

CIRSIUM NUTTALLII (ASTERACEAE: CYNAREAE)
NEW TO NORTH CAROLINA AND
AN ILLUSTRATED KEY TO SOUTHEASTERN CONGENERS

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ABSTRACT

Cirsium nuttallii (Asteraceae) is documented for North Carolina. The species had previously been known from Florida to South Carolina and from disjunct populations in Virginia. An illustrated key is provided to aid others in the diagnosis of *Cirsium* in North Carolina and the southeast.

RESUMEN

Se documenta *Cirsium nuttallii* (Asteraceae) para el estado de Carolina del Norte. Previamente se conocía la especie sólo desde Florida a Carolina del Sur y de poblaciones disjuntas en Virginia. Se presenta una clave ilustrada para ayudar los demás en las diagnósis de *Cirsium* en el sudeste.

A southeastern United States endemic, *Cirsium nuttallii* DC. (Asteraceae: Cynareae) has been previously known only from peninsular Florida to Louisiana and South Carolina, and from apparently disjunct populations in southeastern Virginia (Radford et al. 1968, Cronquist 1980). However, recently Randy Westbrooks found an individual in a pasture in Whiteville, Columbus Co., North Carolina. When surveyed, the plant was about 2.4 m tall. Apparently, it had not been seen in the pasture previously. Additional survey by Robert Eplee located a population lightly scattered over 10 acres, north of Hallsboro (also Columbus Co.). The species is known from at least 16 counties in South Carolina, including nearby Marion Co. North Carolina now includes all 12 species of native and naturalized *Cirsium* known from the southeast. Voucher specimens of *C. nuttallii* were prepared for deposit at NCSC, OBI, and US.

Voucher specimen: U.S.A. **NORTH CAROLINA. Columbus Co.:** Whiteville, in a pasture, roughly 8 ft tall, 24 Jun 2002, R. Westbrooks s.n. (NCSC, OBI, US).

Cirsium nuttallii DC. (Fig. 1H) is one of the tallest *Cirsium* species in the southeast, capable of attaining heights of 3.5 m (Cronquist 1980). Only *Cirsium altissimum* (L.) Sprengel and *C. discolor* (Muhl.) Sprengel are known to grow to

a similar maximum size (Cronquist 1980). These latter two can be distinguished from *C. nuttallii* by the abaxial leaf surface densely and persistently white tomentose (arachnoid-tomentose to glabrate in age in *C. nuttallii*).

Cirsium nuttallii can be distinguished from its southeastern congeners by the combination of the following traits: (1) plant biennial, 1.5–3.5 m tall, (2) stems not winged, but branched and many-headed, (3) abaxial leaf surface arachnoid-tomentose to glabrate in age, (4) involucre 1.5–2.5 cm long, and (5) middle and outer involucral bracts with a glutinous adaxial ridge and tipped by spines 1–2(–3) mm long. We are providing a key, largely adapted from Cronquist (1980), as well as illustrations in hopes they might prove of diagnostic use to others.

KEY TO *CIRSIIUM* IN THE SOUTHEASTERN UNITED STATES

- 1. Stems conspicuously winged by spiny, decurrent leaf bases (Fig. 1A, i), the wings nearly or as long as the internodes _____ **Cirsium vulgare** (Savi) Ten. (Fig. 1A, ii)
- 1. Stems not winged by decurrent leaf bases.
 - 2. Heads conspicuously and closely subtended by a series of narrow, reduced, strongly spiny leaves (Fig. 1C) _____ **Cirsium horridulum** Michx.
 - 2. Heads not closely subtended by a series of reduced spiny leaves.
 - 3. Plant colonial, perennial (by creeping roots); polygamo-dioecious, the heads nearly unisexual with the pappus of the pistillate head longer than the corresponding corollas and the pappus of the staminate heads shorter than the corresponding corollas (Fig. 1D, i & ii) _____ **Cirsium arvense** (L.) Scop.
 - 3. Plant not colonial, biennial or perennial; heads all similar and perfect.
 - 4. Involucral bracts completely lacking spiny tips or only exhibiting a vestigial spinule to 0.5 mm long (Fig. 1B) _____ **Cirsium muticum** Michx.
 - 4. Involucral bracts bearing spiny tips, the spines typically at least 1 mm long.
 - 5. Abaxial leaf surface densely and persistently white-tomentose.
 - 6. Plants robust, 1–3(–4) m tall; largest lobed leaves generally > 5 cm wide; involucre generally 2.5–3.5 cm long
 - 7. Leaves deeply pinnatifid (Fig. 1F, i) _____ **Cirsium discolor** (Muhl. ex Willd.) Sprengel (Fig. 1F, ii)
 - 7. Leaves toothed or shallowly lobed _____ **Cirsium altissimum** (L.) Sprengel (Fig. 1K)
 - 6. Plants relatively slender, 0.5–1.5 m tall; largest lobed leaves generally < 5 cm wide; involucre generally 1.5–2.5 cm long
 - 8. Cauline leaves mostly 30–70; plants flowering in Aug–Oct; savannahs, bogs, and wet pinelands _____ **Cirsium virginianum** (L.) Michx. (Fig. 1E)
 - 8. Cauline leaves mostly 10–25; plants flowering Apr–Jun; open woods and dry, sandy soil _____ **Cirsium carolinianum** (Walt.) Fern. & Schub. (Fig. 1G)
 - 5. Abaxial leaf surface arachnoid-villous (sometime sparsely so) to glabrate (particularly in age).
 - 9. Plants 1.5–3.5 m tall, branched and many-headed; involucre 1.5–2.5 cm long (Fig. 1H) _____ **Cirsium nuttallii** DC.
 - 9. Plants 0.2–1 m tall, unbranched or only sparingly branched; involucre 2.5–5 cm long.
 - 10. Young stems and abaxial leaf surfaces thinly and loosely white-

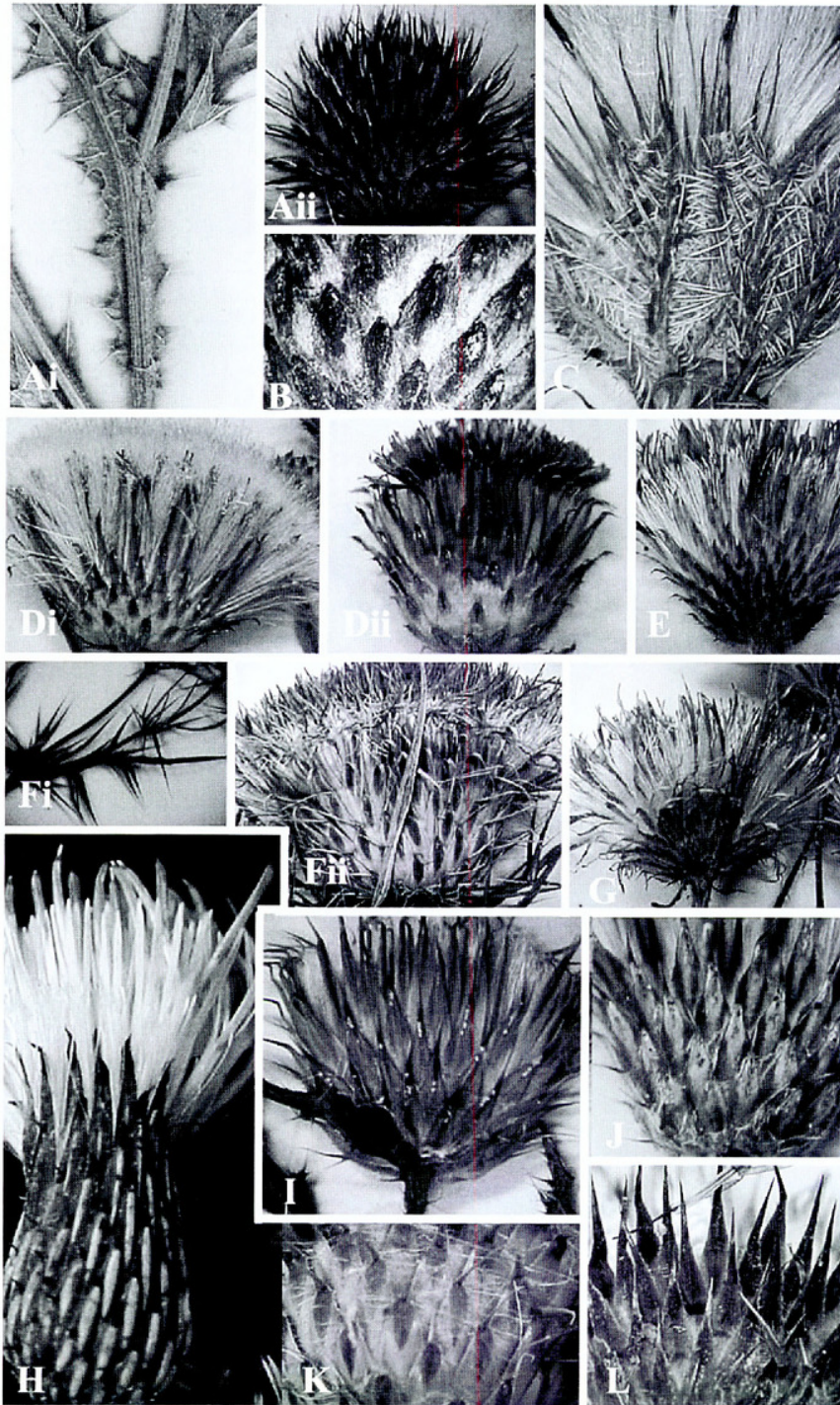


FIG. 1. Southeastern *Cirsium* (Asteraceae): **A**, *Cirsium vulgare* – i, stems winged from decurrent leaves; ii, involucre (Biltmore Herbarium 168b); **B**, *Cirsium muticum* involucre (Whitford s.n.); **C**, *Cirsium horridulum*, with reduced leaves crowded around involucre (Veerhoff 346); **D**, *Cirsium arvense* – i, pistillate flower, note long pappus; ii, staminate flower, note pappus shorter than corollas (Eames s.n.); **E**, *Cirsium virginianum* involucre (Godfrey & Fox 51040); **F**, *Cirsium discolor* – i, deeply pinnatifid leaves; ii, involucre (Wilbur 4856); **G**, *Cirsium carolinianum* involucre (Godfrey & Fox 50388); **H**, *Cirsium nuttallii* involucre, note dorsal, elongate glutinous ridge on bracts (R. Westbrook s.n.); **I**, *Cirsium lecontei* involucre (Blair 759); **J**, *Cirsium repandum* involucre (Fox 1693); **K**, *Cirsium altissimum* involucre (Nicholson s.n.); **L**, *Cirsium pumilum* involucre (Fox 3687). All specimens from NCSC.

- tomentose, older stems and abaxial leaf surfaces glabrate; heads strongly pedunculate _____ **Cirsium lecontei** Torr. & A. Gray (Fig. 1I)
10. Young stems and abaxial leaf surfaces arachnoid-villous, hirsute, or rarely arachnoid tomentose; heads scarcely or more or less strongly pedunculate.
11. Cauline leaves crowded, the internodes frequently < 1 cm long; inner involucre bracts gradually tapering to a narrowly pointed tip (Fig. 1J) _____ **Cirsium repandum** Michx.
11. Cauline leaves typically not crowded (although sometimes so near the base); inner involucre bracts with expanded, chartaceous, crisped, and erose tips (Fig. 1L) _____ **Cirsium pumilum** (Nutt.) Spreng.

REFERENCES

CRONQUIST, A. 1980. Vascular flora of the southeastern United States: Asteraceae. University of North Carolina Press, Chapel Hill.

RADFORD, A.E., H.E. AHLES, and C.R. BELL. 1968. Manual of the vascular flora of the Carolinas. University of North Carolina Press, Chapel Hill.



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