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ASB 77TH ANNUAL MEETING MARCH 31 – APRIL 3, 2016

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**Davidson College, Davidson, North Carolina
Queens University of Charlotte, North Carolina
Charlotte Teachers Institute, North Carolina
University of North Carolina at Charlotte**

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**Meeting Site: Convention Center at the
Embassy Suites Hotel, Concord, North Carolina**

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Abstracts of Papers and Posters Presented at the Annual Meeting

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Meeting of the Charlotte Teachers Institute (CTI) Teacher Leadership Council made up of classroom teachers in the Charlotte-Mecklenburg, North Carolina Schools. From left to right: Matt Kelly, Connie Wood, Teresa Strohl, Alexandra Edwards, Deb Semmler, Annie Calloway, Robin McLennon, Jackie Smith, Connie George, Gloria Brinkman, Miesha Gadsden, Nikki Guevara, Stephanie Misko, Jennifer Ladanyi, Katelyn Gardepe, Calen Clifton, and Julie Ruziska Tiddy. Photograph taken at the University of North Carolina Charlotte Center City by CTI Executive Director Scott Gartlan.

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<http://www.sebiologists.org>

populations. In addition, a phylogenetic analysis will be done with other *Quercus* species utilizing sequence data from the Barcode of Life Data Systems database to investigate relationships of these populations with other *Quercus* species.

- P74 Phillip D. Lowe, Richard Carter
Biology, Valdosta State U, GA

A Morphometric Study of the *Cyperus granitophilous*–*Cyperus squarrosus* Complex in Georgia

Cyperus granitophilous McVaugh, a narrow endemic of granitic outcrops in the southeastern United States, is closely related to wide-ranging *Cyperus squarrosus*. The two taxa are similar with diagnostic features overlapping to some degree. In the original description of *C. granitophilous*, McVaugh cited quantitative differences showing no intergradation when both species are sympatric, which he presented as evidence supporting the treatment of *C. granitophilous* as a distinct species. Although most features are generally larger in *C. granitophilous*, intermediate specimens can sometimes be difficult to identify as one or the other species. In order to define precisely the limits of these two taxa and to seek other characters that might be useful in identifying these plants, we did a morphometric analysis on 128 specimens from holdings in the herbaria at Valdosta State University (VSC) and University of Georgia (GA). Including key differences cited by McVaugh, we selected and measured 23 characters related to habit, vegetative structures, inflorescence form, florets and fruits. Data were entered into a spreadsheet and analyzed using principle component analysis. With few intermediate plants and outliers, our results show two fairly distinct groups, and they support McVaugh's taxonomy and his contention that both scale and spikelet dimensions are useful in identifying these two species. Our analysis also showed anther length and achene dimensions are important, characters used in the *Flora of North America* treatment and in Weakley's *Plants of the Southeastern and Mid-Atlantic States* to distinguish between the two taxa.

- P75 Viridiana Mandujano, Karina Noyola-Alonso, Morgan E. Elder, Jay F. Bolin
Biology, Catawba College, Salisbury, NC

Identification of Mycorrhizae Associated With the Aquatic Plant/*isoetes* (*Isoeteaceae*)

Aquatic plants form a variety of associations with arbuscular mycorrhizae (AM) but are understudied relative to terrestrial plants. The Lycophyte genus *Isoetes* represents an ancient lineage and may provide insight into the evolution of AM associations. Fossil data from Carboniferous era ancestors of lycophytes demonstrate that the co-evolution of lycophytes and AM dates to at least 300 million years before present. Only a handful of *Isoetes* spp. have been evaluated for the presence of AM and no studies have been conducted in the New World. We collected *Isoetes melanopoda* subsp. *sylvatica* and *Isoetes engelmannii* from the central piedmont of North Carolina to determine the presence of AM, and if present to identify the AM species. We used *Glomus* specific AML1 and AML2 PCR primers to amplify AM fungi from whole root DNA extracts. Preliminary data indicate the presence of *Glomus* AM associates in 100% of root samples analyzed ($n=6$). The next steps of our research include microscopic evaluation of the roots and cloning and sequencing of the purified PCR products.

- P76 Morgan E. Elder, Joel D. Schlaudt, Douglas B. Taylor, Jay F. Bolin
Biology, Catawba College, Salisbury, NC

Molecular Identification of Quillworts (*Isoetes*) in the Aquarium Trade

The planted aquarium is a popular trend among aquarium hobbyists with the advent of high efficiency lighting and CO₂ enrichment systems. The genus *Isoetes* is available as an aquarium plant from biological supply houses and retailers on the internet under several ambiguous names including "Octopus Plant" and "*Isoetes vetata varsiculata*" (not a recognized name). Some retail *Isoetes* were sold as *Isoetes lacustris*, a taxon of cool, northern, and oligotrophic lakes. We purchased and studied living *Isoetes* plants from four retailers and collected
