

Figure S1: Wing diagrams illustrating areas and lengths compared over stages and genotypes. Three areas were measured: interveins A and B (anterior, green), intervein C (middle, magenta) and intervein D (posterior, blue). We measured the distances between the twenty-eight possible pairwise combinations of the eight landmarks. Only four distances are shown in the diagram for clarity, between landmarks 2-3 (len23); 3-5 (len35); 5-8 (len58) and 7-8 (len78). In addition, we measured the length of a portion of the anterior margin (lenAnt) and of a portion of the posterior margin (lenPost) using landmarks landmarks 1, 3, 5, 7 and the semi-landmarks.

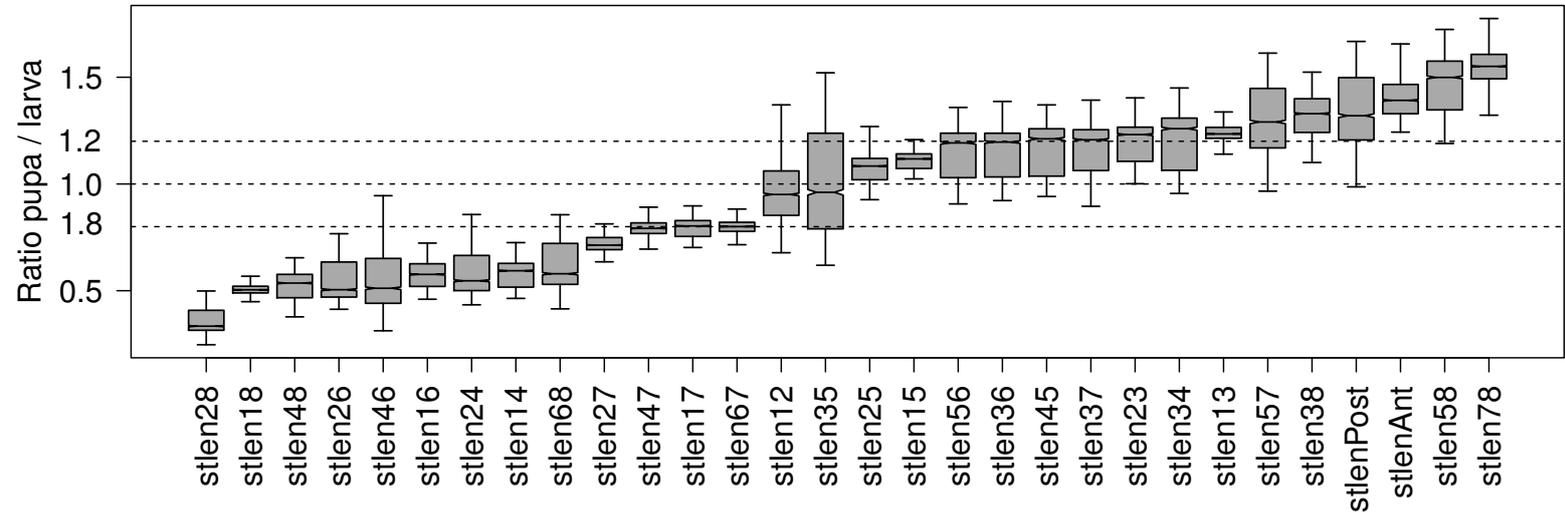
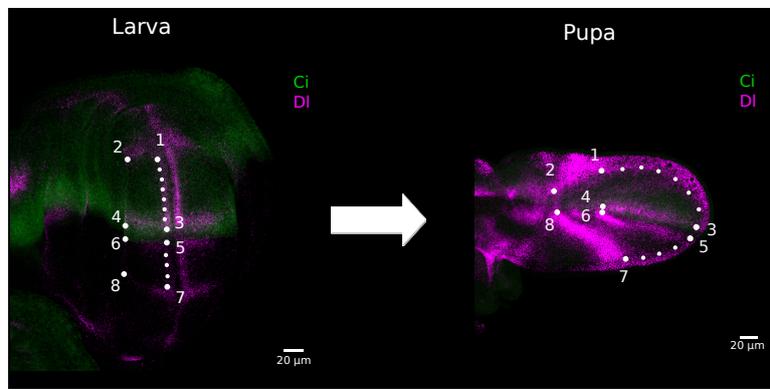
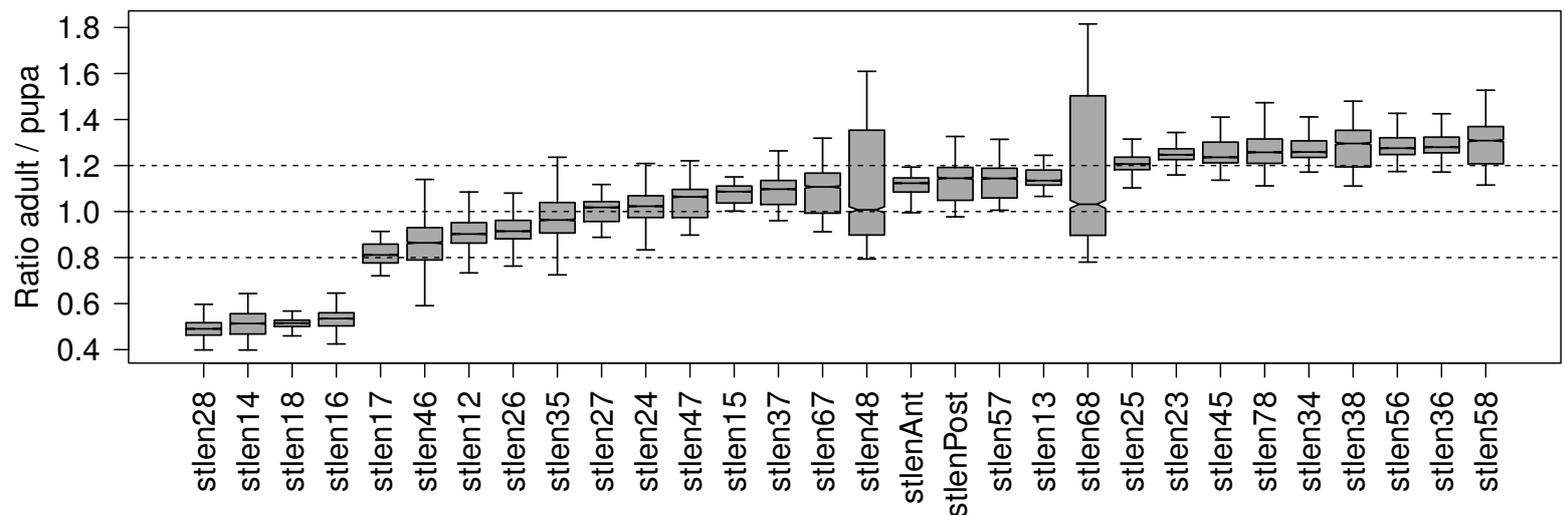
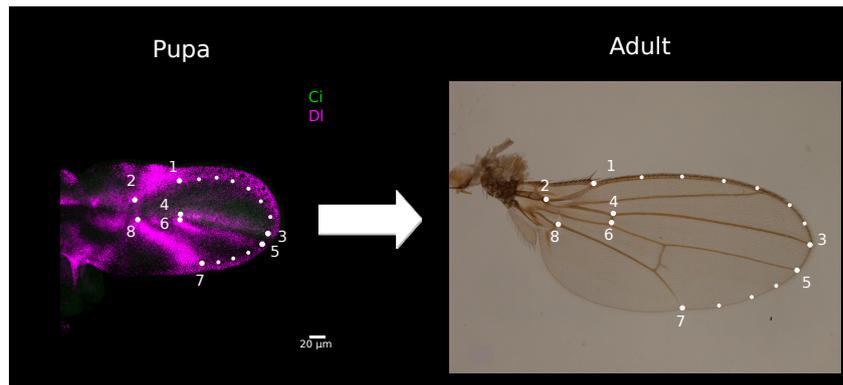
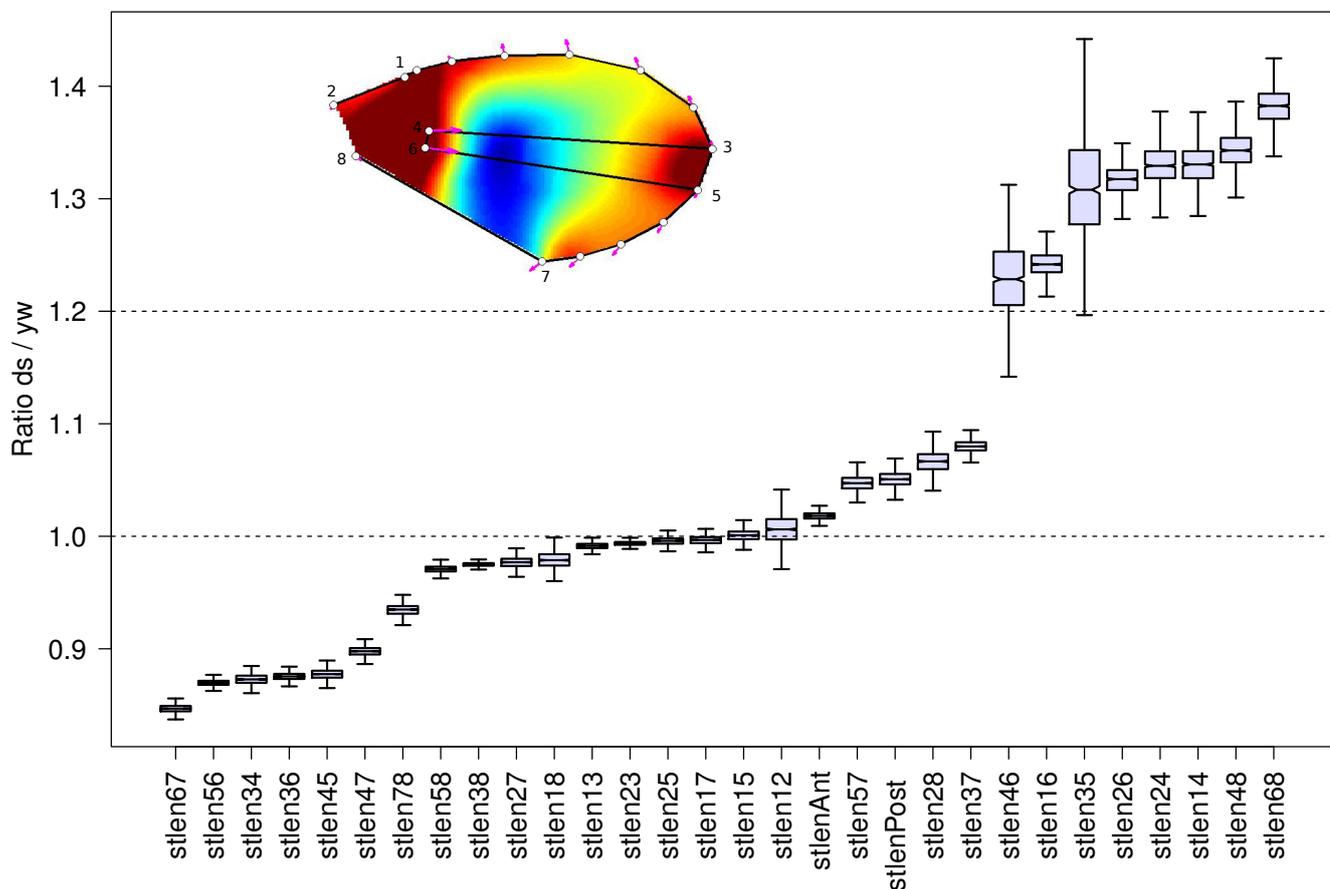
a.**b.**

Figure S2. Change in standardized lengths during development (all genotypes pooled).

The boxplots show, for the distances corrected by the centroid size between each of the twenty-eight possible pairwise combinations of the eight landmarks (stlen), the ratio of the mean for stage 2 (e.g. pupal) over the mean for stage 1 (e.g. larva). Variance for the ratios were obtained by bootstrap ($n = 1000$, see methods). Notches on the boxplots display the 95 % confidence interval around the median.

a. Ratio pupal/larva. **b.** Ratio adult/pupa. Pictures (from Fig. 3) for larval, pupal and adult wings with landmarks positions are shown.

a. For standardized lengths.



b. For absolute and relative areas.

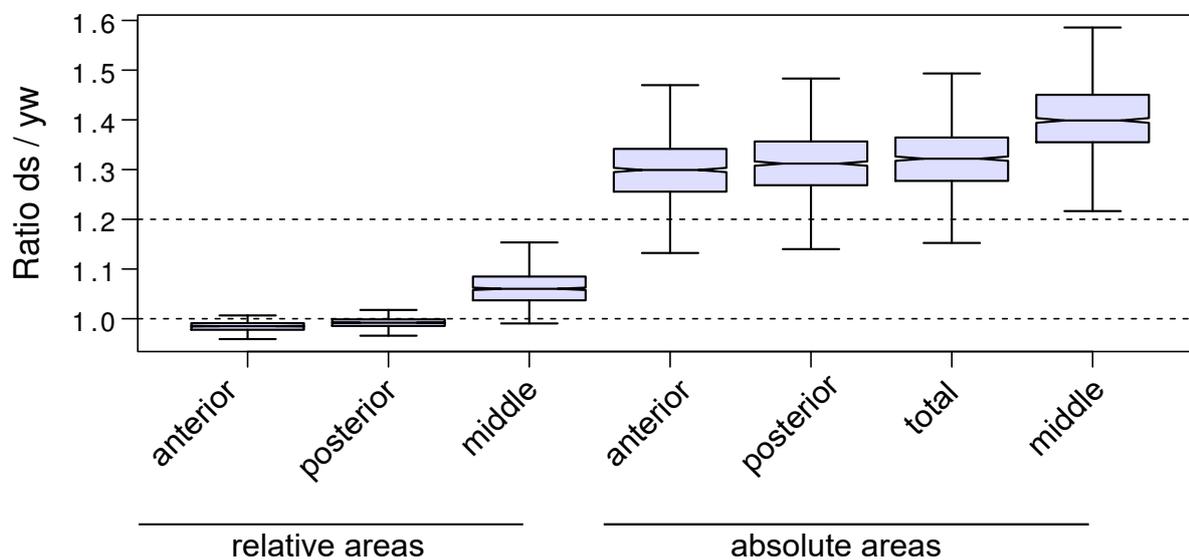


Figure S3. Variation between genotypes yw and ds in adult wing univariate measurements. The boxplots show for each variable the ratio of the mean for genotype ds over the mean for genotype yw. Variances for the ratios were obtained by bootstrap ($n = 1000$, see methods). Notches on the boxplots display the 95 % confidence interval around the median. **a.** Changes in the distances corrected by the centroid size between each of the twenty-eight possible pairwise combinations of the eight landmarks. A diagram (from Fig. 7) summarizing the overall adult wing shape variation between yw and ds is shown. **b.** Changes in absolute areas and in areas corrected by the total wing area (relative area).

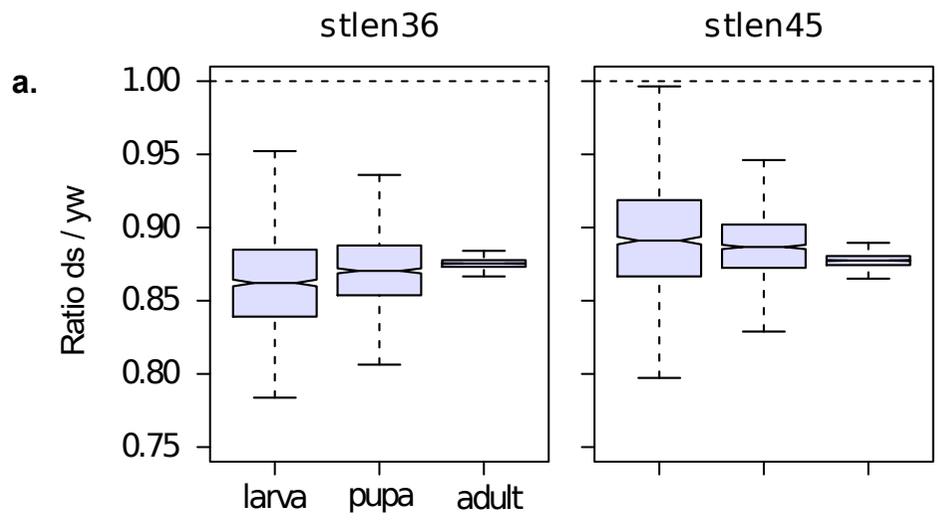
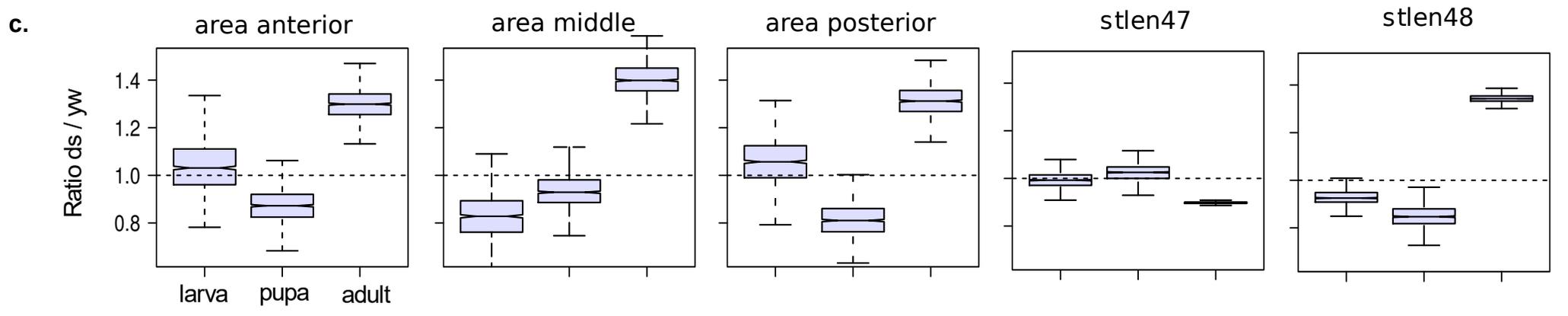
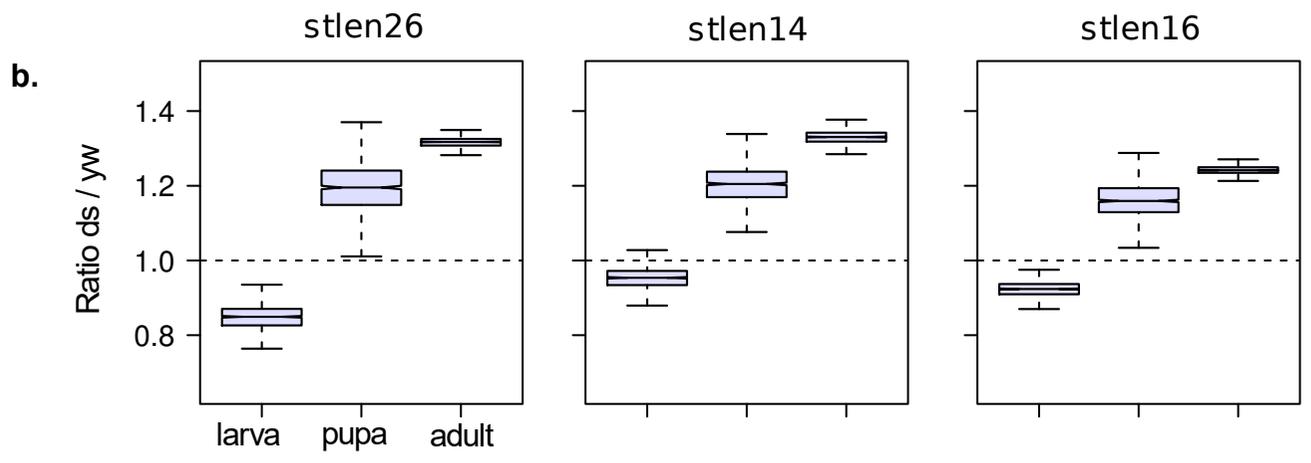
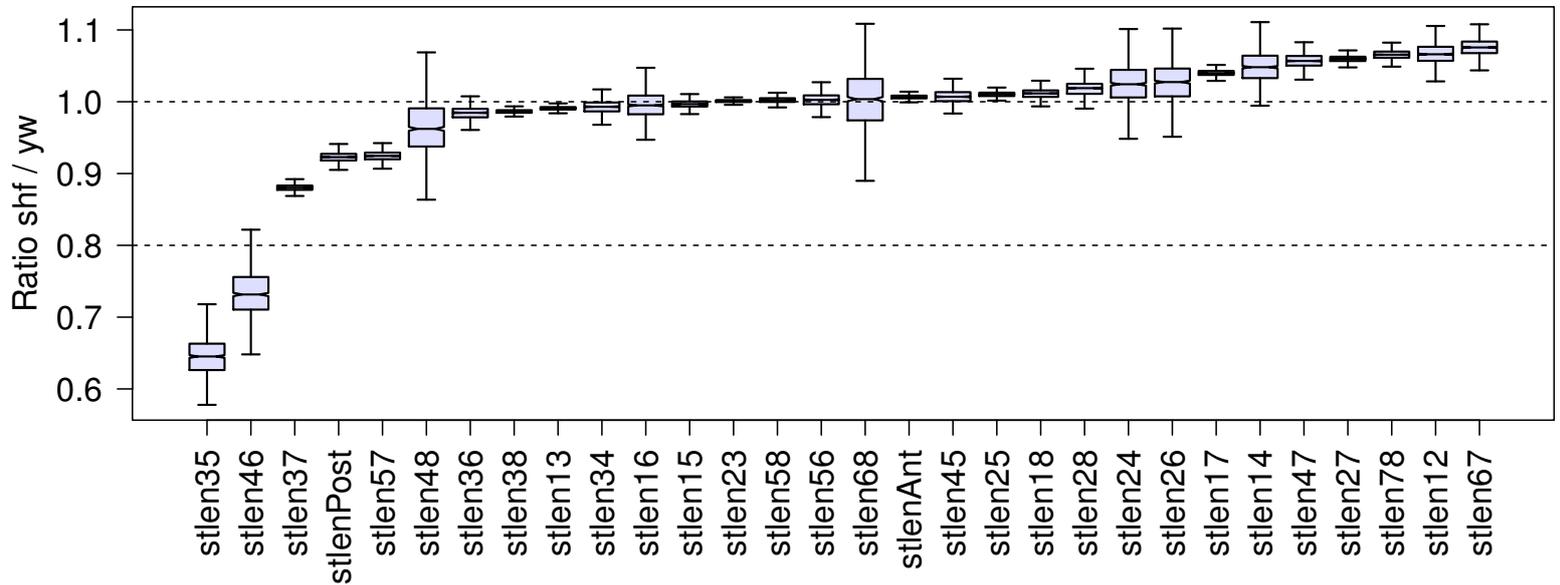
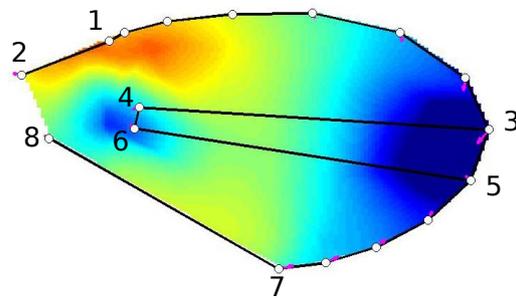


Figure S4. Developmental stage at which the adult wing shape differences between ds and yw appear. The boxplots show ratios of means between yw and ds genotypes at each stage for standardized distances between the pairs of landmarks (stlen) and areas. Variance for the ratios were obtained by bootstrap ($n = 1000$, see methods). Notches on the boxplots display the 95 % confidence interval around the median. **a.** Variables for which the differences between ds and yw adult wings appear before the 3rd instar larval stage. **b.** Variables for which the differences between ds and yw wings appear during the larva to pupa transition. **c.** Variables for which the differences between ds and yw wings appear during the pupa to adult transition. L, larva; P, pupa; A, adult.



a. For standardized lengths.



b. For absolute and relative areas.

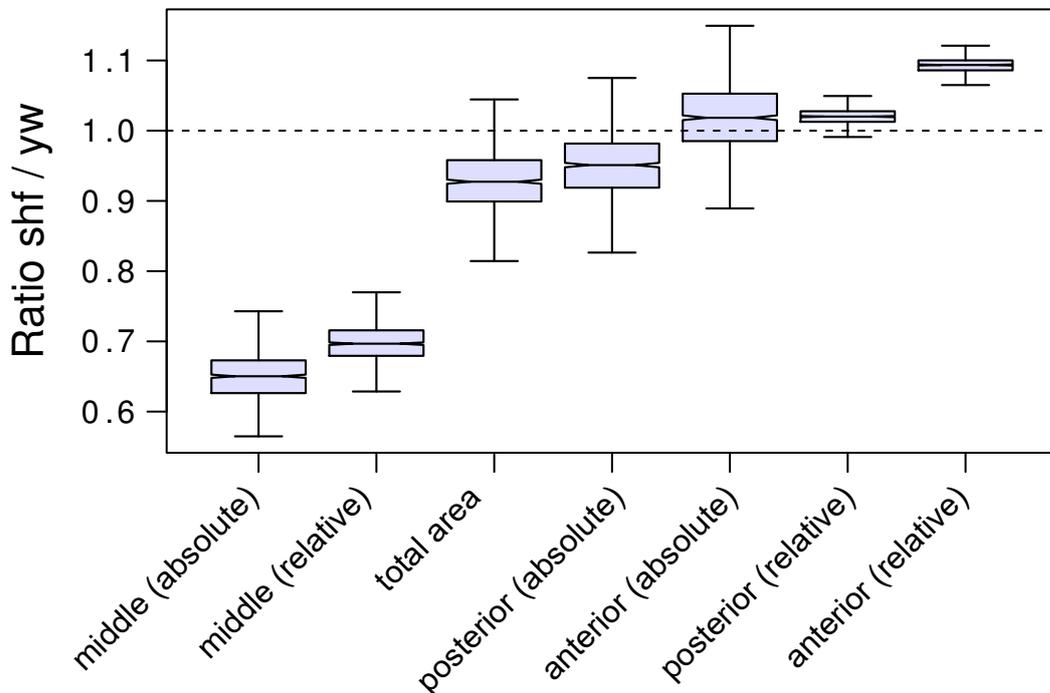


Figure S5. Change in adult wings univariate measurements between genotypes *yw* and *shf*.

The boxplots show, for each variable, the ratio of the mean for genotype *shf2* over the mean for genotype *yw*. Variance for the ratios were obtained by bootstrap ($n = 1000$, see methods). Notches on the boxplots display the 95 % confidence interval around the median. **a.** Changes in the distances corrected by the centroid size between each of the twenty-eight possible pairwise combinations of the eight landmarks. A diagram (from Fig. 6) summarizing the overall adult wing shape variation between *yw* and *shf2* is shown. **b.** Changes in absolute areas and in areas corrected by the total wing area (relative area).