

Cuscuta obtusiflora var. *glandulosa* belatedly confirmed for the flora of Missouri

AARON FLODEN¹ AND ALAN E. BRANT²

ABSTRACT. — *Cuscuta obtusiflora* Kunth var. *glandulosa* Engelm. is reported as new to the flora of Missouri, where it has been documented from three counties. A revised key to the species of *Cuscuta* in the state is provided.

Dodders (*Cuscuta* L., Convolvulaceae) are parasitic twining herbs that occur on various woody and herbaceous hosts throughout Missouri and previously included 9 native and one introduced species (Yatskievych 2006). The taxonomic difficulties of the genus are well-known due to often difficult and cryptic specific characters and that many of the morphological characters are limited to the inflorescences and flowers (Yatskievych 2006, Yuncker 1932). It is these problems with accurate determination or unclear species boundaries that have likely led to the exclusion of *Cuscuta obtusiflora* Kunth var. *glandulosa* Engelm. from the flora despite having been collected first in Missouri in 1929 (see specimens examined).

Costea et al. (2006) did not report *Cuscuta obtusiflora* var. *glandulosa* for Missouri in their revision of the Pentagona complex, which was published concurrently with the Flora of Missouri *Cuscuta* treatment (Yatskievych 2006). In 2007, several collections at MO were annotated by M. Costea as this species. The inclusion of this species in the Missouri flora was further delayed because few of the *Cuscuta* collections at MO are databased. A single specimen in the Tropicos database (<http://www.tropicos.org>) was observed by Alan Brant with an annotation of *C. obtusiflora* var. *glandulosa*, which had not previously been reported for the flora. Further searching by Aaron Floden revealed additional collections annotated as such. Here we provide the voucher information documenting this species for the Missouri flora; we also provide an updated key to the genus in the state to aid field studies.

Cuscuta obtusiflora var. *glandulosa* differs from other sessile flowered-species without a stylopodium in that the flowers are 5-merous vs. 3–4-merous in *C. cephalanthi* Engelm. and *C. polygonorum* Engelm. *Cuscuta obtusiflora* has typically been determined as *C. polygonorum* in the past for the Missouri flora because of similarly globular inflorescences and acute perianth parts in both species.

The distribution of *Cuscuta obtusiflora* var. *glandulosa* in Missouri covers several regions although it has been documented from only three Missouri counties; one in the Ozark

¹ AARON FLODEN — Missouri Botanical Garden, 4344 Shaw Blvd., St. Louis, MO 63110. email: afloeden@mobot.org

² ALAN E. BRANT — 740 HC 64, Grassy, Missouri, 63751. email: 2castorriver@gmail.com

Border in Gasconade County in the Lower Missouri subsection, and two in the Ozarks including Greene County on the Springfield Plateau subsection and St. Francois County in the St. Francois Mountains subsection. Given its wide range of hosts (Costea et al. 2006, and see below) and its current known distribution, it should be looked for in the intervening counties in similar habitats where potential host species are also present. Hosts not reported by Costea et al. (2006) on which the plant has been reported in Missouri are *Cephalanthus occidentalis* and *Justicia americana*.

Specimens examined: **U.S.A. MISSOURI:** GASCONADE CO.: south bank of Bourbeuse river just east of gravel road crossing (ca. 8 mi. SSE of Owensville), locally frequent on *Cephalanthus occidentalis*; spreading to *Polygonum lapathifolium* but barely surviving there; NE 1/4 SE1/4 sec. 6 T40N, R5W; 30 Aug 1986, R. Gereau & D. Hannon 2293 (MO) (as *C. polygonorum*). GREENE CO.: along James River, ca. 3 km S of Springfield, wooded stream valley and narrow floodplain; loamy alluvium, cherty-limestone outcrops; common on *Justicia americana* on gravel bars; center of sec. 27 T28N R22W; 5 July 1975, R.W. Sanders 75011 (MO). ST. FRANCOIS CO.: Doe Run, along St. Francis River, 28 July 1929, J. Kellogg 25782 (MO); 0.9 miles south of State Highway B; sandy alluvium along the St. Francis River, open; on *Justicia americana* at stream margin; SW1/4 sec. 6 T35N, R5E; 3 August 1986, A. Brant, B. Allen, P. Gomez A., B. Clemens & D. Hannon 962 (MO).

UPDATED KEY TO MISSOURI CUSCUTA

Key adapted from Yatskievych (2006), Costea et al. (2006), and Weakley (2015).
The stylopodium in some species is a thickened ridge at the style base.

- 1 Flower subtended by 2–10 imbricate bracts; sepals deeply divided nearly to the base.
 - 2 Flowers pedicillate, in paniculate clusters; bracts orbicular to ovate, apices obtuse
..... *C. cuspidata*
 - 2 Flowers sessile, in dense clusters along the stem; bracts and apices various.
 - 3 Bracts oval to orbicular, appressed and imbricate, apices rounded; styles not exerted in flower, exerted 1.5–1.8 mm long in fruit *C. compacta*
 - 3 Bracts lanceolate to oblanceolate, spreading to recurved, apices acuminate; styles exerted 2.5–3.5 mm long in flower and fruit *C. glomerata*
- 1 Flowers ebracteate (occasionally with 1 bract at base of pedicel); sepals divided 1/3–1/2 of their lengths.
 - 4 Perianth surface with dense, minute papillae (granulate); corolla lobes acute and pointed inward.
 - 5 Calyces and corollas mostly 4-lobed; infrastaminal scales not reaching filament bases, reduced to 2 narrow, toothed, lobes of tissue *C. coryli*
 - 5 Calyces and corollas mostly 5-lobed; infrastaminal scales reaching filament bases, well developed and fringed along the margins *C. indecora*

- 4 Perianth surface not papillose; corolla lobes acute to obtuse and erect, spreading, or recurved.
 - 6 Stylopodium present; flowers 5-merous *C. gronovii*
 - 6 Stylopodium absent; flowers 3–4-merous or 5-merous.
 - 7 Flowers sessile, inflorescences globose.
 - 8 Perianth 5-merous *C. obtusiflora* var. *glandulosa*
 - 8 Calyces and corollas typically 3- or 4-merous.
 - 9 Corolla lobes rounded or obtuse; corolla tube much longer than the calyx and extending past calyx lobes *C. cephalanthi*
 - 9 Corolla lobes acute; corolla tube subequal to the calyx lobes, but not longer than them *C. polygonorum*
 - 7 Flowers pedicellate, pedicels subequal to perianth, inflorescences loose.
 - 10 Calyx lobes strongly overlapping and forming angles at sinus where these project outward, thus appearing 5-angled; lobes of the corolla 1.5–2.5 mm long *C. pentagona*
 - 10 Calyx lobes not overlapping at base, thus not appearing strongly angled; lobes of the corolla 1.5–3 mm long *C. campestris*

LITERATURE CITED

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