

## **BRACTED TWISTFLOWER (*STREPTANTHUS BRACTEATUS*): THE ECOLOGY OF A RARE TEXAS ENDEMIC**

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The Bracted Twist-Flower (*Streptanthus bracteatus*), a member of the Brassicaceae (mustard) family, is a rare endemic of the Edward's Plateau ecoregion. There appear to be many factors affecting its distribution. This study examined plants in a controlled environment and in the field. Factors examined in this study include seed dormancy, light levels, soil nutrients, herbivory, soil water content, and soil depth. Plant response measurements were shoot height (cm), number of leaves, basal diameter (mm), diameter of basal rosette (cm), above- and belowground biomass and total biomass (g). The light experiment demonstrated that plants responded more positively to higher light levels for all response variables measured. Plants responded better to higher levels of soil nutrients but the response was minimal. The herbivory experiments consisted of simulated and actual herbivory treatments. Plants showed no clear response to simulated herbivory. However, the field herbivory experiment showed negative effects of herbivory by a large herbivore, likely white tailed deer (*Odocoileus virginianus*). Plants in exclosures had higher measured responses than plants in the open. Full sun plants in the exclosure had higher measured responses than shaded plants in exclosures. Populations at two field sites, Eisenhower Park and Rancho Diana Natural Area located in Bexar County, were monitored. Response of plants at the Eisenhower Park site to light levels, soil moisture, and soil depth were examined. No significant linear correlations were found for plant responses to light levels or soil water content. However, there was a positive relationship between soil depth and number of leaves, shoot height, basal diameter, and number of flowers. Plants at Rancho Diana showed a positive linear relationship to soil water content, shoot height and basal diameter.