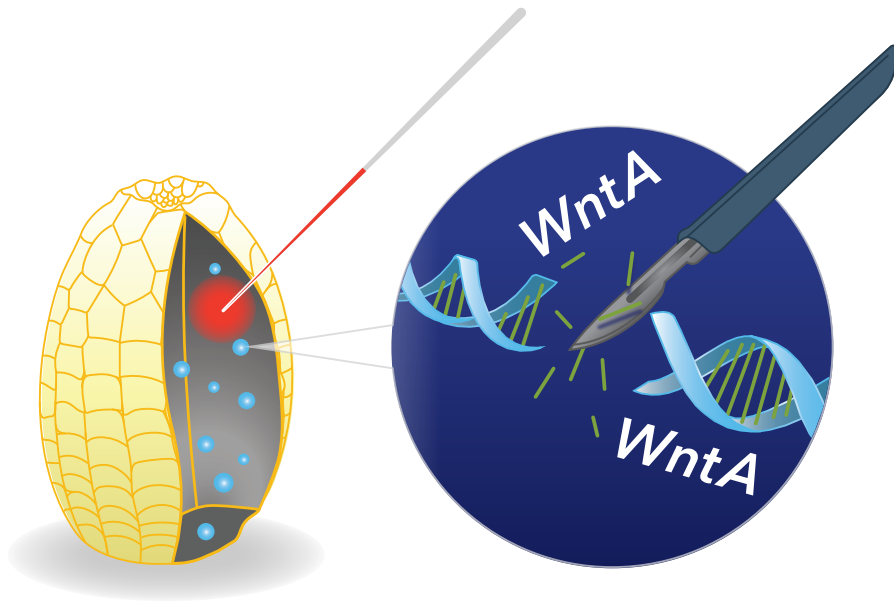
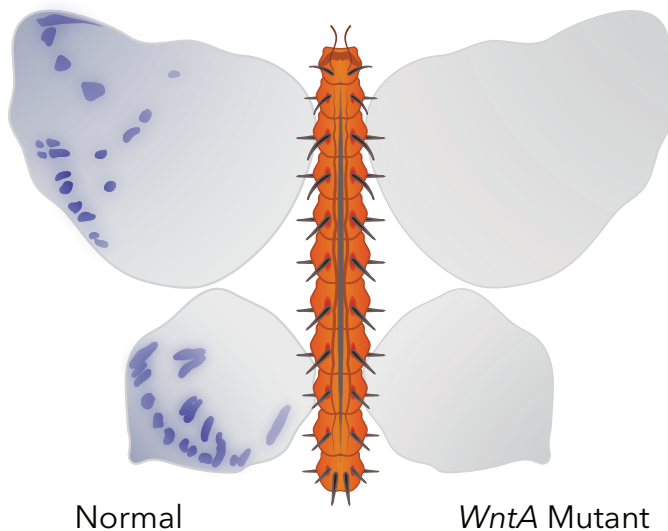


# CRISPR Reveals how Butterflies use a "Painting Gene" to Shape Wing Color Patterns



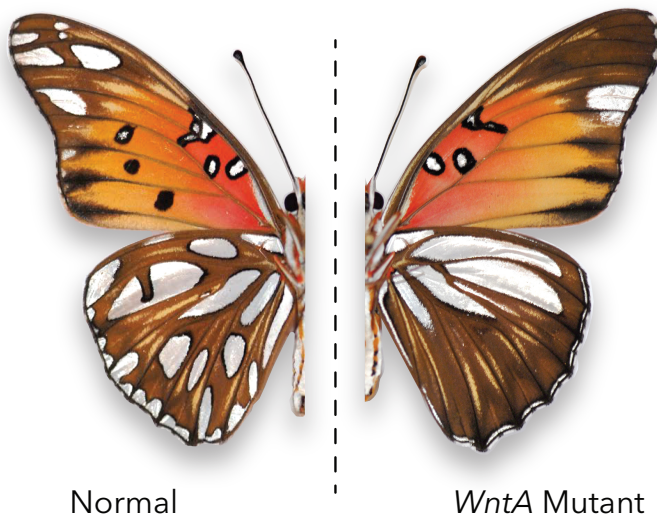
- 1 CRISPR is injected into butterfly embryos, inactivating the *WntA* gene in a random subset of cells.

## Larval Gene Expression



- 2 As caterpillars progress through the life cycle toward butterflies, the *WntA* gene is normally active in developing wings tucked away inside their bodies (blue, left). *WntA* pre-patterns color and shape information on the wing.

## Adult Wing Patterns



- 3 Butterfly wings with *WntA* develop complex wing patterns (left). Removing *WntA* dramatically changes the colors and organization of the wing in mutant butterflies (right).