

## 2003 NEBC GRADUATE STUDENT RESEARCH AWARD RECIPIENTS

Mr. Jesse Bellemare of Cornell University for his proposal entitled "The Influence of Life History Traits on Patterns of Holocene Migration and Geographic Distribution of Forest Herbs in the Berberidaceae, Liliaceae and Ranunculaceae " and

This study will use a comparative, phylogeographic approach to investigate the relationships between plant life history traits (namely seed dispersal mode) and patterns of post-glacial Holocene migration and range expansion for an assemblage of herbaceous plants characteristic of the temperate deciduous forests of northeastern North America. Hypotheses to be tested are 1) that patterns of Holocene range expansion into the Northeast will be correlated with variation in seed dispersal mode, and 2) species with limited seed dispersal ability will exhibit a greater degree of disequilibrium in their modern range than taxa with vertebrate-dispersed seeds. Experimental transplants and seed sowing of the selected focal species in apparently suitable habitats within and beyond their current range edges will complement the phylogeographic analyses. Biotic and abiotic controls on species distributions will be assessed through comparison of demographic variables between experimental populations internal and external to the species' natural ranges. The award will be used to assist in locating seed sources and research sites.

Ms Julie Dragon of the University of Vermont for her proposal "The Systematics and Phylogeny of *Carex lenticularis* and its allies, section *Phacocystis* (CYPERACEAE)."

The proposal outlines research designed to 1) resolve inter- and infraspecific relationships among the monophyletic clade that includes *Carex lenticularis* and its allies; 2) evaluate the morphological variation found within variable populations of *C. lenticularis* and *C. aquatilis*; 3) infer the biogeographic history of the *C. lenticularis* group; and 4) investigate potential hybrid populations involving these taxa in order to examine the role of hybridization in their speciation. The Award will support travel to gather new specimens and generate additional molecular data on the infraspecific variation within North American populations of *C. lenticularis* and *C. aquatilis* and their allies. It will further be used to examine hybridization within both species.