Supplemental figure 1. The Relationship between VAB and SN Number and Diameter in Los Sabinos Cavefish, Surface Fish, and the F1 Progeny of a Surface Fish × Cavefish Cross

Scatter plots showing the relationship between the SN number (A), diameter (B), and VAB, measured as the square root of NOA. SN diameter is significantly correlated with VAB (see Figure). Los Sabinos cavefish: n = 10; surface fish: n = 19; F1 from Surface fish ♀ × Los Sabinos cavefish ♂ (F1_{SL}): n = 60; F1 from Los Sabinos cavefish ♀ × Surface fish ♂ (F1_{LS}): n = 67. Linear regression line is in red.
Supplementary figure 2. A model for the generation of disparity between mtDNA and nDNA by a paternal genetic effect on an adaptive behavior. Orange and black bars indicate cavefish and surface fish alleles and red horizontal lines are an adaptive trait (for example, a VAB gene) locus. Orange and black circles indicate mitochondrial genomes from cavefish and surface fish, respectively. Red asterisks indicate individuals that express an adaptive trait (VAB). In the F1 generation, hybrids sired by cavefish inherit surface fish mitochondria and express the adaptive trait. In contrast, the surface fish-sired hybrids lack the adaptive trait and have higher chance to become extinct.
**Supplementary figure 3.** Probabilities for fixation of surface fish mtDNA in a cavefish population using population size and the number of introgressed surface fish as parameters. The black dashed lines indicate the calculated fixation probability of surface fish mtDNA by random genetic drift. The mathematical simulations were repeated 2,000 times in the middle column (the number of introgressed surface fish: 50, population sizes: 500 and 5,000), and 400 times in others. In all cases, only the Pachón-type fitness value provided a higher probability to fix surface fish mtDNA in the population than random genetic drift.