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The flora of the Boone Fork headwaters within Grandfather Mountain State Park

The Southern Appalachian Mountains have been an active region of botanical exploration for over 250 years. The high mountain peaks of western North Carolina, in particular, have attracted interest due to their resemblance of forest communities in New England and Canada and to their high species diversity. From the middle of the 19th century, Grandfather Mountain (GM) has been a destination for famous botanists conducting research in the region. Some of these botanists noted the floristic similarities of the high elevation Southern Appalachian Mountains to communities in the Northern Appalachian Mountains. The intent of this study was to identify the important botanists visiting GM during the 19th century. Botanists were identified through literature searches, herbarium databases and personal communications. Collections from GM were accessed through the Southeast Regional Network of Expertise and Collections (SERNEC) database and total specimens were recorded for each collector. Four collectors were selected for this analysis. These four scientists who played an important role in the history of taxonomic and botanical work on GM and the Southern Appalachians, Asa Gray, Rev. Moses Ashley Curtis, John K. Small and Amos A. Heller, all contributed to our knowledge of GM and the species residing there today.

Grandfather Mountain (GM) is a site of exceptional biological diversity in the Southern Appalachian Mountains of western North Carolina. Long known for its unique assemblage of natural communities and rare and endemic species, GM has been a site of scientific research for many years. Grandfather Mountain produces headwater streams for two river drainages: the Watauga and Catawba River watersheds. The Boone Fork headwaters (BFH) originate on the northeastern slope of Calloway Peak within Grandfather Mountain State Park (GMSP) and represent an area of high natural quality significance. The BFH drain into the Catawba River watershed and represent an area within GMSP for which there is little plant species or natural community data. My project investigated the flora of the BFH and described all vascular plant species, a preliminary list of epipetric mosses on dry portions of boulders and rock outcrops, and the natural communities occurring within the roughly 1000-acre study site. Field research revealed 262 vascular plant species, 19 epipetric mosses, and 18 distinct natural communities. Twenty-four vascular plant species found during field surveys were categorized as state-listed or federally listed and three identifications represent new county records. The vascular flora was represented by 76 plant families, ten of which made up over 48% of the species within the BFH.

The Tom and Bruce Shinn Grant was instrumental in providing me funds to travel to and from Grandfather Mountain during the field season of 2019 and enabled me to more readily complete the abundant field work with greater ease of mind. I am very grateful for this special award and I look forward to seeing how your esteemed society will use this grant in funding exciting research in the fields of botany and plant ecology. I completed my M.S. degree in Biology from Appalachian State University in May 2020 and am now working in Tallahassee as a Field Botanist for the Florida Natural Areas Inventory.