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The origin of phenotypic novelty is a perennial question in evolutionary genetics, as it is a fundamental aspect of both adaptive evolution and intergenerational phenotypic change. However, there are few studies of biological pattern formation that specifically address multigenerational aspects of inheritance and phenotypic novelty. Previous research in Mimulus (monkeyflowers) has shown that a gene regulatory network subserves a Turing-type pattern formation mechanism (Ding et al., 2020). In this study, we present a first iteration of a model demonstrating that heterozygosity can be a source of novel pigment patterns in petals, resulting from the interaction between different allele forms. However, petals are not uniform spaces for pattern formation, as pigment spots are differentially expressed across the petal, along veins, and between edge and central locations. To investigate the possible roles of petal shape and vein tissue, we incorporated a petal-shaped mask and non-uniform rates of diffusion into the model following Calhoun-LeVeque (1999). In future work, we plan to compare our model's results with empirical results from a population of recombinant inbred lines. Our findings provide insights into the genetic control of phenotypic novelty and the role of heterozygosity in trait evolution, with potential implications for the study of evolutionary genetics and mathematical biology.