

ALYSICARPUS OVALIFOLIUS AND ALYSICARPUS VAGINALIS (FABACEAE) IN ALABAMA

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ABSTRACT

There is confusion in the literature about the occurrence of *Alysicarpus ovalifolius* and *Alysicarpus vaginalis* in Alabama. After a review of the literature and a detailed study of all collections from the state, it was determined that both taxa occur in southern counties of Alabama.

Alysicarpus Necker ex Desv. consists of approximately 25 species native to the Old World tropics (Isely 1990). Three of these, *Alysicarpus ovalifolius* (Schumach. & Thonn.) J. Léonard, *A. rugosus* (Willd.) DC., and *A. vaginalis* (L.) DC. have been introduced into the USA (USDA, NRCS 2016). Two of these taxa, *A. ovalifolius* and *A. vaginalis* have been reported from Alabama (Kral et al. 2011; Keener et al. 2016).

The PLANTS Database (USDA, NRCS 2016) recognizes *Alysicarpus ovalifolius* as occurring in Florida only, while *A. vaginalis* occurs in all Atlantic and Gulf coastal states from Virginia to Texas, with the exception of South Carolina. Kartesz (2016) reports the opposite; *A. ovalifolius* from Florida only and *A. vaginalis* from the coastal states listed above. The Flora of the Southern and Mid-Atlantic States (Weakley 2015) includes only *A. ovalifolius* but notes it is possible that *A. vaginalis* is represented in this area as well. Part of the confusion is likely because Isely (1990) recognized *A. vaginalis* but noted that material in the USA shares features of both *A. vaginalis* and *A. ovalifolius*.

In the Annotated Checklist of the Vascular Plants of Alabama (Kral et al. 2011), only *Alysicarpus ovalifolius* is listed as occurring in Alabama. However, the Alabama Plant Atlas (Kenner et al. 2016) recognizes only *A. vaginalis* in Alabama. The report from Kral et al. (2011) is based on collections from Baldwin and Conecuh counties. The report from Kenner et al. (2016) is based on the same two collections, plus additional collections from Pike and Mobile counties. Kartesz (2015) recognizes only *A. ovalifolius* in Alabama and reports it from Baldwin, Conecuh, and Mobile counties.

MATERIALS AND METHODS

Identification and geographical data used to determine the county-level distribution maps were compiled entirely from herbarium specimens analyzed during this study. These specimens are deposited in the following herbaria: Freeman Herbarium (AUA), Illinois Natural History Survey (ILLS), Michael I. Cousens Herbarium (UWFP), Troy University Herbarium (TROY), University of South Alabama (USAM), University of West Alabama Herbarium (UWAL), and Vanderbilt University (VDB), which is located at the Botanical Institute of Texas (BRIT) in Fort Worth.



Figure 1. *Alysicarpus ovalifolius* from Conecuh County. Distribution in Alabama.



Figure 2. *Alysicarpus vaginalis* in Pike County. Distribution in Alabama.

RESULTS AND DISCUSSION

Both *Alysicarpus ovalifolius* and *A. vaginalis* occur in Alabama. When utilizing published treatments for the genus from other parts of the world, certain diagnostic features presented in the keys did not correlate well with the Alabama specimens. For example, Léonard (1954) described *A. ovalifolius* as having an open inflorescence with the flowers shorter than the internodes; while *A. vaginalis* have a dense inflorescence with the flowers longer than the internodes. In the Alabama plants, there were no distinguishable differences in the inflorescences. Huang and Ohashi (2010) described *A. ovalifolius* as having loment with ridges at the joints while *A. vaginalis* has loment with furrows at the joints. In the Alabama plants, loment of both taxa had ridges at the joints. Plants from Alabama are easily distinguished from one another as in the following couplet.

1. Annual, erect, 1.0–1.5 meters tall; lower and middle cauline leaves oblong or oblong-elliptical, 3.0–6.5 cm long and 2.0–3.0 cm wide, upper cauline reduced, 2.5–4.0 cm long and 0.25–1.5 cm wide; loment without septa between the joints ***Alysicarpus ovalifolius***
1. Perennial, procumbent to ascending, <0.5 meters tall; lower and middle cauline leaves orbicular to broadly oblong, 1.5–3.0 cm long and 1.0–2.0 cm wide, upper cauline lanceolate, 1.0–3.0 cm long and 0.25–1.0 cm wide; loment with septa between the joints ***Alysicarpus vaginalis***

Alysicarpus ovalifolius is known from two counties in Alabama (Fig. 1).

Specimens examined. Conceh Co.: *Diamond 12677*, 25 Sep 2001 (ILLS, TROY, VDB). Mobile Co.: *Lelong 11799*, 29 Oct 1980 (USAM).

Alysicarpus vaginalis is known from three counties in Alabama (Fig. 2).

Specimens examined. Baldwin Co.: *Burkhalter 25679*, 30 Nov 2015 (UWFP), *Lelong 7391*, 10 Sep 1992 (USAM). Mobile Co.: *Burkhalter 19685* 31 Oct 2003 (UWFP), *Lelong 11716* 18 Oct 1980 (USAM). Pike Co.: *Diamond 24688*, 6 Nov 2013 (TROY, UWAL, VDB).

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