

FIRST RECORDS OF *GLADIOLUS COMMUNIS* (IRIDACEAE) FROM THE OKLAHOMA FLORA

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ABSTRACT

The first naturalized occurrences of *Gladiolus communis* in the Oklahoma flora are reported here from Le Flore County. In 2024, a small group of several plants was discovered in open, disturbed roadside habitat. No cultivated plants of *G. communis* were apparent in the vicinity and the origin of the naturalized plants is unknown, although establishment from once-cultivated plants of the species is possible. Plants were increasing via corm offsets and possibly also seeds. A specimen from Le Flore County was collected in 2022 from two groups of naturalized *G. communis* plants also in roadside habitat.

Gladiolus communis L. (eastern gladiolus, false cornflag, sword lily) is reported here for the first naturalized occurrences in the Oklahoma flora. In 2024, a small group of several plants of *G. communis* was discovered growing in open, highly disturbed roadside habitat in Le Flore County, about 4 km east of the city of Spiro (Figs. 3–5). No cultivated plants of the species were observed and the origin of the plants is unknown, although establishment from once-cultivated plants is possible. Plants were producing offsets from corms and had developing fruits. A 2022 Le Flore County specimen of *G. communis*, *Buthod*, AB-13277 (OKL), was collected from two groups of naturalized plants growing in disturbed roadside habitat, within the city of Howe (Figs. 1–2). These records also represent the first known occurrences of the genus *Gladiolus* outside of cultivation in the Oklahoma flora (Fig. 6).

Voucher specimens. Oklahoma. Le Flore Co.: Small colony consisting of about two dozen plants growing along open, highly disturbed roadside habitat, no cultivated plants in the vicinity or direct evidence of prior cultivation, near 17335 Harper Rd./Co. Rd. 18, ca. 0.6 km from the intersection of Rogers Lane and Hwy 9, ca. 4 km E of Spiro, 35.2602, -94.5552, 23 May 2024, *Campbell 05–23–2024–01* (HEND, ANHC); two clumps present along roadside, clearly naturalized, area of 800 Meadow Lane, Howe, 34.9437, -94.6284, 18 May 2022, *Buthod AB-13277* (OKL).

Gladiolus communis previously has not been documented from Oklahoma (McCoy 1968; Waterfall 1969; Goldblatt 2002; Hoagland & Buthod 2009; Kartesz 2015; Fishbein et al. 2024), but it is known from the floras of a few other states in the central and eastern USA, including multiple counties in Arkansas and Texas (Goldblatt 2002; Gentry et al. 2013; Kartesz 2015; Spaulding et al. 2023; Weakley 2023; Shaw et al. 2024).

Plants of *G. communis* naturalized in North America traditionally have been treated as *G. byzantinus* Mill. but probably should not be considered distinct from it (Goldblatt 2002). *Gladiolus communis* is native to southern Europe and northwestern Africa, and frequently cultivated for its showy flowers (Bailey & Bailey 1976; Hamilton 1980; Goldblatt 2002).



Figure 1. 2022 specimen of naturalized *Gladiolus communis* from Le Flore County (Buthod AB-13277, OKL; SEINet Data Portal, Texas Oklahoma Regional Consortium of Herbaria 2024).



Figure 2. *Gladiolus communis* naturalized in Le Flore County (18 May 2022). Plants in habitat; two naturalized groups present along open, disturbed roadside. Photo credit: Amy Buthod.



Figure 3. *Gladiolus communis* naturalized in Le Flore County (15 May 2024). Single naturalized clump of plants present along open, disturbed roadside (about 3 m from the road). No other plants of the species were present and no evidence of prior cultivation was observed. Perennation and spread likely is a combination of corms, offsets, and seeds.

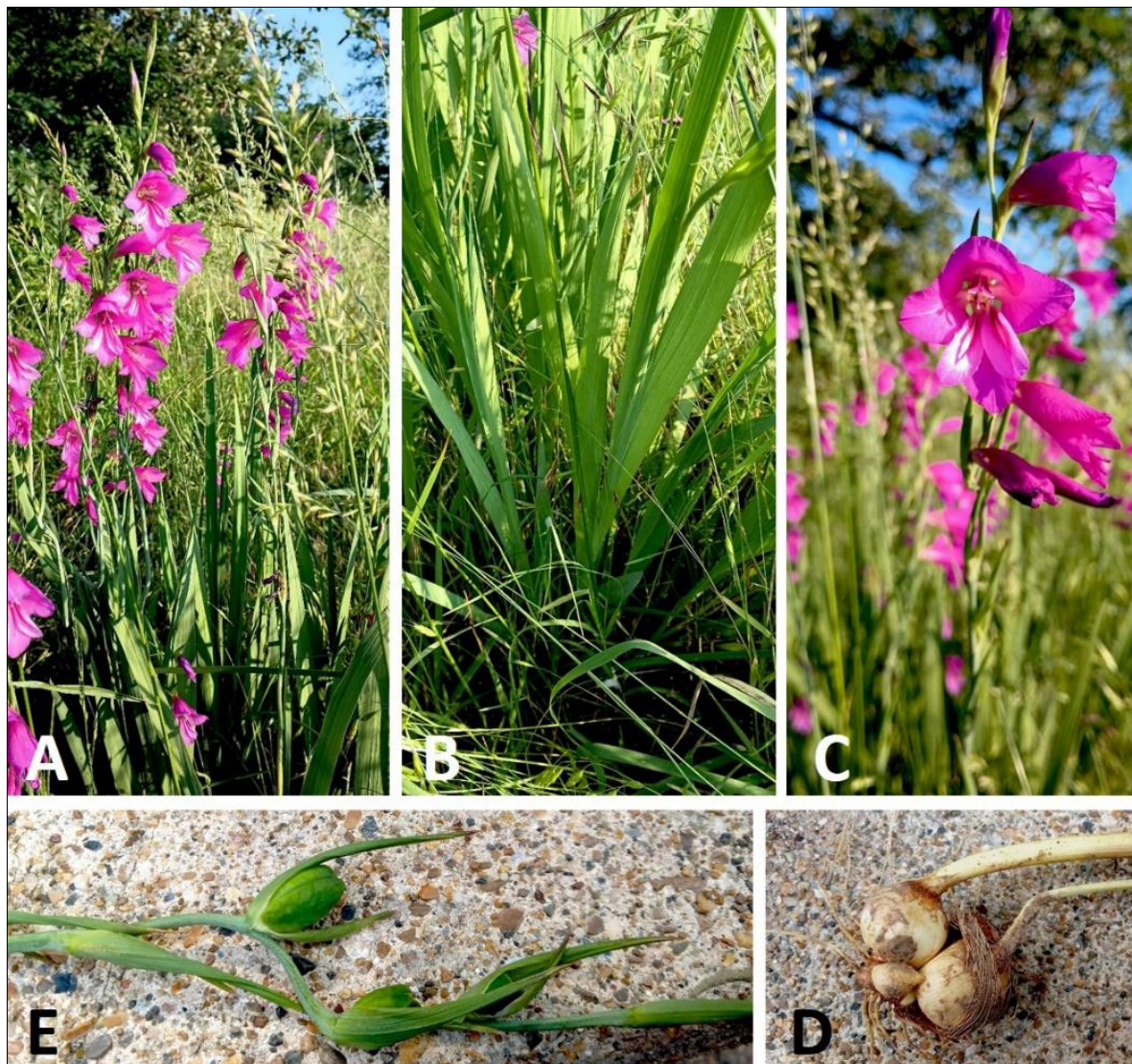


Figure 4. A–E. *Gladiolus communis* naturalized in Le Flore County (14 May 2024). A–B. Plant and habit, including leaves, stems, inflorescences, and flowers. C. Close-up view of the inflorescence and flowers — notice the upper perianth segments covering the reproductive structures and the median white nectar guides on the sepals. D. Corms and cormels — all three are united basally; the small cormel in the center has formed recently. E. Infructescence and developing fruits (23 May 2024).

In the Oklahoma flora, the genus *Gladiolus* is distinguished from other Iridaceous genera by its magenta to reddish-magenta flowers with a white median streak and dark magenta outlines (nectar guide) on the sepals and secund to weakly distichous, multiflowered, spicate inflorescences. Morphologically similar taxa not currently known from the state's flora, but which should be expected, include *Gladiolus italicus* Mill. (field gladiolus) and *Crocasmia x crocosmiflora* (Lemoine) N.E. Br. (falling-stars, montbretia). These species are known from the naturalized floras of a few adjacent states and also sometimes cultivated as ornamentals — the latter providing a source of propagules for entry and potential establishment into the flora, which has been observed in Arkansas with nonnative Iridaceous taxa (Serviss et al. 2024).



Figure 5. 2024 fruiting specimen of naturalized *Gladiolus communis* from Le Flore County (Campbell 05-23-2024-01).

Gladiolus communis can be distinguished from *G. italicus* and *Crocasmia x crocosmiflora* via the following key:

1. Flowers reddish-orange without white nectar guides on the sepals; plants cormose and stoloniferous
..... **Crocasmia x crocosmiflora**
1. Flowers magenta with white nectar guides on the sepals; plants cormose but not stoloniferous.
 2. Flowers with the upper perianth segments arched over the reproductive structures; anthers shorter than or equal in length to the filaments; capsules oblong; seeds winged; corm tunic coriaceous, sometimes fragmented into distinct pieces, rarely fibrous..... **Gladiolus communis**
 2. Flowers with the upper perianth segment spreading and not covering the reproductive structures; anthers longer than the filaments; capsules globose; seeds not winged; corm tunic fibrous
..... **Gladiolus italicus**



Figure 6. County distribution (Le Flore Co.) of naturalized *Gladiolus communis* in Oklahoma. The location of the 2022 *G. communis* record is separated from that of the 2024 record by about 39 km.

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