

Additional file 2

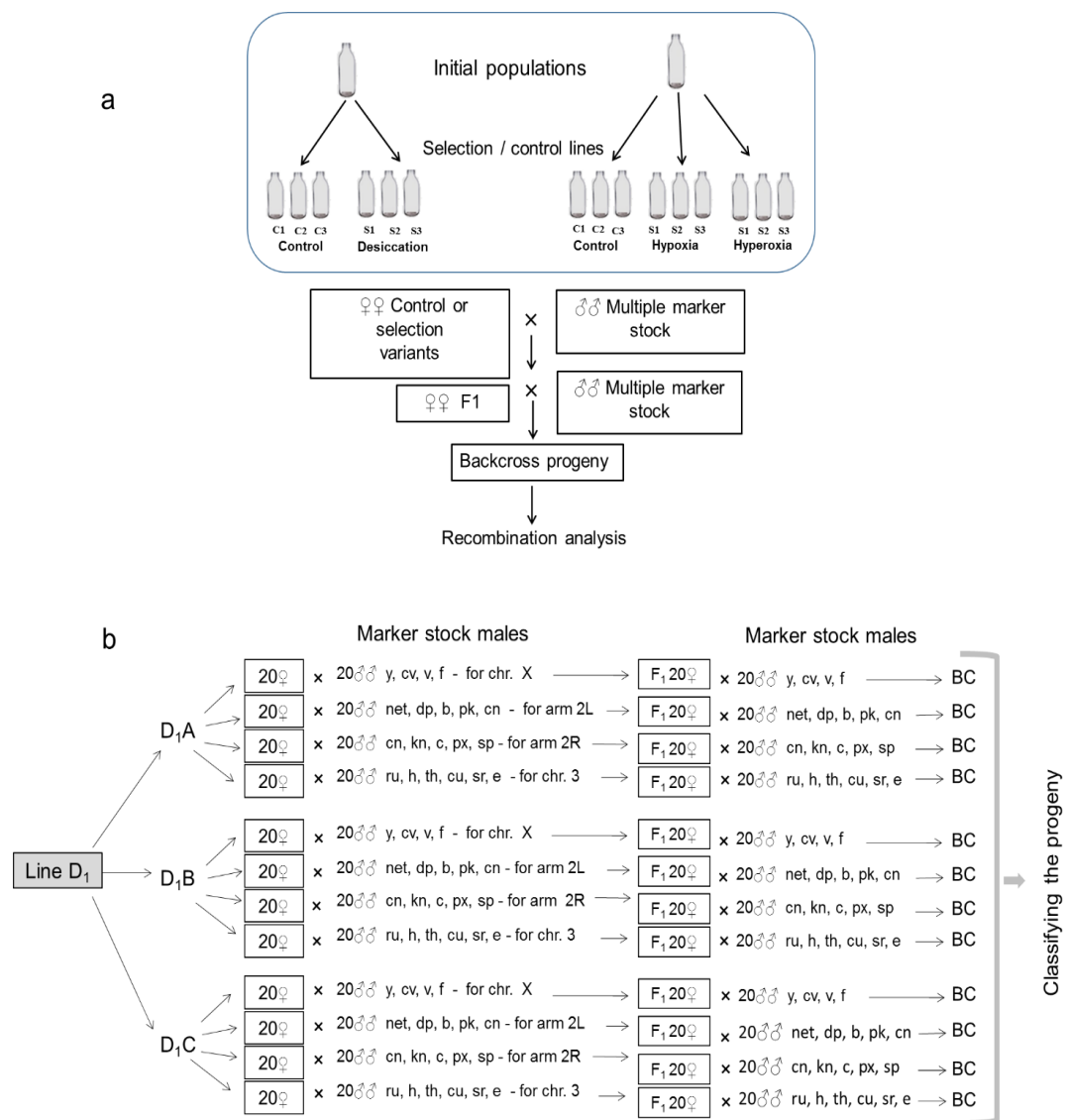


Figure S1

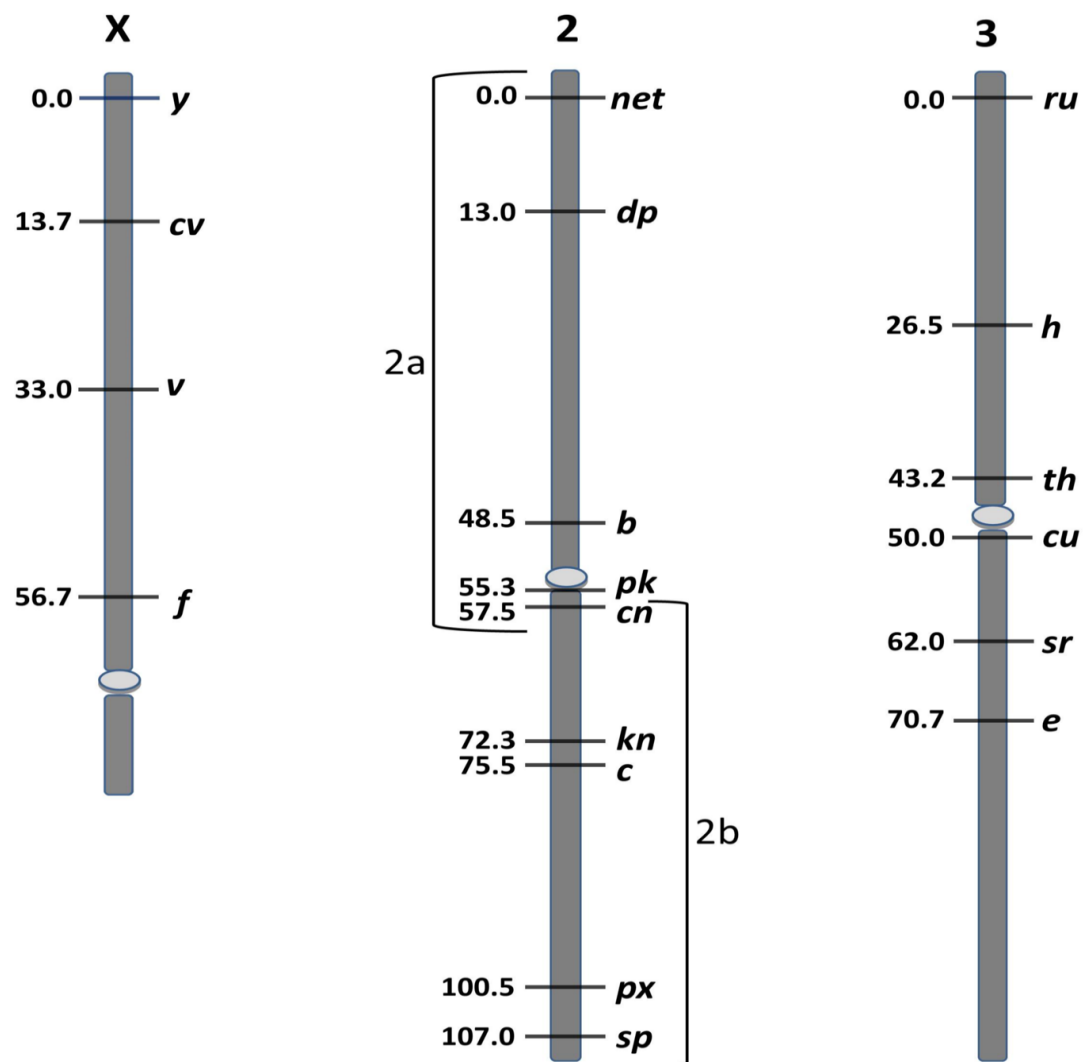


Figure S2

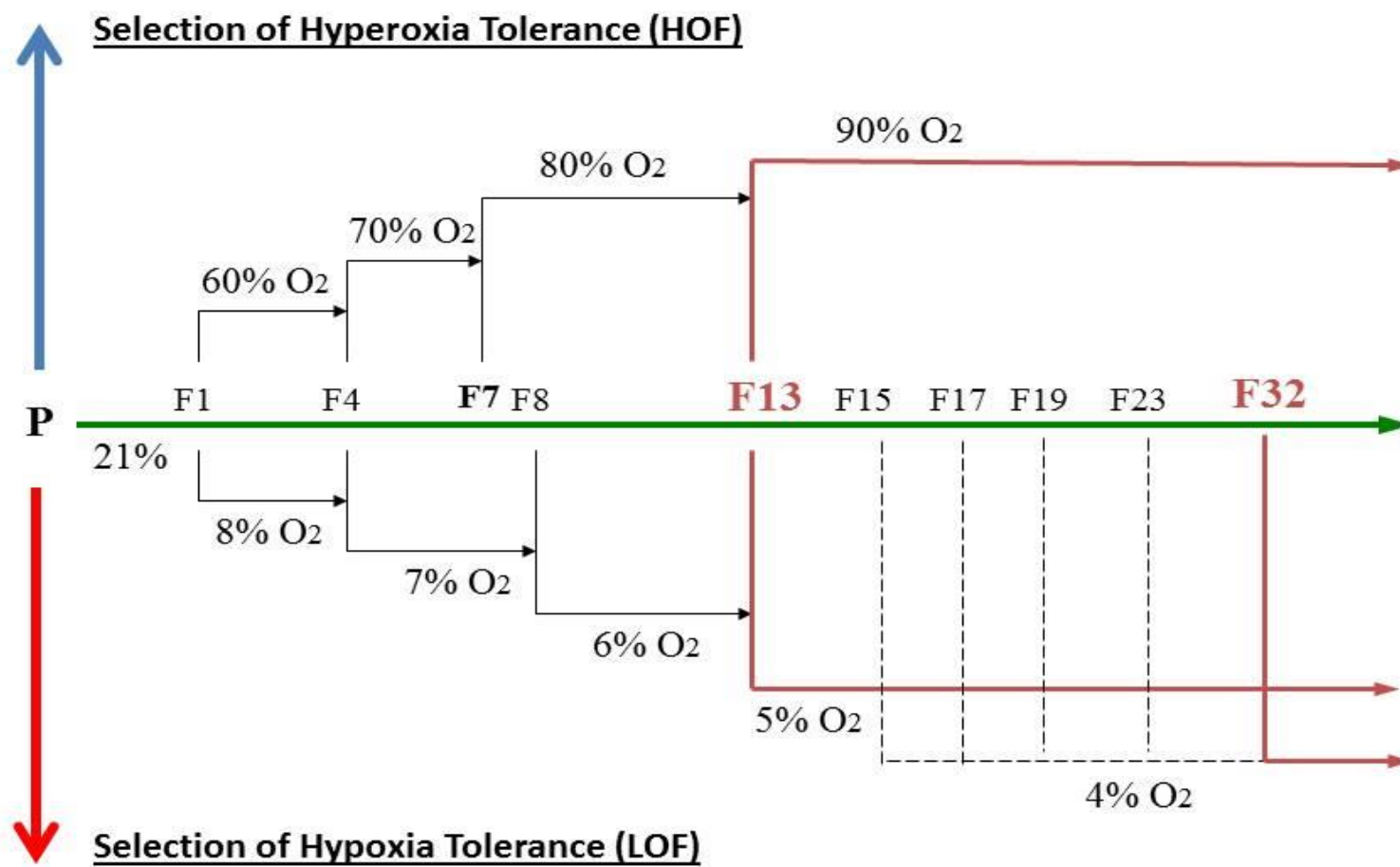


Figure S3

Legends to supplementary Figures

Figure S1. Analyzing the effect of selection for tolerance to desiccation, hypoxia and hyperoxia stresses on recombination in *Drosophila melanogaster*: (a) general scheme; (b) a fragment of the flowchart for selected line D1 of the desiccation experiment.

Figure S2. Marker lines employed in the study. For each chromosome a separate line was employed, excluding chromosome 2, where two lines (a and b) were used.

Figure S3. Selection for hypoxia/hyperoxia tolerance was initiated after crossing 27 isofemale *D. melanogaster* lines. The feasibility and tolerance capacity of the F₁ progeny of the parental cross to different O₂ concentrations was analyzed in the trial experiments. After 7 generations of selection, hyperoxia tolerance was increased to 80% O₂, and after 13 generations of selection, the hypoxia tolerance in the hypoxia-selected flies (i.e., low oxygen flies (LOF)) reached 5%, a level of hypoxia that is lethal for most of the control flies. The hyperoxia-selected flies (i.e., high oxygen flies (HOF)) broke through the lethal hyperoxic level (90% O₂) after 13 generations of selection, and the LOF flies exhibited tolerance to a severe level of hypoxia (i.e., 4% O₂, embryonic lethal to control flies) following 32 generations of selection.