

**The New England Botanical Club
Graduate Student Research Awards
2015 AWARD WINNER**

James Wood
Odum School of Ecology
University of Georgia

**Impacts of urbanization on an understudied riverine macrophyte,
Podostemum ceratophyllum Michx.: heavy metal accumulation and altered
elemental composition in relationship to change in watershed land use**

Changes in land use (impervious surface cover, agriculture and forest cover) are known to impact streams and rivers. We investigated how land use contributes to altered elemental composition, changes in δ -15-N abundance and the bioaccumulation of heavy metals in *Podostemum ceratophyllum* Michx. We will expand our current study of populations in southeastern states by adding sites in northeastern states, specifically Vermont and New Hampshire. Preliminary results from the Southeast show altered elemental composition and the bioaccumulation of heavy metals in plant tissue as human disturbance increases in the watershed. This research sheds new light onto how an important foundation species responds to urbanization of the landscape throughout the plant's native range and provides new information into elemental cycling in riverine ecosystems. Additionally, this research has implications for food web dynamics and the transfer of heavy metals into higher trophic levels.

The New England Botanical Club offers each year up to \$3,000 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.