

***TRAUTVETTERIA CAROLINIENSIS* (RANUNCULACEAE),
NEW TO TEXAS FROM A HISTORICAL COLLECTION**

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ABSTRACT

Trautvetteria caroliniensis is documented to occur in Smith County, Texas; a southwestern range extension of ca. 300 km from Garland County, Arkansas. This is the westernmost known occurrence of *T. caroliniensis*.

KEYWORDS: *Trautvetteria*, Texas

During examination of *Trautvetteria exsuccatae* at MO, two sterile specimens were discovered from a historical collection by J. Reverchon. The sheets were originally identified as a *Sanicula* species but later identified as *Trautvetteria caroliniensis* (Walt.) Vail by M.E. Mathias, still later re-annotated by T. Shimizu confirming that identification.

USA. Texas. [Smith Co.]: Lindale, 23 Apr 1901, *J. Reverchon s.n.* (MO-2 sheets).

This collection documents at least a historical southwestward and eastern range extension from the opposing ends of the range of the genus.

Populations of *Trautvetteria* taxa are distributed in three disjunct regions in North America: the eastern United States, the southwestern US in Arizona, Colorado, New Mexico, and Utah, and along the northern Pacific Coast. In eastern North America *T. caroliniensis* occurs from Pennsylvania south to Florida and west to Arkansas, albeit its occurrence is highly scattered west of the Cumberland Mountains and Interior Low plateau. The species is known only from a single site in Garland County, Arkansas. In Missouri it is limited to a single county. It is assumed extirpated in Indiana (Parfitt 1997) and is also likely extirpated in Illinois. This southwestern range extension brings the distribution of *T. caroliniensis* nearer to the western *T. grandis* Nutt., a taxon subsumed within a broad circumscription including all variation within a monotypic genus (Parfitt 1997; Shimizu 1981).

The specific boundaries between *Trautvetteria* taxa have been based on leaf, utricle, and filament morphology (Greene 1912; Rydberg 1917). Shimizu (1981) placed all taxa including the sole Asian taxon in synonymy with *T. caroliniensis*, but within geographically defined subtaxa. Parfitt (1997) commented that the varietal differences seem rather arbitrary and geographical delimitation of subtaxa unwarranted. In contrast to this opinion, molecular evidence supports the recognition of at least three taxa: *T. caroliniensis*, *T. grandis*, and *T. japonica* Sieb. & Zucc. (Xiang et al. 1998; Xiang & Soltis 2001). Leaf morphology is distinct within these molecularly supported species. Value of utricle and filament morphology remains uncertain in species classification. The Texas specimens show the coarsely serrate leaf margins and lobing of *T. caroliniensis* rather than the crenately margined populations of *T. grandis* in the Mogollon Mountains, NM, previously classified as *T. media* Greene.

Whether *Trautvetteria caroliniensis* is still extant in east Texas remains to be discovered. Its habitat preference is cool stream margins in calcareous sites and suitable habitats presumably exist to the north along the Sabine River. Flowering plants of *Trautvetteria* are usually conspicuous with corymbose inflorescences of apetalous flowers but with showy white stamens resembling some species of *Thalictrum*. Anthesis usually occurs between mid-June and early August.

Attention should also be brought to field taxonomists to populations in southern Georgia in the Coastal Plain that were named *Trautvetteria nervata* Greene (isotypes at NY, MO, and US; habitat as "rich damp open woods, Dublin,"). This morphotype exhibits highly distinctive leaf morphology — each leaf is divided into three lobes and each lobe further divided over halfway into three lobules, with the outer two lobes inner lobule divided once more with none of the lobules more than 2 cm wide, in effect, resembling a large, coriaceous, basal leaf of *Delphinium*.

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