NOTES ON *CROOMIA PAUCIFLORA* (STEMONACEAE)[1]

R. David Whetstone

ABSTRACT

Croomia pauciflora (Nuttall) Torrey is an endemic to the southeastern United States. Documented distribution includes the following states and physiographic regions: Ridge & Valley, Cumberland Plateau, Piedmont Plateau, and Gulf Coastal Plain of Alabama; Piedmont Plateau, and Gulf and Atlantic Coastal Plain of Georgia; and the Gulf Coastal Plain of Florida and Louisiana. *Croomia pauciflora* is a rare element of the southeastern flora and is considered an "endangered" or "threatened" species in portions of its range. A neotype is designated due to the apparent loss of the single specimen cited in the original description.

Key Words: *Croomia pauciflora*, Stemonaceae, neotype, endemic, disjunct, endangered species, threatened species, rare species.

The Stemonaceae is comprised of four genera with 30–35 species (Hutchinson, 1973; Willis, 1973; van Steenis, 1982). The genus *Croomia* is highly celebrated as being disjunct from the southeastern United States to southeastern Asia. Three species are currently recognized with one in the United States, *Croomia pauciflora* (Nuttall) Torrey, and two in Japan, *C. heterosepala* (Bak.) Okuyama and *C. japonica* Miq. (Ohwi, 1965). Rogers (1982) reported the range of the latter to extend to eastern China.

Hardy Bryan Croom first discovered Croomia across the Apalachicola River from his home. Specimens were sent to Thomas Nuttall who named the new plant *Cissampelos pauciflora* (Nuttall, 1834). Apparently unaware of Mr. Nuttall's publication of the new name, but cognizant that Nuttall referred the plant to the Menispermaceae, Croom (1835) provided a description and duly noted the new taxon should be classified elsewhere. John Torrey, friend and correspondent, recognized the distinction of the herb and

[1]These Notes were developed while preparing a treatment of the Stemonaceae for the *Vascular flora of the southeastern United States* (Radford, in prep.). Specimens consulted during this study are housed in the following herbaria: AUA, BH, CU, DUKE, FSU, GA, GH, JSU (Jacksonville State University Herbarium), LSU, MO, NCU, NY, PH, SMU, TENN, TEX, UNA, US, USF, VDB, and the University of South Alabama. Acronyms are from Holmgren *et al.* (1981), unless otherwise specified. Exsiccata are not further cited because of the rarity of this species. A list of specimens examined is deposited in libraries at A/GH and MO.

established the genus *Croomia* in honor of the discoverer (Torrey and Gray, 1840). However, Torrey placed *Croomia* within the Berberidaceae.

Nuttall (1834) mentioned a single collection made by Croom and Loomis. No specimens labeled thus were located at the Academy of Natural Sciences (pers. comm., Dr. A. E. Schuyler, 1983) or at the British Museum (pers. comm., John Lewis, 1979). It should be noted the title of the article specifically states the specimens are at PH. Torrey (Torrey and Gray, 1840) cited two collections, "Mr. Croom!" and "Dr. Chapman!". Two sheets labeled "Croom" are at the New York Botanical Garden, one with flowers and one with buds. In the type collection at New York, a manuscript copy of the original description of *Croomia* and the ensuing *comb. nov.* reveals the following within the habitats section: "Under the shade of *Torreya taxifolia* Arn., at Aspalaga on the Apalachicola, Florida, H. B. Croom, Esq.—Flowers in April." Several "Herb. Chapman" exsiccata at NY and GH may be materials cited by Torrey. One sheet examined by this author is labeled "Torr. and Gr. Fl. N. Amer." Quite possibly, this specimen represents material sent to Dr. Torrey by Hardy Croom in 1830 (*fide* a letter addressed to Dr. Torrey in the archives collection at PH). Torrey acknowledged receipt of specimens from Mr. Croom in the subsequent publication. Since no specimen exists at PH or at BM which is indisputably the single specimen cited by Nuttall (1834), it becomes necessary to designate a neotype. In the letter (mentioned above), Croom notes he collected some specimens from along the Apalachicola River at Aspalaga. I have chosen a collection made by Dr. Godfrey from Torreya State Park which is ca. 8 km south of Aspalaga. The neotype is labeled as follows: "FLORIDA, LIBERTY COUNTY. Wooded bluffs along the Apalachicola River at Torreya State Park, 16 March 1961, R. K. Godfrey 60614, FSU 63997" (Figure 1). Replicates of this collection which were examined are at BH (*s.n.*); DUKE (147433); GA (63218 & 106380); NCU (216705); SMU (*s.n.*); TENN (2 sheets, *s.n.*); and US (238915).

Familial placement has likewise had a rather colorful history ranging from the Menispermaceae (Magnoliopsida) to the Croomiaceae (Liliopsida). Recent phylogenists (Cronquist, 1981; Hutchinson, 1973; Takhtajan, 1980) place the genus in the Stemonaceae (Roxburghiaceae) although evidence (Ayensu, 1968) suggests that this group remains rather heterogenous.

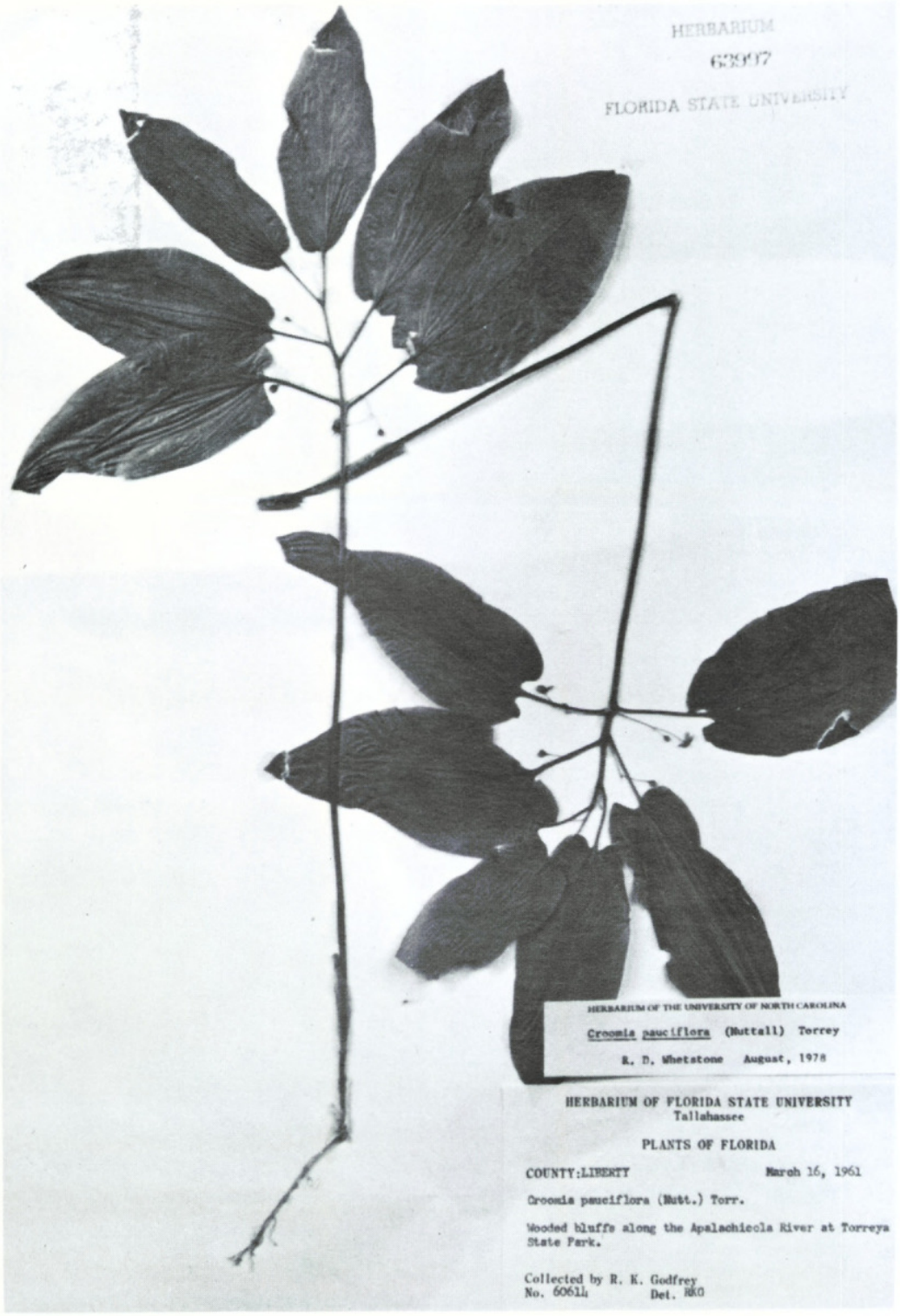

Figure 1. Neotype of *Croomia pauciflora*.

Most of the known localities for *Croomia pauciflora* are along watercourses that have headwaters in the southern Appalachian Mountains and flow southward to the Gulf of Mexico. Two collections deviate from this pattern. A specimen at NY was collected by Pond along the Savannah River which debouches into the Atlantic Ocean. More noteworthy is a collection by Featherman in 1870 (LSU 34679). Label data indicate "Brashear City" which is in St. Mary Parish, Louisiana. This parish is located west of the Mississippi River. The primary drainage, the Red River, has headwaters in the Ozarks and eastern Texas although there is a confluence with the Mississippi River (some western Appalachian drainage) near Torras. Quite possibly other localities exist in the highlands west of the Mississippi River, perhaps in east Texas or Arkansas.

The greatest diversity of physiographic distribution occurs in Alabama where *Croomia* has been located in the Cumberland Plateau, Valley and Ridge, and Piedmont Plateau sections of the Appalachian Highlands Province and in the Gulf Coastal Plain Province. Georgia localities include Gulf and Atlantic slopes of the Coastal Plain Province. Populations in Florida and Louisiana are within the Gulf Slope of the Coastal Plain Province. See Figure 2 for the documented county distribution.

Croomia is known from a variety of substrates but is found chiefly in rich, sandy or rocky soils of wooded slopes and bottoms. Most frequently, the slope is sheltered (e.g., ravines) or north-facing. Soils are ostensibly circumneutral although not necessarily calcareous (*vide* discussion in Harper, 1922). All habitats described on labels and those visited by this author are mixed deciduous forests which are mesic.

Presumably, *Croomia pauciflora* is an epibiotic, an endemic considerably restricted from a former, much broader range. Presently the taxon is very much disjunct in isolated localities in the warmer temperate portions of the southeastern United States. From personal observations, populations appear to be largely clonal. Also, current distribution is possibly a result of a constriction of much broader distribution owing to colder Pleistocene temperatures and limited habitat availability south of the Appalachian Highlands Province.

Despite the number of populations (some historical and perhaps extirpated) throughout the range, *Croomia* is a rare element of the

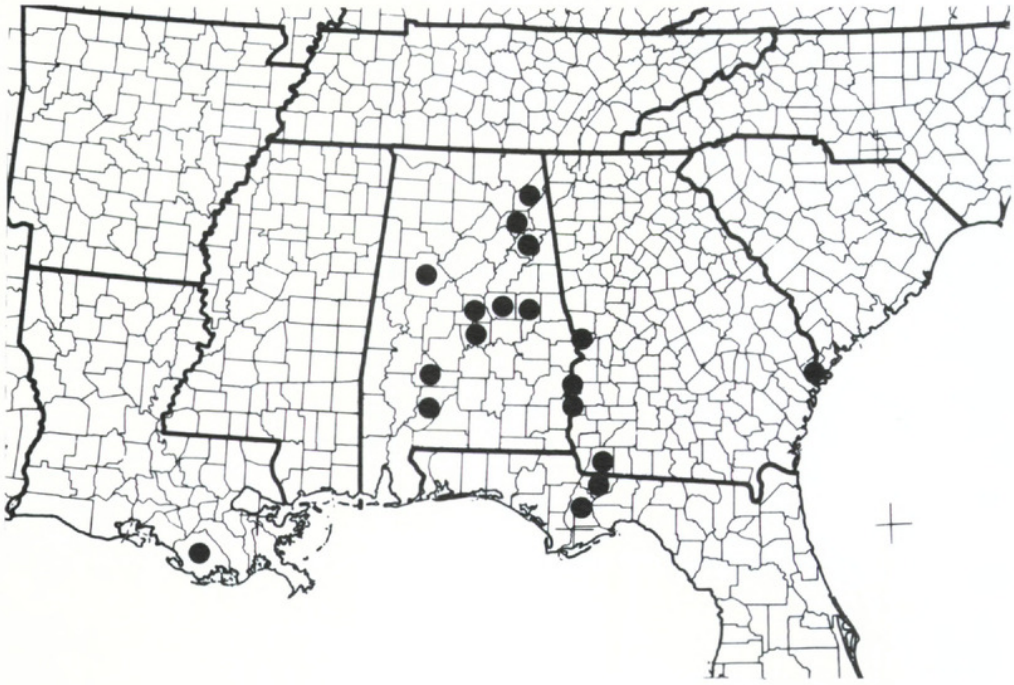

Figure 2. Documented county distribution of *Croomia pauciflora*.

southeastern flora. *Croomia* is considered "threatened" in Alabama (Freeman *et al.*, 1979), "endangered" in Florida (Godfrey & Ward, 1979) and "threatened" in Georgia (McCollum & Ettman, 1977). The "endangered" status in Florida is because of damage inflicted on populations by feral pigs. Godfrey and Ward (1979) stressed the importance of controlling the animals to prevent destruction of the populations along the Apalachicola River bluffs. Much more difficult would be the assessment of damages to populations that were directly or indirectly affected by the impoundments created along the numerous watercourses in Alabama, Florida, and Georgia.

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HERBARIUM, DEPARTMENT OF BIOLOGY
JACKSONVILLE STATE UNIVERSITY
JACKSONVILLE, AL 36265