

*Xiphophorus hellerii*, BXII



Female



Male

Strain code: BXII

Phenotypes scored: Pigment pattern: dabled-1 (Db-1).

Introduction:

The BXII strain of *X. hellerii* is one of the southern swordtails and was originally obtained from the Belize River, Belize, in 1949 by Dr. Myron Gordon and G. Fairweather. Since 1955 this stock was maintained by Curt Kosswig until 1962 where it was then bred in Dr. Dierk Franck's laboratory at the Zoologisches Institut, Universität Hamburg, Germany. Under laboratory conditions inbreeding has been avoided during the perpetuation of this stock. Fish representing the BXII strain arrived at the Stock Center in San Marcos on July 3, 2001. This stock appears to be fixed for an orange sword color and the macromelanophore spotting pattern, dabled-1 (Db-1) pattern described in 1966 by Kallman & Atz (Zoologica N.Y., 51, 107-135). This pattern Db-1 is coded by an autosomal dominant allele, and appears to show 100% penetrance (Kallman, 1975).

The gene for dabled-1 (Db-1) is distinct from the gene encoding the dabled-2 (Db-2) pigment pattern found in the HX strain of *X. hellerii*. This was demonstrated with crosses between these two stocks. The spots produced with the Db-2 allele in HX form apparent rows, while the spots produced with the Db-1 allele of BXII are more randomly distributed (Kallman & Atz, 1966).

Sex determination / sexing:

Little is known of the sex determining mechanism in BXII, but this stock has exhibited biased sex ratios. BXII fish are sexed at two to three months of age. This should be done as early as possible to determine if sex ratios are unacceptably biased.

Scoring:

The Db-1 spotting pattern is the major phenotype scored in this fish, and this character is relatively unambiguous as the stock is homozygous for this allele. Sword color is also scored in males with a dissecting microscope on a black back ground.

Maintenance:

The BXII stock is maintained by reciprocal crosses of parallel lines with in a generation. Because these fish are prone to biased sex ratios, it is recommended that at least three matings are set up for each generation, to ensure adequate numbers of both males and females for the next generation. An extra tank of each males and females should be retained from the previous generation until males and females have been verified to exist in the subsequent generation.

Stock source:

Prof. Dierk Franck, Zoologisches Institut, Universitat Hamburg, Germany, 7/3/01.