FIRST RECORD OF *ARUM ITALICUM* (ARACEAE) FROM THE OKLAHOMA (U.S.A.) FLORA

Brett E. Serviss

Natural Sciences
College of Aviation, Science, and Nursing
Henderson State University
Arkadelphia, Arkansas 71999, U.S.A.
servisb@hsu.edu

Martin J. Campbell

Department of Physical Sciences
University of Arkansas Fort Smith
Fort Smith, Arkansas 72901, U.S.A.
martin.campbell@uafs.edu

Cynthia A. Fuller

Arkansas Colleges of Health Education
Fort Smith, Arkansas 72916, U.S.A.
cindy.fuller@achehealth.edu

ABSTRACT

The first naturalized occurrence of *Arum italicum* (Araceae) in the Oklahoma flora is reported here from Le Flore County. In 2025, a naturalized population of *A. italicum* was discovered in semi-disturbed wooded habitat near the city of Spiro. Plants were sterile but establishing via tuberous offsets and possibly seeds, as some of the plants were separated by several meters. The origin of the naturalized plants is unknown and no direct evidence of prior cultivation was observed at the site. The potential for continued establishment of *A. italicum*, along with similar species in the Oklahoma flora, also are discussed.

RESUMEN

Se informa aquí del primer caso de naturalización de *Arum italicum* (Araceae) en la flora de Oklahoma, concretamente en el condado de Le Flore. En 2025, se descubrió una población naturalizada de *A. italicum* en un hábitat boscoso semidestruido cerca de la ciudad de Spiro. Las plantas eran estériles, pero se estaban estableciendo a través de brotes tuberosos y posiblemente semillas, ya que algunas de ellas estaban separadas por varios metros. Se desconoce el origen de las plantas naturalizadas y no se observaron pruebas directas de cultivo previo en el lugar. También se analiza el potencial de establecimiento continuo de *A. italicum*, junto con especies similares en la flora de Oklahoma.

Key Words: Araceae, Italian arum, Oklahoma, Le Flore County, *Arum*

INTRODUCTION

Arum italicum Mill. (Italian arum; Italian lords-and-ladies) is a tuberous, perennial herb native to Europe, North Africa, and Western Asia (Bailey & Bailey 1976; Prime 1981; Boyce 1993; Mayo et al. 1998; Linz et al. 2010; Verloove 2017). While four infraspecific taxa have been described, only *Arum italicum* ssp. *italicum* currently is known outside of cultivation in North America (Yatskievych 1999). Numerous cultivars with variegated leaves have been derived from subspecies *italicum* (Boyce 1993). Serviss et al. (2000) did not include *A. italicum* in their treatment of large-leaved aroids in the southeastern U.S.A. and Thompson (2000) did not treat it fully, other than to mention it sometimes escapes cultivation and to indicate with which native North American taxa it potentially could be confused. *Arum italicum* is, however, known from the naturalized floras of several states in the U.S.A., including adjacent Arkansas and Missouri (Yatskievych 1999; Steury 2010; Gentry et al. 2013; Kartesz 2015; Atha et al. 2017; Weakley and Southeastern Flora Team 2025; Keener et al. 2025; SEInet, TORCH 2025; Wunderlin et al. 2025). It is considered invasive in California, Maryland, New Jersey, New York, Oregon, Virginia, and Washington and a class C noxious weed in Washington (Atha et al. 2017; California Invasive Plant Council 2025; Invasive Plant Atlas 2025; WSNWCB 2025). The first author, based on personal observations, also considers this species to have the potential to be invasive in Arkansas. In addition to the U.S.A., *A. italicum* is naturalized in a few other countries, including Argentina and New Zealand (Boyce 1993; New Zealand Plant Conservation Network 2025).

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This species previously was not documented from the Oklahoma flora (McCoy 1968; Waterfall 1969; Hoagland & Buthod 2009, 2010; Fishbein et al. 2024), although it sometimes is cultivated in the state (and elsewhere in the U.S.A.) for its showy, ornamental foliage and fruits. Based on its invasive habit, *A. italicum* should be expected elsewhere in the Oklahoma flora, especially in the eastern portion of the state, in the vicinity of cultivated plants of the species.

Plants naturalize via a combination of tuberous offsets and seeds, the latter of which are dispersed primarily or exclusively by birds, including North American species, such as American robin (*Turdus migratorius*) and some species of quail (Prime 1981; Meeuse 1989; Boyce 1993; Verloove 2017). Horticultural discards also are a source of propagules (WSNWCB 2025). Daughter tubers are produced and separate from the parent plant after the first growing season and produce new plants the following year—these offsets initiate tuber production during their second year, contributing to vegetative propagation (Méndez & Obeso 1993; Méndez 1999). Reproductive maturity generally is reached between 4–7 years, after plants attain suitable biomass (Meeuse 1989; Boyce 1993; Méndez & Obeso 1993). Certain taxa of dung-breeding flies are the principal pollinators, as inflorescences undergo thermogenesis to volatize odiferous isobutyl amines as attractants (Albre et al. 2003). While birds do consume the fruits, the vegetative portions of the plant presumably are deterrent to most herbivores because of a battery of toxic compounds, including arins, alkaloids, cyanogenic glycosides, and calcium oxalate (Prime 1981; Meeuse 1989; Atha et al. 2017). Its tolerance of shade and a wide range of edaphic conditions, along with production of large numbers of tubers and associated offsets, make *A. italicum* difficult to eradicate once established (Atha et al. 2017).

ADDITION TO THE OKLAHOMA FLORA

Arum italicum Mill. is reported here for the first naturalized occurrence in the Oklahoma flora, from Le Flore County. In 2025, a naturalized population of three larger groups of plants, along with numerous smaller individuals, was discovered growing in semi-disturbed, suburban woods near the city of Spiro (Figs. 1–4). The area occupied by the naturalized plants covered ca. 30 m^2. Plants were sterile at the time of discovery and have not been observed with reproductive structures, although clearly spreading and establishing via tuberous offsets (Figs. 2–3). Establishment from seeds, however, also is suspected as some of the smaller plants and all three larger groups were separated by several meters, where offset production exclusively likely would not have produced this pattern. The origin of the naturalized plants is uncertain and no direct evidence of prior cultivation was observed. Several other exotic taxa also were present and naturalized in the vicinity, including *Chaenomeles speciosa* (Sweet) Nakai, *Lonicera japonica* Thunb., *Lycoris radiata* (L'Her.) Herb., *Muscari armeniacum* Leichtlin ex Baker, *Narcissus pseudonarcissus* L., and *Spiraea prunifolia* Siebold & Zucc. It is equivocal whether prior cultivation of *A. italicum* was the initial source of the naturalized plants, as the large number of exotic species present could indicate that the location was at one time a homestead.

Voucher specimen. **U.S.A. Oklahoma. Le Flore Co.:** near Spiro, ca. 120 m N of W end of 178th Ave., 35.264, -94.564, small population consisting of three, widely-spaced larger groups of plants, with some additional scattered individuals and small groups of plants present in semi-disturbed, suburban woods, clearly establishing via tuberous offsets but also likely from seeds, 1 Mar 2025, *Campbell 03–01–2025–01* (ANHC, HEND).

In the Oklahoma flora, *A. italicum* could be confused with plants of *Colocasia esculenta* (L.) Schott [possibly naturalized in southeastern Oklahoma; Serviss et al. (2023) documented its extensive naturalization in southwestern Arkansas] or the native *Peltanda virginica* (L.) Schott; however, the generally smaller size (15–45 cm tall), conspicuously variegated leaves, and preferred habitat of rich, mesic soil clearly distinguishes *A. italicum* from these species; both *C. esculenta* and *P. virginica* have a larger body size at maturity, lack variegated leaves, and prefer wet soil, often occurring in shallow water.

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Fig. 1. Naturalized plants of *Arum italicum* in Le Flore Co., Oklahoma. Shown is one of three, widely spaced larger groups of naturalized plants present at the site. Each group was separated from the others by several meters, which indicates that establishment of some plants likely occurred via bird-mediated seed dispersal.

Fig. 2. Naturalized plants of *Arum italicum* in Le Flore Co., Oklahoma. Different larger group of plants than shown in Figure 1, with tuberous offsets, a few of which can be seen a short distance on either side (left and right) of the main group of plants.

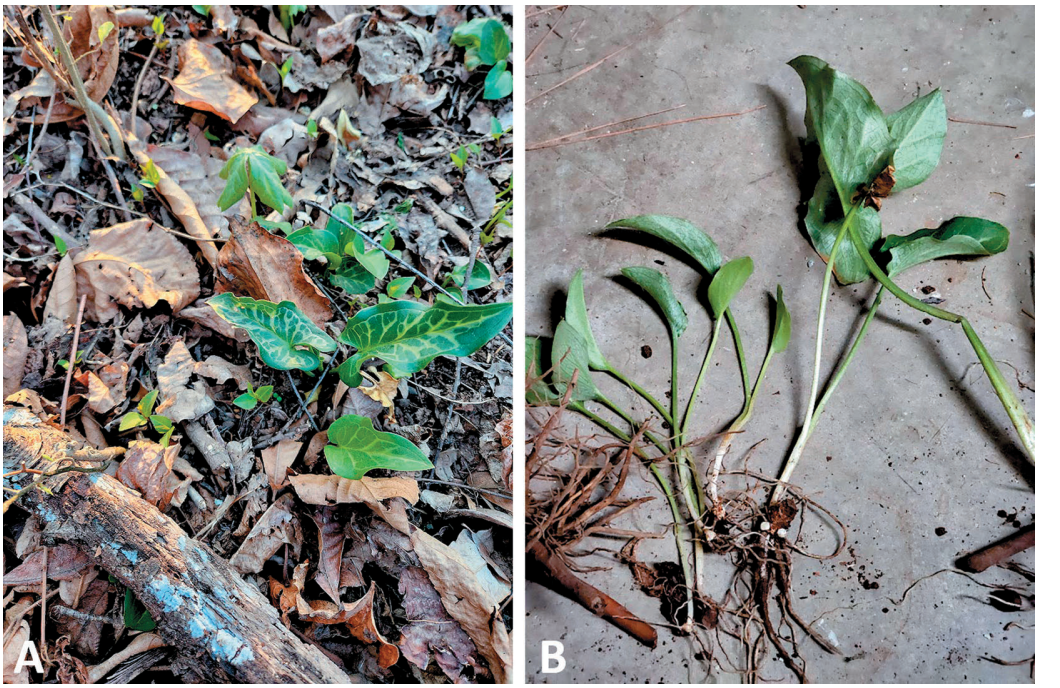

Fig. 3. A–B. Young plants and tuberous offsets of *Arum italicum* from Le Flore Co., Oklahoma. **A.** Small, isolated cluster of four plants *in situ*—three plants together (right-center), with a somewhat separate plant partially obscured by a portion of a branch (bottom-left). **B.** Four small tuberous offsets.

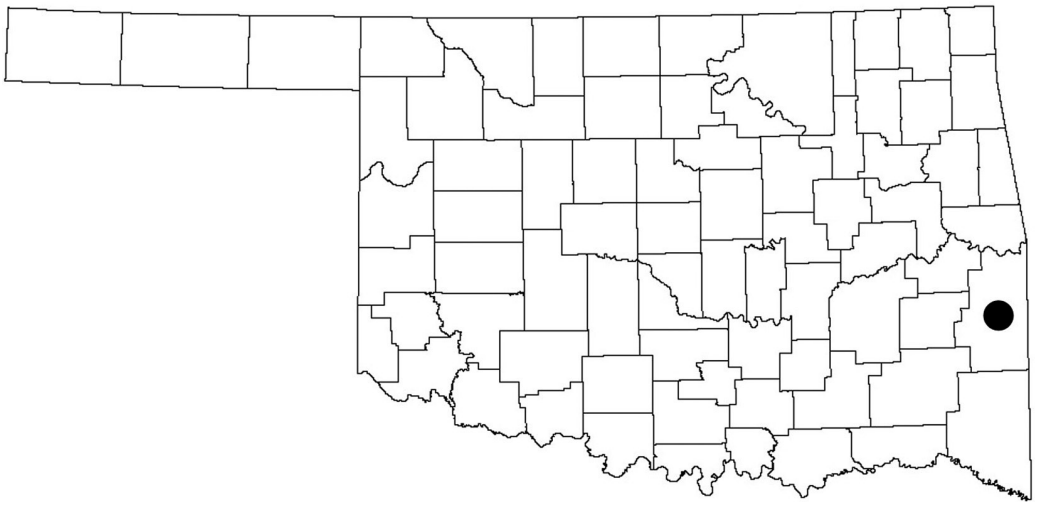

Fig. 4. County distribution of naturalized *Arum italicum* in Oklahoma.

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