Photo Gallery

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CYTOTYPE AND GENOTYPE PREDICT MORTALITY AND RECRUITMENT IN COLORADO QUAKING ASPEN (*POPULUS TREMULOIDES*)

Benjamin Blonder

Study Description

Quaking aspen is a dominant species in western North America, but is experiencing extensive dieback in many portions of its range. This study investigates the genetic basis of aspen demography (mortality and recruitment) along climate gradients in southwestern Colorado, using a combination of field measurements and genomic analyses. The study shows that triploid genotypes are at higher risk in environments associated with hotter and drier conditions, and thus that the future distribution of aspen is likely to depend on the outcome of these genotype × environment interactions. The study involved contributions from several excellent undergraduate student researchers.

Blonder, B. 2021. Cytotype and Genotype Predict Mortality and Recruitment in Colorado Quaking Aspen (*Populus tremuloides*). Bull Ecol Soc Am 102(4):e01930. https://doi.org/10.1002/bes2.1930

Photo 1. Aspen forests are common in southwest Colorado. Photo credit: Benjamin Blonder.

Photo 2. Co-authors Ray (left) and Castaneda (right) set up a slingshot for sampling canopy leaves for genomic analyses. Photo credit: Benjamin Blonder.

Photo 3. Co-author Gaüzère surveying a damaged aspen stand on a steep slope. Photo credit: Benjamin Blonder.

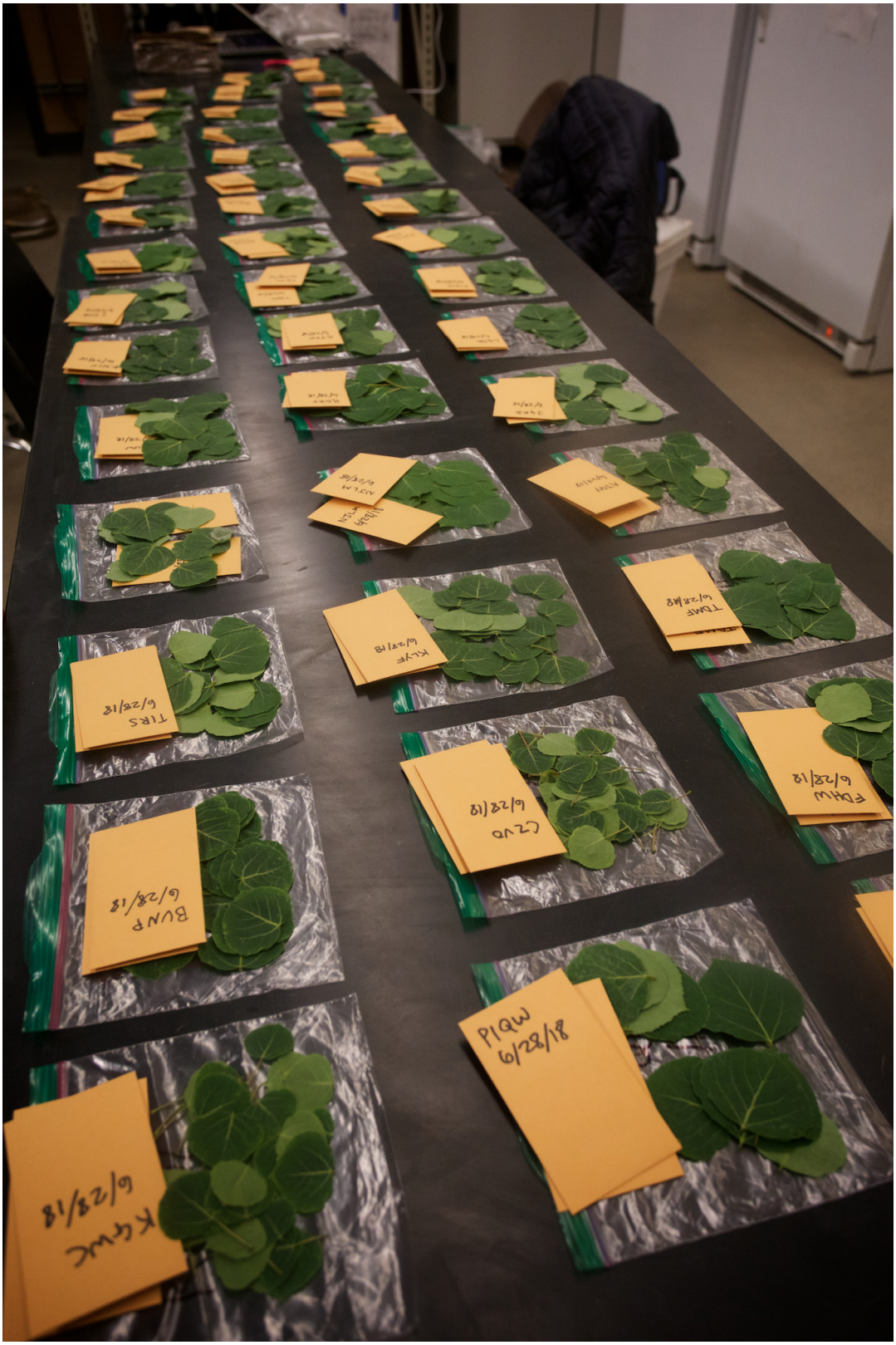

Photo 4. Leaf samples used for genomic analyses. Photo credit: Benjamin Blonder.

These photographs illustrate the article "Cytotype and genotype predict mortality and recruitment in Colorado quaking aspen (*Populus tremuloides*)" by Benjamin Blonder, Courtenay A. Ray, James A. Walton, Marco Castaneda, K. Dana Chadwick, Michael O. Clyne, Pierre Gaüzère, Lars L. Iversen, Madison Lusk, G. Richard Strimbeck, Savannah Troy, and Karen E. Mock published in *Ecological Applications*. https://doi.org/10.1002/eap.2438.