Supporting Information

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Fig. S1. Tyrosine hydroxylase-immunoreactive (TH-ir) cells and fibers (Alexa Fluor 488; green) and Fos-ir nuclei (Alexa Fluor 594; red) in the rostral ventral tegmental area (VTA) of a male zebra finch after exposure to a female (*A* and *B*). The interpeduncular nucleus (IP) appears on the midline in *A*, and DAPI nuclear stain is shown as blue in *B*. (*C*) Labeling in the caudal VTA and substantia nigra (SN). Note that small cells predominate medially within the VTA (arrows) and mingle with larger cells in the central portions of the nucleus. (Scale bar: for *A* and *C*, 200 µm; for *B*, 100 µm.)



Fig. 52. Fos-ir cell counts and TH-Fos colocalization in the rostral VTA of male zebra finches that reliably court ("courters," black fills) or fail to court ("non-courters," no fills). (A) Percentage of TH-ir neurons that express Fos following exposure to control conditions, a positive nonsocial stimulus (water bath, courters only), or a female. Data are shown as means \pm SEM. *, P = 0.04, unpaired t test. (B) For subjects that were exposed to females (n = 16), song number is significantly correlated with the number of TH-negative (presumably GABAergic) cells that express Fos. (C) Fos-ir cell counts in the rostral VTA. Groups as in A. Different letters above the error bars denote significant differences between courter groups (Fisher's PLSD P < 0.05 after significant ANOVA, P = 0.03). Group n's are indicated at the base of each bar.



Fig. S3. TH-ir cells in the caudal VTA of male zebra finches reflect gonadal state. (A) Gonadosomatic index predicts TH-ir cell number in the caudal VTA. Total n = 38. (B) Gonadosomatic index predicts the Fos response of TH-ir neurons to a female stimulus. Total n = 16. Courters and non-courters are indicated by black fills and no fills, respectively.