**Supplementary information**

(A) Partial alignment of the male and the female isoforms of *B. anynana* dsx coding sequence. The forward and the reverse primers used to amplify a region of the dsx sequence for RNA *in situ* hybridization are highlighted in yellow. Note that the amplified fragment is common to both the female and the male isoforms.

(B) Schematics showing the position of *B. anynana* dsx probe relative to the male and female isoforms of dsx from *B. mori*.

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**Supplemental Fig S1. Partial dsx sequence alignment in *B. anynana* and *in situ* probe location.** (A) Partial alignment of the male and the female isoforms of *B. anynana* dsx coding sequence. The forward and the reverse primers used to amplify a region of the dsx sequence for RNA *in situ* hybridization are highlighted in yellow.

Note that the amplified fragment is common to both the female and the male isoforms.

(B) Schematics showing the position of *B. anynana* dsx probe relative to the male and female isoforms of dsx from *B. mori*. 
Supplemental Fig S2 (To fig. S3A). *Dsx* is not expressed in the developing eyespot centers in *B. anynana*, but is present in male androconial organs. (A) Proximal and distal forewing (FW) sectors in *B. anynana* (B) Anterior and posterior hindwing (HW) sectors. FW proximal and HW anterior sectors in males have androconial organs, which are absent in females. (C) Proximal sectors in FW in DS males and WS males express *dsx*. Similar expression is observed in WS male HW anterior sectors, which also contain androconial organs. *dsx* is absent in wing regions with eyespots in both males and females. *EF-1α* is present as a control in all treatments. (P- Proximal, D- Distal, C- Control, A- Anterior, P- Posterior, W- entire wing, L- 1Kb plus ladder; *dsx* expected band size ~ 200bp, *EF1α*~ 450bp). We used three biological pools (Number of wings in each pool = 5) of males and females of each seasonal form for these experiments and the results were identical across all biological replicates.