

LACTUCA SALIGNA (ASTERACEAE), A LETTUCE NEW FOR TEXAS

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Lactuca saligna L., willow-leaf lettuce, is a European native (Feráková 1976) naturalized in a variety of localities in the United States. It is usually described as a weed inhabiting roadsides, disturbed places, and waste areas. The species is widely known from the eastern U.S., with localities reported from near the east coast (North Carolina, South Carolina, Virginia) west to Arkansas, Michigan, Missouri, Ohio, Tennessee, and West Virginia (Robinson & Fernald 1908; Britton & Brown 1913; Fernald 1950; Gleason 1952; Gleason & Cronquist 1963, 1991; Steyermark 1963; Radford et al. 1968; Strausbaugh & Core 1978; Cronquist 1980; Smith 1988). Its spread has apparently occurred mainly during this century because it was reported by neither Watson and Coulter (1889), Britton and Brown (1898), nor Small (1903, 1913, 1933). Further, Strausbaugh and Core (1978) indicated that the species "... was not reported by Millspaugh [for West Virginia] in 1913, which may be an indication that it has spread widely since that time." It was, however, reported early in the century for Ohio by Robinson and Fernald (1908). A relatively late spread to the west is supported by Steyermark's (1963) statement that the species was first known from Missouri in 1932. In addition to the eastern United States, *Lactuca saligna* has been reported from the Great Plains (Iowa, Kansas, Nebraska, South Dakota—Great Plains Flora Association 1977; Barkley 1986) and California (Stebbins 1993). It



FIG. 1. Habit of *Lactuca saligna* (Britton & Brown 1913).

is also known from Oklahoma (Taylor & Taylor 1994), with forma *ruppiana* (Wallr.) Beck [entire-leaved form] having been first reported from that state in 1972 (McGrath & Weedon 1974). In fact, *Lactuca saligna* is known from Bryan County, Oklahoma, just north of the Red River border with Texas (J. Taylor 29740, 28 Aug 1980, BRIT). However, despite this proximity, the species has not been previously reported from Texas (Correll & Johnston 1970; Stanford 1976; Hatch et al. 1990; Jones et al. 1997).

As part of the collecting effort for the forthcoming *Shinners & Mahler's Illustrated Flora of North Central Texas* (Diggs et al.), a collection made in 1998 in Fort Worth (Tarrant County) is apparently the first documented occurrence of this species for Texas.

Voucher specimen: TEXAS. Tarrant Co.: weedy area in landscape, 301 Crestwood, Fort Worth, 21 Aug 1998, O'Kennon 14252 (BRIT).

At the collection locality a single large individual was observed as a landscape weed. This plant was nearly two meters tall and more than a meter wide. Other populations have not been found in North Central Texas, and it is unclear whether the species will become more widely established. However, given that the species is known just north of the Red River and that in some areas of the Great Plains it is rather frequent (Great Plains Flora Association 1977; Ted Barkley, pers. comm.), it would not be surprising if

Lactuca saligna were already widespread but unnoticed in the state of Texas.

Lactuca saligna can be recognized by the following description (from original observations and from Radford et al. 1968; Feráková 1976; Barkley 1986; Stebbins 1993): Taprooted herbaceous annual (or rarely biennial?) 0.3–1(–2) m tall; latex white; stems erect, branched, usually glabrous or with remote bristles; cauline leaves linear to linear-lanceolate, entire to pinnatifid with 1–2(–3) pairs of narrow, sometimes slightly toothed lobes, with sagittate-clasping base; midrib of leaf white, glabrous or with remote bristles abaxially; inflorescences spike-like panicles with numerous heads; involucre 10–18 mm high in fruit; corollas yellow (with bluish or purplish on the abaxial side), drying blue; ligules 4.5–5 mm long; body of achenes 3–3.6 mm long, ca. 1 mm wide, with 5–9 nerves on each face; beak of achenes filiform, usually 1.5–3 times as long as achene body; pappus white, the bristles ca. 4 mm long; $2n = 18$; flowering Jul–frost. The accompanying illustration (Fig. 1) is reprinted from Britton and Brown (1913).

While the Tarrant County individual has mostly pinnatifid lower and middle leaves and entire upper leaves, leaves in this species can vary greatly. According to Barkley (1986), "Three phases of *L. saligna* based on leaf morphology occur throughout its range. The phase with all leaves linear and entire, referred to by Fernald as f. [forma] *ruppiana* (Wallr.) G. Beck, will often occur in the same population with the phase that has all leaves pinnatifid. The phase with lower cauline leaves pinnatifid and upper cauline leaves linear and entire may be found with one or both of the other phases."

The six species of *Lactuca* occurring in the eastern two-thirds of Texas (excluding the two species limited to the Trans-Pecos) can be distinguished using the following key modified from those in Radford et al. (1968), Correll and Johnston (1970), Barkley (1986), and Stebbins (1993):

1. Beak of achenes (connecting achene body and pappus) stout, 0.5–1(–2) mm long OR absent; corollas blue or white; body of achenes 4–5 mm long*L. floridana* (L.) Gaertn.
1. Beak of achenes thread-like, 2–10 mm long; corollas usually yellow (rarely cream to pink or pale lavender); body of achenes of various lengths.
 2. Beak of achenes equal to or conspicuously longer than body of achenes; body of achenes ca. 1 mm wide, ca. 1/3 as thick as wide, 5- to 9-nerved on each face; plants annuals (or rarely biennials) with taproot; latex white.
 3. Leaves linear to linear-lanceolate, 0.3–5 cm wide, with narrow lobes OR lobes absent (except for basal lobes); margins of leaves or leaf lobes entire or remotely prickly-toothed; body of achenes without conspicuous bristles at base of beak; flowers 8–15 per head; abaxial midrib of leaves and lower stems glabrous or remotely bristly ...*L. saligna* L.
 3. Leaves lanceolate to ovate, oblong-elliptic, or obovate, 1–10(–15+) cm wide, with broad lobes; margins of leaves or leaf lobes usually conspicuously prickly-toothed; body of achenes with conspicuous bristles at base of beak; flowers 14–25 per head; abaxial midrib of leaves and lower stems usually with stiff bristles*L. serriola* L.

2. Beak of achenes equal to or shorter than body of achenes; body of achenes 1.6–3 mm wide, very flat, 1- to 3-nerved on each face; plants biennials with abundant, tufted, branching roots; latex brownish.
4. Corollas very pale yellow to cream, pink, or pale lavender; lower leaves usually pinnately lobed; upper midstem leaves usually without a clasping base; body of achenes 2–2.5 times as long as wide; infrequent in sandy woods in eastern Texas
.....*L. hirsuta* Muhl. var. *albiflora* (Torr. & A. Gray) Shinnery
4. Corollas usually yellow; lower leaves pinnately lobed OR not so; body of achenes 1.5–2 times as long as wide: widespread in various soils in Texas.
5. Body of achenes 4.5–5 mm long, the achenes including beak 7–10 mm long; pappus bristles 7–10 mm long; involucre 13–22 mm long in fruit; upper leaf blades pinnately lobed, the margins conspicuously prickly-toothed*L. ludoviciana* (Nutt.) Riddell
5. Body of achenes 3.5–4.5 mm long, the achenes including beak 4.5–6.5 mm long; pappus bristles 5–7 mm long; involucre 10–15 mm long in fruit; upper leaf blades usually not lobed, the margins entire to toothed but usually not prickly-toothed*L. canadensis* L.

REFERENCES

- BARKLEY, T.M. 1986. *Lactuca*. In: Great Plains Flora Association. Flora of the Great Plains. Pp. 838–1021. Univ. Press of Kansas, Lawrence. (Cites: Dille, D.P. 1976. A revision of the genus *Lactuca* in the Great Plains. M.S. thesis, Kansas State Univ., Manhattan)
- BRITTON, N.L. and A. BROWN. 1898. An illustrated flora of the northern United States, Canada and the British possessions. Charles Scribner's Sons, New York.
- _____ and _____. 1913. An illustrated flora of the northern United States, Canada and the British possessions. The New York Botanical Garden, New York.
- CORRELL, D.S. and M.C. JOHNSTON. 1970. Manual of the vascular plants of Texas. Texas Research Foundation, Renner.
- CRONQUIST, A. 1980. Asteraceae. Vascular flora of the southeastern United States 1:1–261. The Univ. of North Carolina Press, Chapel Hill.
- DIGGS, G.M. Jr., B.L. LIPSCOMB, and R.J. O'KENNON. Shinnery & Mahler's illustrated flora of North Central Texas. To be published in early 1999 by the Botanical Research Institute of Texas, Fort Worth.
- FERÁKOVÁ, V. 1976. *Lactuca*. In: T.G. Tutin, V.H. Heywood, N.A. Burges, D.M. Moore, D.H. Valentine, S.M. Walters, and D.A. Webb, eds. Flora Europaea, Vol. 4, Plantaginaceae to Compositae. Cambridge Univ. Press, Cambridge, England, U.K.
- FERNALD, M.L. 1950. Gray's manual of botany, 8th ed. Reprinted 1987. Dioscorides Press, Portland, OR.
- GLEASON, H.A. 1952. The new Britton and Brown illustrated flora of the northeastern United States and adjacent Canada, 3 vols. New York Botanical Garden, Bronx.
- _____ and A. CRONQUIST. 1963. Manual of the vascular plants of northeastern United States and adjacent Canada. Van Nostrand Reinhold Company, New York.
- _____ and _____. 1991. Manual of the vascular plants of northeastern United States and adjacent Canada, 2nd ed. Van Nostrand Reinhold Company, New York.
- GREAT PLAINS FLORA ASSOCIATION. 1977. Atlas of the flora of the Great Plains. Iowa State Univ. Press, Ames.

- HATCH, S.L., K.N. GANDHI, and L.E. BROWN. 1990. Checklist of the vascular plants of Texas. Texas Agric. Exp. Sta. Misc. Publ. No. 1655.
- 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.
- MAGRATH, L.K. and R.R. WEEDON. 1974. New and interesting plants from the central plains states. *Rhodora* 76:489–491.
- RADFORD, A.E., H.E. AHLES, and C.R. BELL. 1968. Manual of the vascular flora of the Carolinas. The Univ. of North Carolina Press, Chapel Hill.
- ROBINSON, B.L. and M.L. FERNALD. 1908. Gray's new manual of botany, 7th ed.: A handbook of the flowering plants and ferns of the central and northeastern United States and adjacent Canada. American Book Company, New York.
- SMALL, J.K. 1903. Flora of the southeastern United States. Published by the author, New York.
- _____. 1913. Flora of the southeastern United States, 2nd ed. Published by the author, New York.
- _____. 1933. Manual of the southeastern flora. Univ. of North Carolina Press, Chapel Hill.
- SMITH, E.B. 1988. An atlas and annotated list of the vascular plants of Arkansas, 2nd ed. Published by the author, Fayetteville, AR.
- STANFORD, J.W. 1976. Keys to the vascular plants of the Texas Edwards Plateau and adjacent areas. Published by the author, Brownwood, TX.
- STEBBINS, G.L. 1993. *Lactuca*. In: J.C. Hickman, ed. The Jepson manual: Higher plants of California. Pp. 296, 301. Univ. of California Press, Berkeley.
- STEYERMARK, J.A. 1963. Flora of Missouri. The Iowa State Univ. Press, Ames.
- STRAUSBAUGH, P.D. and E.L. CORE. 1978. Flora of West Virginia, 2nd ed. Seneca Books, Inc., Grantsville, West Virginia.
- TAYLOR, R.J. and C.E.S. TAYLOR. 1994. An annotated list of the ferns, fern allies, gymnosperms and flowering plants of Oklahoma, 3rd ed. Southeastern Oklahoma State Univ., Durant.
- WATSON, S. and J.M. COULTER. 1889. Gray's manual of the botany of the northern United States, including the district east of the Mississippi and north of North Carolina and Tennessee, 6th ed. American Book Co., NY.



O'kennon, Robert J et al. 1998. "LACTUCA SALIGNA (ASTERACEAE), A LETTUCE NEW FOR TEXAS." *SIDA, contributions to botany* 18, 615–619.

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