

A Phylogeny and Study of Pollinator Shifts and Floral Traits in the Neotropical Genus *Gasteranthus* (Gesneriaceae)

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Master's Defense

May 29, 2012 - 10 am - MHB 434



The genus *Gasteranthus* (Gesneriaceae), with 41 currently described species, including 3 subspecies, occurs in Central and South America. This genus has a center of diversity in Ecuador and is comprised of herbs or subshrubs that grow predominately in permanently humid locations, in cloud forests and near streams and waterfalls. Species of *Gasteranthus* have two morphologically different corolla shapes that are adapted for specific pollinators. The hypocyrtoid (pouched) shape is defined by an inflated ventral pouch and the campanulate (non-pouched) shape is defined by a campanulate or funnellform corolla. Previous molecular phylogenies of *Gasteranthus* were equivocal of whether or not hypocyrtoid flowers were apomorphic or plesiomorphic. Molecular sequence data generated from nrDNA (ITS and ETS) and cpDNA (*matKR* and *trnL-F*) were assessed for 57 taxa representing 31 species of *Gasteranthus* and 26 species from closely related genera. This study strongly supports that campanulate flowers, associated here with generalist pollinators, are synapomorphic and have evolved from hypocyrtoid flowers at least five times in *Gasteranthus*. While previous studies support the monophyly of *Gasteranthus*, the placement of "*G.*" *dressleri* renders this genus non-monophyletic. Our results support that "*G.*" *dressleri* is more closely related to *Cremosperma* and that campanulate flowers in the genus *Gasteranthus* are convergent.