



### Supplementary Figure 1. Cybrid cross design.

To create cybrids, individual *C. briggsae* from two different wild isolates are crossed in the P0 generation. A representative diploid nuclear autosomal chromosome pair (“A,” horizontal bars) in the nucleus (white rectangle) and a mitochondrial (“mt”) genome (“mt,” oval) in the cytoplasm of a cell (gray rectangle) are shown. Gray chromosomes represent AF16 haplotypes, for example, and black chromosomes HK104 haplotypes. In the F1 and backcross 1 (B1)–B10 generations, hybrid hermaphrodites are self-sperm depleted and then crossed to a male from the P0 paternal wild isolate. This introgresses the paternal nuclear genome (reducing the average percent heterozygosity by half in each successive generation) into the maternal cytoplasmic background, ultimately producing a cybrid line with a maternally inherited mitotype and the paternal nuclear genotype.