**Domestication and altered pathogen virulence genetics**

Here we find evidence of a mild host domestication effect on resistance to the generalist pathogen, *Botrytis cinerea.* Tomato domestication decreases resistance by 18%. However, domestication status alone is a poor predictor of host response to infection by *B. cinerea*. Virulence as lesion size is a cumulative phenotype due to genetic variation in *B. cinerea* (10% of variation), with smaller contributions from host genetics (3% of variation) and host domestication status (<1% of variation). This suggests that while plant domestication does affect tomato-*B. cinerea* interactions, it is not the primary evolutionary force in defining these interactions. Genetic variation contributing to lesion size within the tomato species studied exceeds the variation between species, or due to domestication.

The pattern of a mild increase in resistance to B. cinerea due to plant domestication, and within-species plant variation exceeding the contribution of domestication itself, may be unique to interactions between *Botrytis* and tomato, or more general. It remains to be seen if these patterns hold for *B. cinerea* on its other host plants. Does domestication have a universal affect on plant resistance to *B. cinerea*, or is each domestication event unique?

Host domestication is theoretically expected to decrease resistance to pathogens as alleles are lost in the domestication bottleneck. This assumption is supported in studies of specialist pathogens [GIVE EXAMPLES]. Surprisingly, we did not find evidence for a domestication bottleneck in resistance to *B. cinerea*. This contradicts our expectation of a genome-wide loss of variation through domestication. In fact, the increased phenotypic diversity for resistance suggests increased genotypic diversity. This could be due to recombination between domesticated lines, as new combinations of alleles are mixed together in the domesticated lines.

Tomato domestication increases resistance to our population of B. cinerea as expected, but this effect is surprisingly mild, and we do not see the expected decrease in resistance variation expected due to a domestication bottleneck. However, tomato domestication may have a larger effect on the virulence of a subset of domestication-sensitive isolates. Host domestication only significantly affected three out of the 91 isolates we studied. So while host domestication consistently reduces resistance to this generalist pathogen, this may be driven by a domestication-sensitive subset of *B. cinerea* genotypes. Given that the effect of host domestication varies by *B. cinerea* genotype, this validates the approach of studying natural variation within *B. cinerea* to truly understand the factors contributing to *B. cinerea* virulence. Smaller sample sizes could miss the host domestication effect entirely, or provide a false positive signature of uniformly elevated virulence on domesticated hosts.

We observe a non-significant contribution of the interactions between B. cinerea isolates and plant genotype to lesion size. B. cinerea may not have a strong response to individual plant genotypes within tomato. Even so, in our full population B. cinerea is more sensitive to variation within tomato species, than between species due to domestication; specific isolates may be highly sensitive to variation within tomato species as well. \*\* test: which isolates are significantly genotype-sensitive if we first split the dataset by domesticated vs. wild? This may indicate increased Bc sensitivity to domesticated variation?

We can test in other host species whether B. cinerea is generally more sensitive to within-species variation than between species. What taxonomic level of host variation is B. cinerea most sensitive to?

We see no evidence of B. cinerea specialization to source hosts. This may be a mild effect. To confirm this, we would need to test more isolates on their source hosts vs. other hosts. The source host may not be the host to which B. cinerea is adapted (or it may not exhibit host adaptation).