tributary of the Rio Chachalaca, near the town of Jalapa, Veracruz, Mexico. These fish were maintained as a stock at the Zoological Institute in Hamburg, Germany (Zander, 1967). In June of 1993, the Stock Center received five females and five males, estimated to be about one-year of age, from two different pedigrees.

Two phenotypes are represented in males of this stock, black and red. Although sex determination has yet to be established, heritability studies are underway at the Center using these two phenotypes of males.

Sexing:

Jalapa fish must be sexed at 2 months of age because of the early maturing black males. Sexing should be re-evaluated again 2- 4 weeks later to ensure there are no later maturing red males in with the females. The chromosomal mechanism for sex determination is undetermined at this date.

Scoring:

The black males develop a dark reddish-brown midlateral line and a dark axillary stripe that extends anteriorly beyond the pectoral fin. A yellow line is immediately above the midlateral line. The flank above the axillary stripe shows a metallic bluish-green color. These males are smaller, and mature at an earlier age. In the red male, the mid-lateral line is red, with a more extensive red flush, i.e., the area below (and some above) is suffused with red. Also the axillary stripe is not present in the red males. Red males mature later, and thus, reach a larger size (Zander, 1967).

Only males in this stock are scored for the red or black phenotype. MS-222 anesthetized males are scored for this phenotype at 10X magnification. Determination of phenotype is based on the anterior extension of the axillary stripe. In black fish, complete extension or scattered black pigment cells are present anterior to the pectoral fin; in red males, this area is free of black pigment.

Maintenance:

The stock is maintained as two lines: a black line and a red line. In the black line, males expressing the black phenotype are mated to females from the black line, preferably from different pedigrees. Consequently, all the offspring carry only the black allele. The red allele is maintained in a heterozygous state, by always mating phenotypically red males to black line females.

Stock source:

Prof. Klaus Kallman, the New York Aquarium, 6/11/93.