

Supplementary Figure S1. Photographs of the *Atriplex* parents, F₁ hybrid, and F₂ hybrids included in this study. Composite of four-week old plants (A) and leaves (B) taken from the same plants. Leaf photographs are of the second most-recently fully expanded leaf from the youngest axillary shoot.

Supplementary Figure S2. The response of net CO₂ assimilation rate, A , to intercellular CO₂, C_i . All A versus C_i response curves were measured at 30°C and light intensity of 1500 $\mu\text{mol photons m}^{-2}\text{s}^{-1}$. (A) The parents and F₁ hybrid. (B) F₂ hybrids with CO₂ compensation point (Γ) < 30 $\mu\text{mol mol}^{-1}$. (C) F₂ hybrids with Γ > 30 $\mu\text{mol mol}^{-1}$.

Supplementary Figure S3. Light micrographs of cross-sections through leaves of *Atriplex prostrata* x *Atriplex rosea* hybrids (A) F₂-107, (B) F₂-109, (C) F₂-112, (D) F₂-118, (E) F₂-119, and (F) F₂-120. Abbreviations: *, bundle sheath cells; c, chloroplasts, m, mesophyll cells, n, nucleus, and v, vascular tissue. Bars = 50 μm .





