

NEW TO ALABAMA: *GERANIUM PUSILLUM* (GERANIACEAE)

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ABSTRACT

Geranium pusillum (Geraniaceae) is reported new for the vascular flora of Alabama from collections made in disturbed areas along major highways and streets throughout the Highland Rim Physiographic Region of northern Alabama. This species is considered introduced in Alabama and has been documented as a non-native herb throughout most of Canada and the USA, including Hawaii and Alaska. A key to the Alabama species of *Geranium* is provided.

Recent collections of *Geranium pusillum* L. (small-flowered crane's-bill) from Alabama apparently are the first from the state. The taxon was not included in *Plant Life of Alabama* (Mohr 1901), a recently published comprehensive checklist for the state (Kral et al. 2011), or the Alabama Plant Atlas (Keener et al. 2018). No Alabama records were found in BONAP (2017), NatureServe (2017), SERNEC (2018), or USDA (2018).

Voucher specimens. USA. Alabama. Lauderdale Co.: 2.7 air mi ESE of Rogersville, along W side of Co. Rd 70, 0.02 mi N of jct. with US Hwy 72, 29 Apr 2018, *England 9124* (TROY, UWAL, herb. England). Lawrence Co.: Downtown Moulton, along N side of Downing St., 0.01 mi E of jct. with Market St. (AL Hwy 33), 29 Apr 2018, *England 9113* (TROY, UWAL, herb. England). Limestone Co.: 2.5 air mi NE of Decatur, along W side of US Hwy 31 (Hunter Ln), ca. 0.1 mi N of jct with Alt US Hwy 72 (Joe Wheeler/Bee Line Hwy), 29 Apr 2018, *England 9116* (UWAL, herb. England). Madison Co.: 2.6 air mi NE of Oakland, along S side of US Hwy 72, 0.02 mi W of jct. with Balch Rd, 29 Apr 2018, *England 9118* (UWAL, herb. England). Morgan Co.: 2.4 air mi NW of Priceville, along N side of AL Hwy 67, ca. 0.1 mi W of jct with Co. Rd 40 (Upper River Rd.), 27 Apr 2018, *England 9100* with Jamie England (AMAL, AUA, BRIT, JSU, NCU, TROY, UNA, UWAL, herb. England); 3.4 air mi SSE of Decatur, Wheeler National Wildlife Refuge, along E side of Country Club Rd SE, ca. 0.1 mi N of jct with AL Hwy 67, 28 Apr 2018, *England 9105* (AUA, UWAL).

Geranium pusillum is native to Europe, central Asia, and north Africa (Aedo 2012). It has naturalized throughout most of Canada and USA, including Hawaii and Alaska (BONAP 2017; USDA 2017). It has also been introduced in New Zealand, north-central Pacific, Caribbean (Aedo et al. 1998; Aedo 2000), Chile, and Argentina (Aedo 2012). According to Aedo (2012), this species is found in disturbed areas (cultivated and waste places), open habitats, rocky slopes, meadows, edge of forests, and dry grasslands. Weakley (2015) has added roadsides and pastures as documented habitats.

The erect to decumbent stems of *Geranium pusillum* are much like those of other annual *Geranium* species in Alabama (Fig. 1), with a mixture of short glandular and eglandular hairs. Flowers are in 2-flowered, solitary cymules on peduncles with short glandular and eglandular hairs (Fig. 2). Each flower has 5 light purple petals with an emarginate apex and 10 stamens (5 fertile and 5 sterile) (Fig. 3). The rostrum has short (< 0.5 mm) glandular and eglandular hairs without a narrowed apex (Fig. 4). All collections by the author were made in disturbed areas along major highways and streets throughout the Highland Rim Physiographic Region of northern Alabama (Fig. 5). Typical associates present were *Erodium cicutarium*, *Geranium carolinianum*, *G. dissectum*, *G. molle*, *Galium sherardia*, *Medicago lupulina*, and *Trifolium repens*.



Figure 1. Growth habit of *Geranium pusillum*.



Figure 2. Upper stem of *Geranium pusillum*.



Figure 3. Flower of *Geranium pusillum*.



Figure 4. Fruit of *Geranium pusillum*

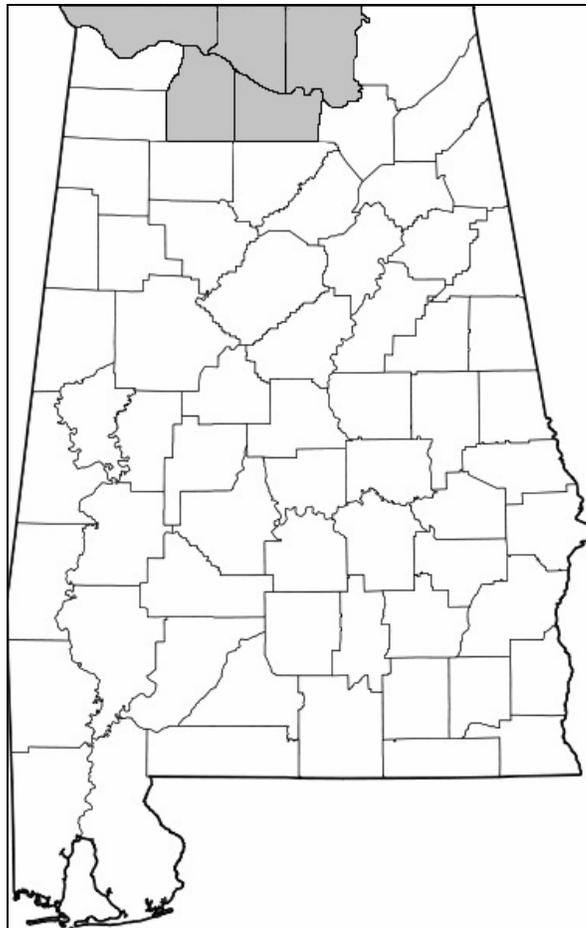


Figure 5. Map of Alabama with counties of documented *Geranium pusillum* populations in gray.

KEY TO THE ALABAMA SPECIES OF GERANIUM

[measurements follow Aedo (2012)]

1. Perennial, from a rhizome; petals 12–16 mm long, 8–13 mm wide **Geranium maculatum**
1. Annual (rarely biennials), from a taproot; petals 2–8.5 mm long, 1–5 mm wide.
 2. Fertile stamens 5, staminodes (3–)5; rostrum without a narrowed apex **Geranium pusillum**
 2. Fertile stamens 10; rostrum with a narrowed apex 0.3–7 mm long.
 3. Sepals with a mucro 0.1–0.3 mm long; mericarps reticulately ridged **Geranium molle**
 3. Sepals with a mucro 0.8–2 mm long; mericarps smooth.
 4. Petals light pink to light purple; mericarps with long appressed hairs about 1 mm long
..... **Geranium carolinianum**
 4. Petals dark purple; mericarps with spreading hairs about 0.5 mm long
..... **Geranium dissectum**

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