# Article information:

Introgression from Populus balsamifera underlies adaptively significant variation and range boundaries in P. trichocarpa - Suarez‐Gonzalez - 2018 - New Phytologist - Wiley Online Library
<https://nph.onlinelibrary.wiley.com/doi/full/10.1111/nph.14779>

# Article summary:

1. Introgression from Populus balsamifera into Populus trichocarpa can provide beneficial variants that result in accelerated adaptation and improved survival in new environments.

2. Variation in adaptive traits such as phenology and disease susceptibility is seen along the range of P. trichocarpa, suggesting local adaptation plays an important role.

3. This study used admixture mapping to explore if introgressed regions with unusually high levels of P. balsamifera ancestry are driving variation in locally adaptive traits, and phenotypic analyses to detect if trait variation along a latitudinal gradient was associated with variation in geoclimatic variables in admixed and pure P. trichocarpa individuals.

# Article rating:

Appears well balanced: The article presents the information in a reliable and balanced way, without biases and prejudices. The claims made in the article are well supported and, where applicable, all sides of the argument are given opportunity to present their point of view. The article appears trustworthy and reliable.

# Article analysis:

The article “Introgression from Populus balsamifera underlies adaptively significant variation and range boundaries in P. trichocarpa” by Suarez-Gonzalez (2018) is a well-written and comprehensive review of the potential for introgression between two closely related species of poplar trees, Populus balsamifera and Populus trichocarpa, to drive adaptive evolution within the latter species. The article provides a thorough overview of the evidence for introgression between these two species, as well as its potential implications for local adaptation within P. trichocarpa populations across its range. The article is based on sound scientific evidence, including both empirical data from previous studies as well as simulations demonstrating the potential for gene flow between species to increase standing variation available for adaptive evolution.

The article does not appear to be biased or one-sided; it presents both sides of the argument fairly and objectively, providing evidence both for and against introgression playing a role in local adaptation within P. trichocarpa populations across its range. Furthermore, it does not appear to contain any promotional content or partiality towards either side of the argument; instead it provides an unbiased overview of the evidence available on this topic without taking sides or making unsupported claims or assumptions about either side's position on this issue.

The article also does not appear to contain any missing points of consideration or unexplored counterarguments; instead it provides a comprehensive overview of all relevant evidence on this topic while noting possible risks associated with introgression between these two species where applicable (e.g., disruption of recipient genomic background). In conclusion, this article appears to be trustworthy and reliable overall; it provides an unbiased overview of all relevant evidence on this topic while noting possible risks associated with introgression between these two species where applicable

# Topics for further research:

* Local adaptation in Populus trichocarpa
* Introgression between Populus species
* Genomic background disruption
* Adaptive evolution in Populus balsamifera
* Range boundaries of Populus trichocarpa
* Standing variation in Populus trichocarpa

# Report location:

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