

A FIRST RECORD OF *IRIS PALLIDA* (IRIDACEAE) FROM THE ARKANSAS FLORA, WITH NOTES ON NONNATIVE *IRIS* SPECIES IN THE STATE

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ABSTRACT

First naturalized occurrences of *Iris pallida* in the Arkansas flora are reported here from Garland and Pulaski counties. In 2007, two small populations of escaped plants were discovered growing in highly disturbed, roadside habitats. No cultivated plants of *I. pallida* were apparent in the vicinity of either population, so the origins of the escaped plants are not known. A key to the nonnative *Iris* species known (and likely present) in the Arkansas flora is provided, along with notes on identification and occurrences for these species.

Iris pallida Lam. (sweet iris; pale iris) is reported here for first naturalized occurrences in the Arkansas flora from Garland and Pulaski counties. In 2007, two small, naturalized populations of *I. pallida* were discovered in highly disturbed, roadside habitats (Figs. 1, 2). Each of the two populations consisted of only a few plants growing in open, well-drained areas adjacent to the roadside. No cultivated plants of the species were observed and the origins of the populations are unknown. The plants have silvery-white bracts absent of green coloration and floral tubes of 1.3 cm or less long, which clearly distinguish *I. pallida* from *I. germanica*. *Iris pallida* previously has not been reported as naturalized in Arkansas (Gentry et al. 2013; Kartesz 2015; USDA, NRCS 2023; Weakley 2023); however, it is known from the naturalized floras of a few other states (Kartesz 2015; Henderson 2002; Spaulding et al. 2023; Weakley 2023). This species is native to southern Europe (Webb & Chater 1980; Henderson 2002).

Voucher specimens. Arkansas. Garland Co.: SE of Hot Springs along roadside of ARK Hwy 290, T4S R19W S36 between ARK Hwy 171 and Carpenter Dam Rd, a few escaped plants, 21 Apr 2007 Peck 07–372 (HEND, ANHC). Pulaski Co.: A few escaped plants on dry slope along ARK Hwy 10 W of Little Rock, S of Lake Maumelle, T3N R19W S36, 21 Apr 2007, Peck 07–373 (HEND, ANHC).

In addition to *Iris pallida*, the only other species of bearded iris currently documented from the state's naturalized flora is *I. germanica* L. (German iris; purple flag), which is known from several scattered counties (Fig. 3). *Iris germanica*, or cultivars thereof, are frequent in cultivation and persistent or escaped occurrences are occasional in Arkansas. The evolutionary origin of *I. germanica* is obscure and the taxonomy of plants naturalized in North America is unclear. Henderson (1992, 1993, 2002) has indicated that much of the *I. germanica* material grown today is a result of crosses made between multiple species and is distinct from true *I. germanica* — he proposed the name *I. x conglomerata* for this complex. Still (1988) and Fan et al. (2019) indicated that extensive hybridization of *I. germanica* with a number of other species has yielded hundreds of cultivars, with the name *I. x hybrida* often

applied to these hybrids. Mathew (1981) and Niketić et al. (2018) considered true *I. germanica* to be a valid species or a hybrid taxon (*I. x germanica*) of natural origin. According to Mahan (2007), cytological studies in 1932 by the French scientist Marc Simonet showed that *I. germanica* is an allopolyploid. The parental taxa, however, are unresolved and its lineage may be complex, possibly derived from multiple taxa, rather than the idea of an interspecific hybrid between *I. pallida* and *I. variegata* (Mahan 2007; Niketić et al. 2018). Whether or not Arkansas material represents actual *I. germanica* (*sensu stricto*) or a series of cultivars of interspecific hybrid origin is uncertain.

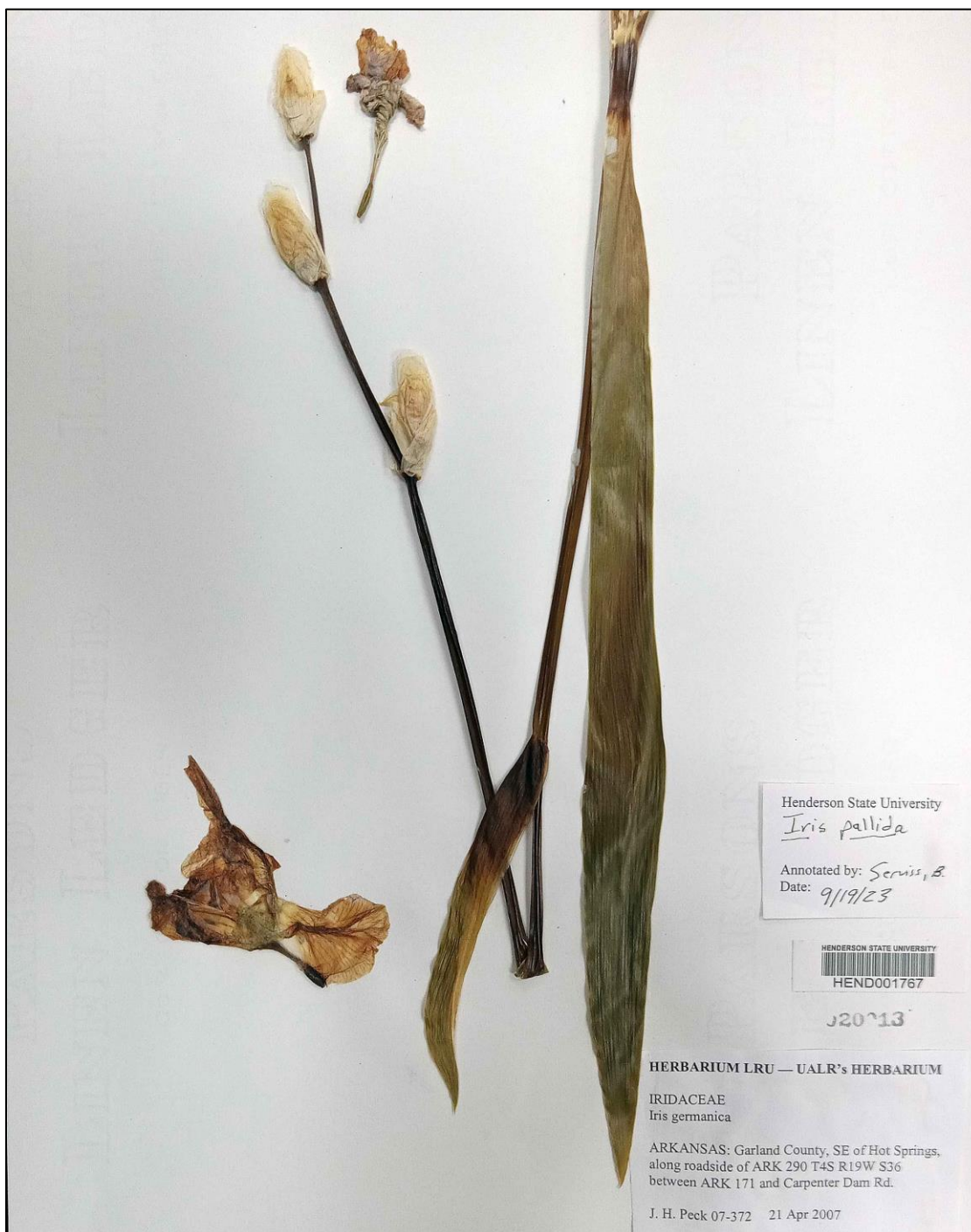


Figure 1. *Iris pallida* escaped in Garland Co., Arkansas



Figure 2. *Iris pallida* escaped in Pulaski Co., Arkansas.

Iris flavescens Delile (lemon-yellow iris), which sometimes is considered a form of *I. germanica* (Henderson 2002), is cultivated in Arkansas and has been recorded from the floras of a few eastern states. It should be expected as persistent or escaped in Arkansas. It can be distinguished from typical *I. germanica* by its yellow flowers, with light brown to brownish-purple markings on the sepals.

Some botanists consider *I. flavescens* to be a naturally occurring hybrid or a distinct species from *I. germanica* — Mathews (1981) lists it as a pale-flowered form of *I. variegata*.

A third bearded iris species, *Iris florentina* L. (cemetery iris; white flag iris), which has been recorded from Alabama (as *I. albicans* Lange; Spaulding et al. 2023), is cultivated in Arkansas and should be expected as escaped in the flora. Henderson (2002) did not include it in his treatment of the genus for Flora of North America. Spaulding et al. (2023) noted that this species often is misidentified as *I. germanica*, and Dykes (1913), Mahan (2007), and Crespo (2013) have provided several distinguishing characteristics that differentiate it from *I. germanica*. Mahan (2007) and Martini and Viciani (2018) provided compelling evidence that *I. albicans* is synonymous with *I. florentina* L., which has priority as it predates Lange's name of *I. albicans* by over 100 years.

Bearded irises are so named because of the conspicuous, often yellow or white trichomes that occur in a prominent band on the adaxial surface of the sepals (falls). Species in this group are native to the Old World and some are common ornamentals in temperate regions, including the USA, because of their large, showy, often fragrant flowers, ease of cultivation, and ease of propagation (Bailey & Bailey 1976; Mathew 1981; Henderson 2002; Fan et al. 2019).

Three other nonnative *Iris* species occur outside of cultivation in Arkansas: *I. domestica* (L.) Goldb. & Mabb. (blackberry lily; leopard lily), which is known from several counties; *I. pseudacorus* L. (yellow iris; yellow flag), known from about 12 scattered counties — considered invasive in Arkansas; and *I. xiphium* L. (Spanish iris) from a single escaped occurrence in Clark County (Fig. 3).

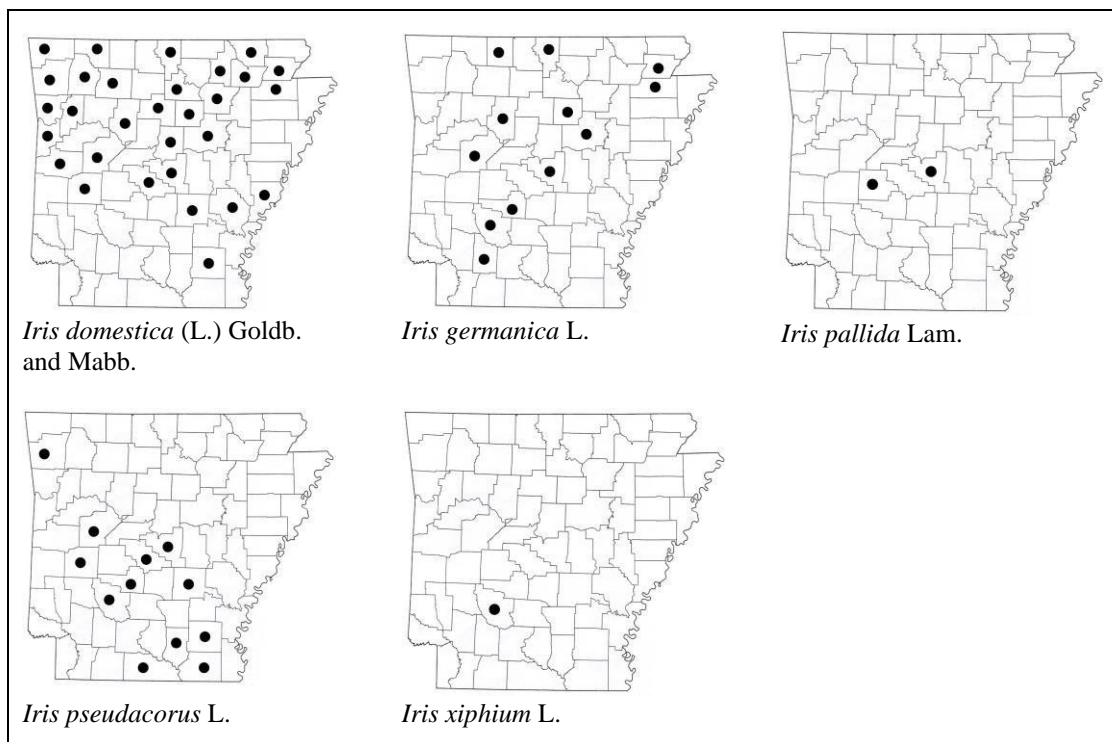


Figure 3. County occurrences of nonnative *Iris* species documented from Arkansas.

These six nonnative *Iris* species can be distinguished using the following key.

1. Plants arising from a bulb ***Iris xiphium***
1. Plants arising from a thickened rhizome.

2. Flowers orange to reddish-orange, with yellow, red, or reddish-brown spots; perianth segments all similar; floral tube absent; seeds black, lustrous ***Iris domestica***
2. Flowers white, lavender, purple, blue, or yellow; perianth segments dissimilar, clearly differentiated into petals and sepals; floral tube present; seeds tan, brown or reddish-brown.
3. Flowers bright yellow; sepals not bearded; leaves with a prominent midvein ***Iris pseudacorus***
3. Flowers blue, purple, or white; sepals bearded; leaves without a prominent midvein.
 4. Bracts of inflorescence and individual flowers completely white/silvery-white-scarious, without green coloration; floral tube short, ca. 1–1.3 cm long ***Iris pallida***
 4. Bracts of inflorescence and individual flowers completely green, often with some purple or blue coloration, or green basally with the apical portions and/or margins scarious; corolla tube longer, ca. 1.9–2.5 cm.
 5. Flowers white, pedicels short, usually obscured by the subtending bracts ***Iris florentina***
 5. Flowers blue, purple, or yellow, pedicels longer, at least on lowermost flowers in an inflorescence, usually much longer than the bracts ***Iris germanica***

ACKNOWLEDGEMENTS

We are grateful to Renn Tumilson and Guy Nesom for their helpful editorial suggestions regarding this paper. We also thank Theo Witsell, ANHC, for providing *Iris* specimens for examination and Kim Hunter, Henderson State University, for acquisition of literature.

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