

**Taxonomy of the Texas sunflower (*Helianthus praecox*) Asteraceae****Billie L. Turner**Plant Resources Center, The University of Texas, Austin TX 78712  
billie@uts.cc.utexas.edu**ABSTRACT**

*Helianthus praecox*, known only from Texas, is treated as having three intergrading infraspecific taxa, these often treated as subspecies by various workers: var. *praecox*; var. *runyonii* (Heiser) B.L. Turner; and var. **hirtus** (Heiser) B.L. Turner, **stat. nov.** A review of the nomenclature is provided along with a key to the varieties, and a map showing their distribution. Published on-line [www.phytologia.org](http://www.phytologia.org) *Phytologia* 96(2): 107-109 (April 1, 2014). ISSN 030319430

**KEY WORDS:** Asteraceae, *Helianthus praecox*, Texas

---

Schilling (2006) has provided a detailed taxonomic overview of the *Helianthus praecox* complex, treating this as comprised of three infraspecific categories: subsp. *praecox*, subsp. *runyonii* and subsp. *hirtus*, noting that they “appear to form a grade between *H. debilis* and *H. petiolaris*.” He also provided a perplexing key to the complex, made difficult because the several taxa appear to intergrade, hence my treatment of the infraspecific units as but varieties. I have studied all of the taxa anew and provide a key to the taxa concerned, along with a map showing their distributions.

**HELIANTHUS PRAECOX** Engelm. & Gray, Boston J. Nat Hist. 5: 221. 1847**Key to varieties**

1. Outer involucral bracts mostly 8-11 mm long; apices of inner pales minutely ciliate, w/o tufted hairs; heads mostly 3-5 cm across the extended rays; peduncles mostly 5-15 cm long; coastal dunes of southeastern Texas (e Brazoria, Galveston and Chambers Cos.) .....var. **praecox**
1. Outer involucral bracts mostly 12-16 mm long; apices of inner pales tufted with white hairs; heads mostly 5-7 cm across the extended rays; peduncles mostly 5-15 cm long; southern Texas...(2)
2. Plants mostly 0.3-0.6 m high; mid-stems and petioles to some extent pubescent with spreading hairs 1-2 mm long; peduncles mostly 30-40 cm long; ray florets mostly 15-21; Carrizo Sands of Dimmit Co.....var. **hirtus**
2. Plants mostly 0.8-1.0 m high; mid-stems and petioles mostly pubescent with appressed hairs 0.2-1.0 mm long; peduncles mostly 20-30 cm long; ray florets mostly 11-15; throughout southern Texas.....var. **runyonii**

**var. praecox***H. debilis* ssp. *praecox* (Engelm. & Gray) Heiser*H. praecox* ssp. *praecox*

The type of var. *praecox* was collected by Lindheimer on Galveston Island in Galveston Co., Texas, during the 1840s, presumably from dune sands. In my opinion, of the several varietal taxa, it is the

most distinct, as noted in the above key. It appears, however, to intergrade with var. *runyonii* in easternmost Brazoria Co. [S side of San Luis Bridge, *Chavez s.n.*, 2 sheets (TEX)].

According to Heiser (1956), var. *praecox* co-occurs with the weedy, *H. annuus*, and he reports hybrids between the two at several localities; these I have not examined.

**var. runyonii** (Heiser) B.L. Turner, *Phytologia* 69:15. 1990.

*H. debilis* ssp. *runyonii* Heiser

*H. praecox* ssp. *runyonii* (Heiser) Heiser

This is a widespread, highly variable taxon, co-occurring with several species of *Helianthus*, with which it probably forms occasional hybrids. The variety intergrades with var. *praecox*, as noted above, and with var. *hirtus* in the vicinity of Carrizo Springs, Dimmit Co., as noted below.

**var. hirtus** (Heiser) B.L. Turner, **stat. nov.**

Based upon *H. debilis* ssp. *hirtus* Heiser, *Madrono* 13: 162. 1956.

*H. praecox* ssp. *hirtus* (Heiser) Heiser

Schilling (2006), following Rieseberg and Doyle (1989), treated *H. praecox* subsp. *hirtus* as a distinct subspecies, known only from a single population in Dimmit County. Their allozyme sample of the small population concerned was perhaps skewed; subsequent examination of the Carrizo Springs area by Holly and Nichols (unpubl.) in 1997 showed the existence of numerous populations (vouchers at TEX) composed of several thousand or more individuals, mostly from outcrops of the Carrizo Sands in the immediate vicinity of Carrizo Springs. More recent collections (2013) have been obtained from similar outcrops 14 mi NW of that city (*Turner & Kos 13-2*, TEX), and it is likely that the taxon occurs in closely adjacent Maverick Co. on similar outcrops.

Turner (1990) treated ssp. *hirtus* within the morphological rubric of var. *runyonii*, but the recent treatment of the complex by Shilling (2006), has occasioned a second look, prompting its recognition here.

#### ACKNOWLEDGEMENTS

I am grateful to Jana Kos for field and editorial assistance. Dot maps are largely based upon specimens on file at LL-TEX.

#### LITERATURE CITED

- Heiser, C.B. 1956. Biosystematics of *Helianthus debilis*. *Madrono* 13: 145-176.  
 Heiser, C.B. et al. 1969. The North American sunflowers. *Mem. Torrey Bot. Club* 22: 1-218.  
 Rieseberg, L.H. and M.F. Doyle. 1989. Allozyme variation in *Helianthus praecox* ssp. *hirtus*, a rare sunflower from southern Texas. *Aliso* 12: 379-386.  
 Schilling, E.E. 2006. *Helianthus*, in *Fl. N. Amer.* 21: 141-169.  
 Turner, B.L. 1990. New species, names, and combinations in Mexican Asteraceae. *Phytologia* 69: 14-19.

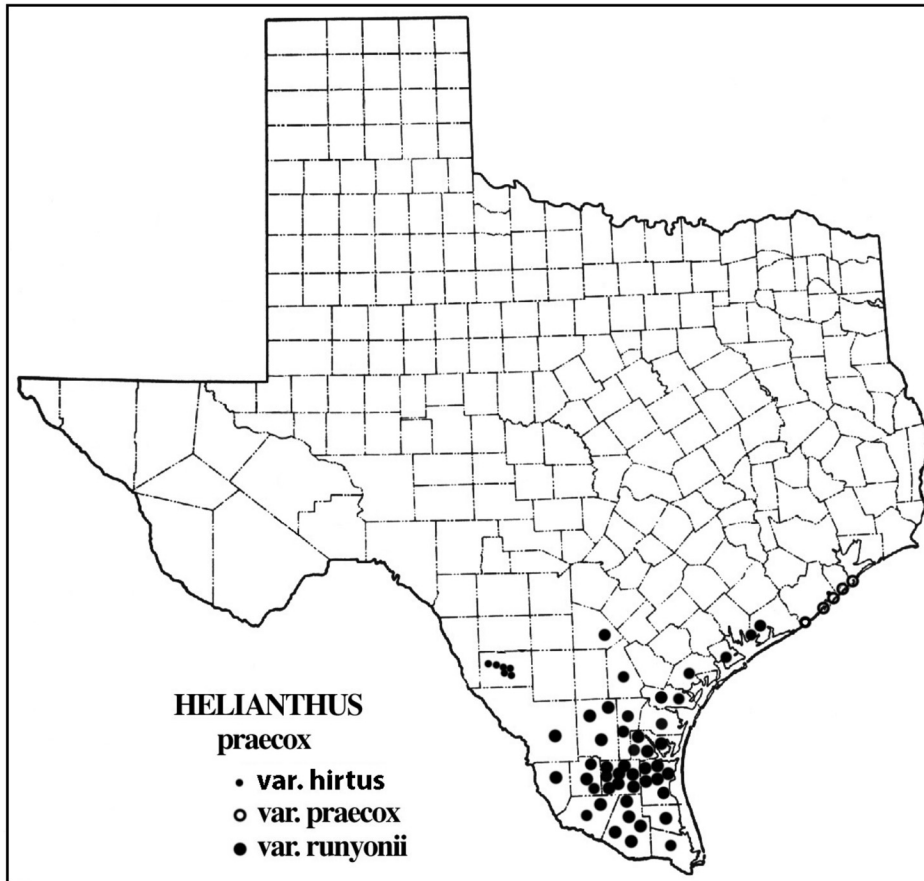


Fig. 1. Distribution of *Helianthus praecox*.