

A SECOND POPULATION OF *AGALINIS NAVASOTENSIS*
(SCROPHULARIACEAE) CONFIRMED
FROM TYLER COUNTY, TEXAS

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ABSTRACT

A second population of the rare *Agalinis navasotensis* Dubrule & Canne-Hilliker (Navasota False Foxglove) has been confirmed from a Catahoula Barren in Tyler County, Texas. Previously, the only known locality was an Oakville formation sandstone outcrop in Grimes County, Texas, some 100 miles to the west.

RESUMEN

Se ha confirmado una segunda población de la rara *Agalinis navasotensis* Dubrule & Canne-Hilliker (Navasota False Foxglove) de Catahoula Barren en el condado de Tyler, Texas. Previamente, la única localidad conocida era un afloramiento de arenisca en Oakville en el condado de Grimes, Texas, unas 100 millas al Oeste.

Agalinis navasotensis Dubrule & Canne-Hilliker (Navasota False Foxglove) was described from a single population in a remnant prairie centered on a sandstone outcrop in Grimes County (Canne-Hilliker & Dubrule 1993.) Since the initial discovery, botanists have searched for the plant on other Oakville formation outcrops in Grimes County and on floristically-similar outcrops in Washington County. Aside from a few individuals within a mile of the original site (well within bee-flight and so considered part of the same population) and on soils derived from the Oakville, no specimens were found.

In the fall of 2003, John Hays, who with Judith Canne-Hilliker is working on the genus for the Flora of North America, confirmed the identification of about fifty individuals of *A. navasotensis* along a dirt road in Tyler County. [Voucher specimen: **TEXAS: Tyler Co.:** pine plantation and surrounding pine savannah, J. Hays 3411 24 Sep 2003 (MMNS)]. Interestingly, he discovered that Donovan Stuart Correll had collected *A. navasotensis* (as *A. pulchella*) at this same site in 1967 [TEXAS: Tyler Co.: xeric Oligocene outcrop, longleaf pine-grassland, flowers pink, D.S. Correll 35187-A, 19 Oct 1967 (TEX-LL)]

During the 2004 season, several of the authors had the opportunity to visit the site independently of one another. Each trip found plants that correspond in all respects with plants of the type population of *A. navasotensis*. (The calyx lobes were originally described as minute (Canne-Hilliker & Dubrule 1993), but some individuals in this population had calyx lobes to as long as 1.25 mm.) There were approximately thirty plants divided among several spots on both sides of the road. Persistent rainy weather and impassable roads made searching for more plants on side roads all but impossible.

Voucher specimens: U.S.A. **TEXAS. Tyler Co.:** roadside, sandy clay. Monique Dubrule Reed and Dana Price 2872, 8 Oct 2004 (TAMU). **Tyler Co.:** Catahoula Barrens on a high ridge top outcrop, Singhurst 12501, 5 Oct 2003 (BAYLU).

The site includes a small outcrop of the Catahoula Barren type, which is somewhat similar in composition to the Oakville formation, but many of the plants were not near exposed rock as in Grimes County. Soils at the site tend to be hard and dry during droughty weather and thick, sticky, and slick under wet conditions. The *A. navasotensis* plants were growing in close proximity to *A. oligophylla* Penn. but were easily distinguishable from that species by the more paniculate inflorescence, smoother foliage, straight rather than curved buds, larger and unrecurved upper corolla lobes, oblong rather than globose fruits, anthers of a deeper yellow, and greener stigmas. *Bigelowia nuttallii* L.C. Anders., *Liatris mucronata* DC., and *Schizachyrium scoparium* (Michx.) Nash were very common at the site, and *A. fasciculata* (Elliott) Raf. was also present.

Agalinis navasotensis is a very rare plant with G1S1, TOES V status (Poole et al. 2004; Jones et al. 1997.) No more than a few hundred individuals may be found in any given year. Thus the discovery of a second population is good news, especially since the type locality is becoming somewhat overgrown and the number of *A. navasotensis* plants has been falling from year to year. However, this new site is so far (over 100 miles) from the type locality and has such different vegetation that we are now faced with new questions. Just how rare is *A. navasotensis*? Is it an outcrop plant or a prairie/savannah plant, does it require both an outcrop-like substrate and an open, grassy, undisturbed habitat, or is it tolerant of a wide range of conditions? Does it require an alkaline soil? Where should we be looking for more populations—in deep East Texas on or near outcrops of non-Oakville formations, nearer the type locality on non-Oakville

formations, or on similar formations between the type locality and the new location? Which set of plant associates—dry prairie vs. moist pine savannah—is most typical and has the greatest predictive value? What moisture conditions—well-drained or poorly-drained—are most favorable? How similar are plants of the two localities genetically?

Obviously, having additional localities would be invaluable for understanding the biology of *A. navasotensis*. Anyone who finds plants they believe belong to this species should contact the first author. The key in Canne-Hilliker and Dubrule (1993) will serve to separate *A. navasotensis* from other long-pediceled, slender-leaved members of the genus. Plants should be looked for from mid-September to early October and before early afternoon (the corollas drop after being open only a few hours, making the plants nearly impossible to spot). Images of the species may be found at www.csd1.tamu.edu/FLORA/cgi/gallery_query?q=agalinis+navasotensis.

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