

**The New England Botanical Club  
Graduate Student Research Award  
2010 AWARD WINNER**

**Alison J. Parker**

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**The effect of pollinator behavior on pollen transfer and floral adaptation  
across a geographic landscape: *Claytonia virginica* and *Andrena erigeniae***

The heart of biotic pollination systems is the merging of the disparate goals of widely different taxa – namely, pollen and nectar foraging by flower visiting animals and pollen transfer for the reward-providing plant. Although these goals often coincide, floral visitation can sometimes be more parasitic than mutualistic. In addition, interspecific interactions can morph from mutualism to antagonism according to shifts in the community context over a geographic range. *Claytonia virginica* L. (Portulacaceae) is a spring ephemeral wildflower that, due to the abundance and pollen-collection capacity of a specialist bee *Andrena erigeniae*, may experience both mutualistic and antagonistic visitation. The proposed research will 1) identify and document differences in pollination effectiveness and visitation patterns among *C. virginica* visitors across its geographic range, 2) model and empirically investigate the fitness effects of geographic variation in species abundance and visitation rate, and 3) investigate adaptive plant responses to intensive pollen collection. The results of this research will elucidate the role of pollen specialists and other pollen-collectors in plant reproduction, as well as explore the importance of the community context in determining pollinator importance.

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The New England Botanical Club offers each year up to \$2,000 total in support of botanical research to be conducted by graduate students. The awards are made to stimulate and encourage botanical research on the New England flora, and to make possible visits to the New England region by those who would not otherwise be able to do so. It is anticipated that two awards will be given, although the actual number and amount of awards will depend on the proposals received.

The awards are given to the graduate student(s) submitting the best research proposal dealing with systematic botany, biosystematics, plant ecology, or plant conservation biology.