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ASB **University of Tennessee at Chattanooga
and the Tennessee Aquarium** *ASB*

ASB **Meeting Site: Convention Center at the
Marriott, Chattanooga, Tennessee** *ASB*

Abstracts of Papers and Posters
Presented at the Annual Meeting



Heritage Plaza on the campus of the University of Tennessee at Chattanooga

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- 167 Wendy B. Zomlefer¹, Steven Hughes¹, J. Richard Carter², David E. Giannasi¹, Alan Harvey³, David Morgan⁴
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Patterns of Biodiversity Documented by Four Herbaria in Georgia: Do Small Collections Data Make a Difference?

Current specimen digitization efforts target smaller herbaria: these collections likely comprise unique records (such as rare taxa), documenting species from the area surrounding the institution. To test this hypothesis, preliminary data from four Georgia herbaria of various sizes were assessed, with focus on specimens collected from the state at the county level. In Georgia, the county represents a particularly refined geographical unit for documenting biodiversity: although the twenty-fourth largest state, Georgia comprises 159 counties, the second highest after Texas (254). Color-coded maps generated by ArcMap served as a visual aid to compare per county number of specimens and species for herbaria at the University of West Georgia (ca. 4,000 specimens collected in Georgia), Georgia Southern University (11,000), Valdosta State University (40,000), and University of Georgia (86,000). The vouchers from the two largest herbaria show relatively good state-wide coverage, reflecting exchange programs from current floristic projects and from those going back many decades. Valdosta State University Herbarium has strong representation in the coastal plain, while University of Georgia Herbarium has better coverage for northern Georgia. County gaps for both herbaria include the west-central border of the state. The two smaller herbaria have the greatest concentration of specimens/species from their home county, with much fewer in adjacent counties. However, the results indicate that records from these two herbaria complement the holdings of larger ones, filling in several county record gaps. This supports the supposition that smaller collections are crucial for complete sampling coverage and confirms the scientific value of these herbaria.

- 168 Megan Scholer, Brad Ruhfel
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Phylogenetic Placement of the Newly Described Clover *Trifolium kentuckiense* (Fabaceae)

In this study we attempt to resolve the phylogenetic placement of the recently described clover, *Trifolium kentuckiense* (Fabaceae). To do so, we analyzed data from non-coding plastid (*trnL* and *ndhA* introns) and nuclear (ITS) nucleotide sequence data using maximum likelihood inference. We also examined the ability of the little utilized *ndhA* intron to resolve relationships in *Trifolium*, in comparison to the more widely used *trnL* region. We present evidence indicating that *T. kentuckiense* is strongly placed within a clade of annual clovers including *T. reflexum*, a morphologically similar species. Additionally, we find that the *ndhA* intron is more variable than *trnL* and thus more successful at resolving relationships within *Trifolium*. Furthermore, analysis of the *ndhA* intron revealed strongly supported conflict between the plastid and nuclear genomes that was not evident in analyses of *trnL*.

- 169 Justin Hendy¹, Melody Sain², Randy Small¹, John Placyk², Josh Banta²
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Using Genetic Data to Distinguish *Hibiscus dasycalyx* from Its Closest Relatives, *H. laevis* and *H. moscheutos*, and to Assess Patterns of Interspecific Hybridization