

NOTES ON NON-NATIVE ASTERACEAE IN TEXAS

Guy Nesom

2925 Hartwood Drive
Fort Worth, Texas 76109
www.guynesom.com

ABSTRACT

Documentation and/or commentary is provided for 16 of the 73 species of non-native Asteraceae reported to occur outside of cultivation in Texas. *Arctium minus*, *Logfia (Filago) arvensis*, *Madia elegans*, *Matricaria courrantiana*, *Sanvitalia procumbens*, and *Sonchus arvensis* are removed from the current account of plants naturalized in Texas. *Carduus tenuiflorus* is more appropriately and consistently identified as *C. pycnocephalus*. *Phytologia* 91(2): 325-332 (August, 2009).

KEY WORDS: Texas, flora, adventive species

73 species of non-native Asteraceae have been recorded as occurring outside of cultivation in Texas (Nesom 2009). About 37 of these were reported after publication of the Manual of the Vascular Plants of Texas (Correll & Johnston 1970). The present report provides taxonomic clarification and voucher information for a number of the latter, where ambiguity existed or documentation was lacking.

1. *Arctium minus* Bernh.

Hultén and Fries (1986, Vol. 2, Map 1853) mapped the species for Texas, at the southern extremity of its adventive range in North America, placing a dot near the center of the state. Its occurrence in Texas may be expected, as it is documented to occur in New Mexico, Oklahoma, Arkansas, and Louisiana (USDA, NRCS 2009), but no voucher or other documentation has been located for its occurrence in Texas (Keil 2006a) and the species is removed from the current account of Texas plants.

2. *Carduus acanthoides* L.

Listed by Jones et al. (1997); mapped by Turner et al. (2003) for Collin and Schleicher counties. Vouchers are at TEX.

Collin Co.: Farm Rd 981 just E of jct with Hwy 78, bottomland forest, 13 May 1992, *Saunders 3418* (TEX). **Schleicher Co.:** Westernmost portion of Eldorado, weed along Hwy 190, 8 Jun 2001, *Turner 21-770* (TEX).

3. *Carduus pycnocephalus* L.

Identification and taxonomy of *Carduus pycnocephalus* must be considered in conjunction with that of the very similar *C. tenuiflorus* Curtis. Cory (1940) collected plants of *C. pycnocephalus* in Sutton Co. in 1939, in pastures and fields growing with plants of *Silybum marianum* (L.) Gaertn. and *Carduus nutans* L., all three of which apparently arrived there in a shipment of hay from California. In a later collection from Sutton Co. (*Cory 53662*, 5 May 1947, SMU), he had changed the identification to *C. tenuiflorus*. *Carduus tenuiflorus*, as it has been subsequently identified in Texas, now has spread over a large region of central Texas (Turner et al. 2003).

Dunn (1976) identified the Texas plants as *Carduus pycnocephalus*, and Keil (2006b) included Texas among the states in the known range of *C. pycnocephalus* ("Aggressive weed of waste ground, rangelands, pastures, roadsides, fields; Ala., Ark., Calif., Idaho, Miss., N.Y., Oreg., Pa., S.C., Tex."). He including only California and Oregon in the North American range of *C. tenuiflorus*, noting that it has been reported from New Jersey, Texas, and Washington but that he had not seen specimens from those states.

Comments on the subtle and quantitative distinctions between *Carduus pycnocephalus* and *C. tenuiflorus* were provided by Keil (2006b). Keil also noted that "Published chromosome counts ($2n = 18, 31, 32, 54, 60, 64, 80$) for *C. pycnocephalus* from a variety of Old World localities indicate that this is a complex species in need of further investigation. ... The two species sometimes grow in mixed populations and at times appear to intergrade. Hybridization has been reported in Europe ... and is suspected to occur in California." The two also have been treated as conspecific, the younger name becoming *C. pycnocephalus* L. var. *tenuiflorus* (Curtis) Fiori.

It seems clear that only a single evolutionary entity is represented among the Texas plants, whether from the initial

introduction in Sutton Co. or from multiple introductions. The morphology and variability in Texas are similar to that characteristic of California plants of *Carduus pycnocephalus* as well as all or almost all California collections at BRIT and TEX identified as *C. tenuiflorus*. The Texas plants are more appropriately and consistently identified as *Carduus pycnocephalus* rather than *C. tenuiflorus*.

4. *Carthamus tinctorius* L.

Mapped by Turner et al. (2003) for Brazos and Tarrant counties, evidently based on the following collections.

Brazos Co.: College Station, 8 Apr 2006, *Reed & Reed 3086* (TAMU). **Ellis Co.:** Waxahatchie, in yard near a house along FM 55, not in vicinity of a bird feeder, ca. 7 plants in area 15 feet long, 11 Jun 2002, *Hill et al. s.n.* (BRIT). **Tarrant Co.:** Fort Worth, weed in yard, probably from bird seed, 19 Jun 1996, *Sylvester 2414* (BRIT).

Carthamus lanatus L. is known in Texas from Gillespie, McCulloch, Kimble, Schleicher, and Coryell counties (collections at BRIT, TEX), and Llano, Menard, and Tom Green counties (as additionally mapped by Turner et al. 2003), where it has been found in pastures and gravel pits and along roadsides.

5. *Centaurea benedicta* (L.) L. (= *Cnicus benedictus* L.)

Listed by Jones et al. (1997) and included for Texas by Keil and Ochsmann (2006). The Texas record is based on the following (fide Steve Hatch at TAES): Callahan Co.: "grown in a pot from a wheat field," Mar 1993, *J. Landers s.n.* (TAES). The plant apparently was grown to identify a weed submitted for identification.

6. *Cotula australis* (Sieber ex Spreng.) Hook. f.

Recorded by Johnston (1990) based on plants from the Texas A&M campus, as documented here by collections at TEX; the report by Hatch et al. (1990) probably based on the same or similar collections.

Brazos Co.: College Station, campus of A&M University, lawn weed with *Soliva*, 27 Apr 1970, *Correll & Correll 38493* (LL, TEX); Texas A&M University campus, an Australian weed widely adventive in W hemisphere, the first population known in Texas, 23 Apr 1970, *Johnston s.n.* (TEX).

7. *Leontodon hispidus* L.

Mapped by Turner et al. (2003) for Panola Co. An apparently corresponding voucher at TEX is from adjacent **Harrison Co.:** Marshall, SE corner of yard at Grover Hall, East Texas Baptist College, 16 Jun 1983, *Fleetwood 6* (TEX).

8. *Leontodon taraxacoides* (Vill.) Mérat

Vuilleumier (1973) included "Texas" in the statement of range for the species; mapped by Turner et al. (2003) from El Paso Co. (as *Leontodon "taraxacum"*). A voucher at TEX is from **El Paso Co.:** El Paso, 7400 block of N Mesa, in watered lawn, 12 Aug 1993, *Worthington 22279* (TEX).

9. *Logfia* (Filago) *arvensis* (L.) Holub

This species has been included by the PLANTS Database (USDA, NRCS 2009) in the Texas flora based on Johnston (1990). Johnston, however, noted only that his description of *Stylocline micropoides* Gray in the Texas Manual (Correll & Johnston 1970) was "wholly inappropriate, [and] instead applies to *Logfia arvensis*." The real *Stylocline micropoides*, which is a native species, is vouchered from El Paso. **El Paso Co.:** NW part of El Paso at small andesite hills 0.3 mi. N of jct Belvedere w/ Westwind, 4200 ft., mostly a creosote bush community with several substrate types and arroyos, 29 Apr 1983, *Worthington 10130* (TEX, UTEP). The real *Logfia arvensis* has not been observed in Texas (Worthington 1989, 1997), and the species is removed from the current account of Texas plants.

10. *Madia elegans* D. Don ex Lindl.

Turner et al. (2003) mapped the species for Grimes County, evidently based on early collections from Plantersville, a town founded in the 1830's and whose population has fluctuated around 200 since about 1900. The Atchison, Topeka and Santa Fe Railway runs through the town and might have been a source of the seeds, but the label data do not indicate that the plants were naturalized or waived in Plantersville, and it seems most likely that they were garden collections. *Madia elegans* has not been reported from anywhere else outside its native range in California, Nevada, Oregon, and Washington, and the species is removed from the current account of Texas plants.

Grimes Co.: Plantersville, Fall 1927, *Bletsch* 42-77 (TEX);
Plantersville, Fall 1927, *Bletsch s.n.* (TEX).

11. *Matricaria courrantiana* DC.

Kearney and Peebles (1960, p. 937) included "Texas" in the description of geographic range for the species, and Arizona and Texas remain the only two states recorded for the occurrence of this species in the USA (fide PLANTS). Although the observation by Kearney and Peebles surely was based on real evidence, until a voucher for the Texas record can be located, the species is removed from the current account of Texas plants.

12. *Sanvitalia angustifolia* A. Gray

Recorded by Johnston (1990), with the following comment: "Found once in the campgrounds of the Chisos Mountains basin, perhaps waifed through automobile dispersal from its native home in Mexico." Based on a TEX collection.

Brewster Co.: Big Bend National Park, Chisos Mts. Basin Campground, at the first campsite on the rt. after the paypost, only two plants seen, 13 Oct 1978, *Henrickson & Bontemps 12444* (TEX).

13. *Sanvitalia procumbens* Lam.

Noted by Strother (1979) to occur "in trans-Pecos Texas in Chisos Basin (J. Henrickson pers. comm.)," with further comment (Strother 2006, p. 71): "*Sanvitalia procumbens* has been seen only sporadically in the flora; it probably is not a resident." Strother (pers. comm.) comments that for the FNANM treatment, he "saw no supporting specimen(s) for *Sanvitalia procumbens* from California or Texas," and it is highly probable that Henrickson's communication was intended to refer to *S. angustifolia*. *Sanvitalia procumbens* is removed from the current account of Texas plants.

14. *Scorzonera laciniata* L.

Recorded by Johnston (1990) to occur in Randall Co., without other documentation. Collections of the species have been made from three Panhandle counties.

Hutchinson Co.: LAMR, Harbor Bay area, directly W of Fritch on Harbor Bay road, roadside and steep red-sandy slopes with dolomite boulders from caprock, 3190 ft, 22 Apr 2002, *Nesom & O'Kennon*

LAMR 16 (BRIT); LAMR, lawn and roadside of NPS Ranger Station, just W of Sanford-Yake road on short spur, near jct of High Plains Road, 25 Apr 2002, *Nesom & O'Kennon LAMR110* (BRIT); W side of Borger along Hwy 136, grassy areas bordering Wal-Mart parking lot, 28 May 2002, *Nesom & O'Kennon LAMR243* (BRIT). **Lubbock Co.:** Canyon Rd, lower slopes and along the bottom of a "lone profile" canyon, 9 Apr 1990, *Rose s.n.* (LL). **Randall Co.:** Camp Don Herrington Boy Scout Camp on Palo Duro Creek, mixed shrub-grassland community, 24 Apr 1985, *Higgins 15271* (TEX); Canyon, E side of town on vacant lot, 29 May 1988, *Worthington 16584* (TEX).

15. *Soliva anthemifolia* (Juss.) Sweet

Turner et al. (2003) mapped *Soliva anthemifolia* for Bastrop Co. and Leon Co., separately from "*Soliva mutisii*," which is shown with a considerably broader range. *Soliva mutisii* Kunth, however, is a synonym for *S. anthemifolia* (Watson 2006), and in the Flora of Texas Database (<http://www.biosci.utexas.edu/prc/Tex.html>), identifications of TEX/LL vouchers for these records have been corrected to *S. stolonifera* (Brot.) Sweet and *S. anthemifolia* (Juss.) Sweet, respectively. Nueces Co. is added to the two other counties for the distribution of *S. stolonifera*. *Soliva sessilis* Ruiz & Pavón (= *S. pterosperma* [Juss.] Less.) also is commonly and widely naturalized in east Texas.

16. *Sonchus arvensis* L.

Hatch et al. (1990) noted that a previous claim that this species occurs in Texas has not been confirmed. Jones et al. (1997) also listed it, but no voucher has been located and Texas was not included in the range of the species in the FNANM treatment (Hyatt 2006). The species is removed from the current account of Texas plants.

ACKNOWLEDGEMENTS

I am grateful for helpful comments from Monique Dubrule Reed, Steve Hatch, David Keil, John Strother, and Richard Worthington and to staff at SMU/BRIT and TEX/LL for their hospitality during studies there.

LITERATURE CITED

- Correll, D.S. and M.C. Johnston. 1970. *Manual of the Vascular Plants of Texas*. Texas Research Foundation, Renner, Texas.
- Cory, V.L. 1940. Six thistles recently introduced into Texas. *Madroño* 5: 200–202.
- Dunn, P.H. 1976. Distribution of *Carduus nutans*, *Carduus acanthoides*, *Carduus pycnocephalus*, and *Carduus crispus* in the USA. *Weed Sci.* 24: 518–24.
- Hatch, S.L., K.N. Gandhi, and L.E. Brown. 1990. Checklist of the Vascular Plants of Texas. MP-1665, Texas Agric. Expt. Station, Texas A&M Univ., College Station.
- Hultén, E. and M. Fries. 1986. Atlas of North European vascular plants north of the Tropic of Cancer. Vols. 1, 2, and 3. Koeltz, Königstein, Federal Republic of Germany.
- Hyatt, P.E. 2006. *Sonchus* (Asteraceae: Cichorieae). *Flora of North America North of Mexico* 19: 273–276.
- Johnston, M.C. 1990. The vascular plants of Texas: A list, up-dating the “Manual of the Vascular Plants of Texas” (ed. 2). Published by the author.
- Jones, S.D., J.K. Wipff, and P.M. Montgomery. 1997. *Vascular plants of Texas: A comprehensive checklist including synonymy, bibliography, and index*. Univ. of Texas Press, Austin.
- Kearney, T.H. and R.H. Peebles. 1960. *The Flora of Arizona*, 2nd ed. with supplement by J.T. Howell, E. McClintock, and collaborators. Univ. of California Press, Berkeley.
- Keil, D.J. 2006a. *Arctium* (Asteraceae: Cynareae). *Flora of North America North of Mexico* 19: 168–171.

- Keil, D.J. 2006b. *Carduus* (Asteraceae: Cynareae). *Flora of North America North of Mexico* 19: 91–94.
- Keil, D.J. and J. Ochsmann. 2006. *Centaurea* (Asteraceae: Cynareae). *Flora of North America North of Mexico* 19: 181–194.
- Nesom, G.L. 2009. Literature Reviews of the Texas Flora: Non-native species recently discovered to be naturalized in the state; Non-native species in the state, complete list; Native species new to science for the state. <<http://guynesom.com/Texasplantsweb.htm>>
- Strother, J.L. 1979. Extradition of *Sanvitalia tenuis* to *Zinnia* (Compositae-Heliantheae). *Madroño* 26: 173–179.
- Strother, J.L. 2006. *Sanvitalia*. (Asteraceae: Heliantheae). *Flora of North America North of Mexico* 21: 70–71
- Turner, B.L., H. Nichols, G. Denny and O. Doron. 2003. Atlas of the Vascular Plants of Texas. Vol. I—Dicots; Vol. II—Monocots. *Sida, Bot. Misc.* 24, 1 and 2.
- USDA, NRCS. 2009. The PLANTS Database. National Plant Data Center, Baton Rouge, La. <<http://plants.usda.gov>>
- Vuilleumier, B.S. 1973. The genera of Lactuceae (Compositae) in the southeastern United States. *J. Arnold Arb.* 54: 42–93.
- Watson, L.E. *Soliva* (Asteraceae: Anthemideae). *Flora of North America North of Mexico* 19: 545–546
- Worthington, R.D. 1989. An annotated checklist of the native and naturalized flora of El Paso County, Texas. *El Paso Southwest Bot. Miscell. No. 1.* [581.974 T355WO 1989]
- Worthington, R.D. 1997. Nomenclatural changes, additions, and corrections to an annotated checklist of the native and naturalized flora of El Paso County, Texas. *El Paso Southwest Bot. Miscell.* 2: 1–27.