

SUPPLEMENTARY INFORMATION

for “Evaluating the use of ABBA-BABA statistics to locate introgressed loci”

by Simon H. Martin, John W. Davey and Chris D. Jiggins

Figure S1. Percentage of Alternate windows identified by D in simulations. Each circle represents one of 360 simulated models, colored by Model Type, and defined by variations in the four split times Bgt₁₂, the split time between P₁ and P₂ in the Background topology; Bgt₁₂₃, the split time between the merged P₁ and P₂ populations and the P₃ population in the Background topology; Alt₂₃, the split time between P₂ and P₃ in the Alternate topology; and Alt₁₂₃, the split time between the merged P₂ and P₃ populations and the P₁ population in the Alternate topology. The size of each circle represents the accuracy of the statistic in identifying the Alternate windows, defined as the percentage of Alternate windows defined as outliers by D. Many locations in the parameter space are not modeled (for example, Bgt₁₂ must always be smaller than Bgt₁₂₃, and Alt₂₃ must always be smaller than Alt₁₂₃).

Figure S2. Percentage of Alternate windows identified by *f* in simulations. See Figure S1 for detailed description.

Figure S3. Comparing the accuracy of D and *f* outliers for identifying Alternate windows. Accuracy of the D and *f* statistics for all 360 models at three different window sizes. For each model, accuracy was calculated as the percentage of Alternate windows that were among the top ten percent of D or *f* values.

Figure S4. The effect of window size on the accuracy of D and *f* outliers for identifying Alternate windows. Accuracy in each of the 360 models using a window size of 5 kb plotted against accuracy at window sizes of 10 kb (top row) and 20 kb (bottom row). Accuracy was calculated as the percentage of Alternate windows that were among the top ten percent of D (left) and *f* (right) values.

Figure S5. Mean d_{XY} between population pairs across *Heliconius* autosomes, for D and *f* outlier and non-outlier windows. ***= $p < 0.001$, **= $p < 0.01$ (Wilcoxon rank-sum test)

File S6. Model parameter list for all 360 models. Bgt₁₂₃ (Background_t123), Bgt₁₂ (Background_t21), Alt₁₂₃ (Alternate_t123) and Alt₂₃ (Alternate_t23) split times are given for each model, along with the appropriate model type (ModelType) for each parameter combination. Filename: File_S6_Model_parameter_list.csv.









