

File Name: Supplementary Data 1

Description: **Supertype designations among identified MHC IIb alleles.**

File Name: Supplementary Data 2

Description: **Location and genotype information for each sample.** For each individual, the specific MHC IIb alleles, which comprise the genotype are given, alongside the supertype group that each allele belongs to. The total number of alleles ( $A_i$ ), and superotypes ( $ST_i$ ) are also given.

File Name: Supplementary Data 3

Description: **Comparisons of metrics that define each supertype across populations of guppies.**

File Name: Supplementary Data 4

Description: **The frequency of each allele per supertype per population.** The cumulative frequency of a supertypes alleles is also given. Alleles are counter shaded to show those that translate into identical Protein Binding Region amino acids sequences.

File Name: Supplementary Data 5

Description: **Pairwise population estimates of  $D_{est}$  based microsatellite allele frequencies.**

File Name: Supplementary Data 6

Description: **Pairwise population estimates of  $D_{est}$  based MHC allele frequencies.**

File Name: Supplementary Data 7

Description: **Pairwise population estimates of  $D_{est}$  based MHC supertype frequencies**

File Name: Supplementary Data 8

Description: **Microsatellite genotypes**