

Host Plants of the Frosted Elfin

The Frosted Elfin (*Callophrys irus hadros*) has been documented on two host plants in Oklahoma: yellow and Nuttall's wild indigos (*Baptisia sphaerocarpa* and *B. nuttalliana*, respectively). A third plant, longbract wild indigo (*B. bracteata*), has been associated the elfins, but awaits documentation of host plant status. In addition, there are two other wild indigo species and multiple hybrids.

Documented Host Plants

***Baptisia nuttalliana*, Nuttall's wild indigo**

In Oklahoma, this species is primarily found in and near the Ouachita Highlands in the southeastern corner of the state. It is similar to *B. sphaerocarpa*, yellow wild indigo, but the foliage of Nuttall's is covered with fine hairs, whereas *B. sphaerocarpa* lacks them and the flowers of Nuttall's are mostly axillary (buds spring from the stem and leaf junction; Fig. 16), unlike other *Baptisia* in our region. Longbract wild indigo (*B. bracteata*) has similarly colored flowers to Nuttall's, but *B. bracteata* is low growing with a droopy appearance and has paler flowers. See Table 1 for more details.



Figure 16. Nuttall's wild indigo, *Baptisia nuttalliana*. Notice how the flowers are axillary (buds spring from the stem and leaf junction), which distinguishes this species from other wild indigos (*Baptisia*) in Oklahoma. Photos © Bryan E. Reynolds.

***Baptisia sphaerocarpa*, yellow wild indigo**

Yellow wild indigo can be differentiated from other *Baptisias* by its intensely yellow flowers that are held erect and above the foliage, its round fruits/pods, and the shape and texture of its leaves (rounder and thicker; Fig. 17). It is sometimes confused with Nuttall's wild indigo (see above and Table 1 for distinguishing characteristics).

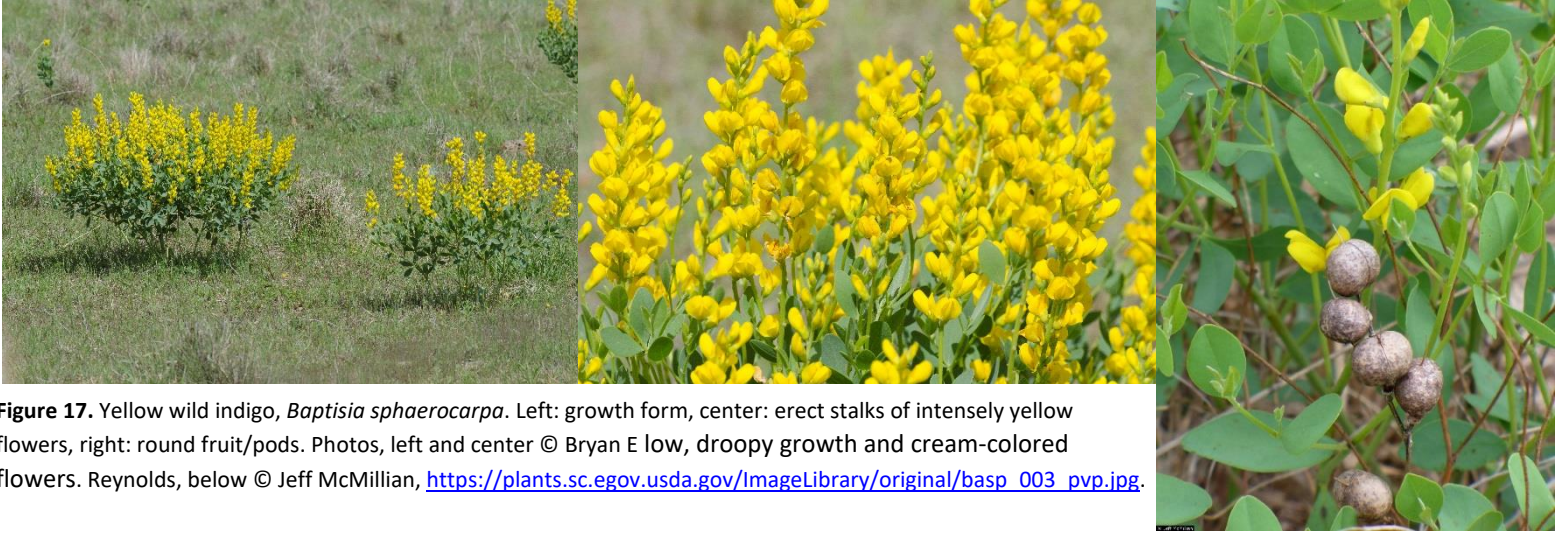


Figure 17. Yellow wild indigo, *Baptisia sphaerocarpa*. Left: growth form, center: erect stalks of intensely yellow flowers, right: round fruit/pods. Photos, left and center © Bryan E Low, droopy growth and cream-colored flowers. Reynolds, below © Jeff McMillian, https://plants.sc.egov.usda.gov/ImageLibrary/original/basp_003_pvp.jpg.

Possible Host Plant

Baptisia bracteata, longbract wild indigo

Frosted Elfins have been associated with longbract wild indigo in Oklahoma, but documented use of the plant is lacking. This plant is distinctive from other wild indigos in the region by its low, droopy growth and cream-colored flowers (Fig. 18).

Other wild indigo (*Baptisia* sp.) in Oklahoma

There are two other *Baptisia* species in Oklahoma along with various hybrids. Frosted Elfins are known to use *Baptisia australis*, blue wild indigo, elsewhere but it has not been documented as a host plant in Oklahoma. *Baptisia alba*, white wild indigo, is found in the region but it is not known to be a host plant.

Be on the lookout for other plants that potentially host Frosted Elfins.



Figure 18. Longbract wild indigo, *Baptisia bracteata*. Photo © Leah Dudley and Jose Montalva.

Sources for plant information:

Bruce Hoagland, Oklahoma Natural Heritage Inventory

Illustrated Flora of North Central Texas Online, <https://fwbg.org/research/brit-press/illustrated-flora-of-north-central-texas-online/>

Missouri Botanical Garden Plant Finder, <https://www.missouribotanicalgarden.org/PlantFinder/PlantFinderSearch.aspx>

Plants of Louisiana, <https://warcapps.usgs.gov/PlantID/Species/Details/3246>

Tyrl, RJ, TG Bidwell, RE Masters (2002) Field guide to Oklahoma plants: Commonly encountered prairie, shrubland, and forest species.

Oklahoma State University, Stillwater, Oklahoma.

USDA Plants Database, <https://plants.usda.gov/home/classification/29853>

Baptisia (wild indigo)

	<i>alba</i>	<i>australis</i>	<i>bracteata</i>	<i>nuttalliana</i>	<i>sphaerocarpa</i>
common name	white wild indigo	blue wild indigo	longbract wild indigo	Nuttall's wild indigo	yellow wild indigo
distinguishing characters	white flowers	blue-violet flowers	low, droopy growth and cream-colored flowers	axillary buds (flower buds located at the axil, i.e., leaf & stem intersection) distinguishes from all OK <i>Baptisia</i> ; finely hairy (<i>sphaerocarpa</i> not)	bright yellow flowers held erect & above foliage; leaves rounder and thicker; round fruits
flower, color	white, occ. streaked	blue-violet	cream	cream to pale yellow	intensely yellow
flower, length	to ½" (13 mm)	to 1½" (27-36 mm)	to 1½" (25-38 mm)	<1" (17-20 mm)	¾-1" (17-25 mm)
inflorescence	narrow, erect racemes	usually single, rigidly erect raceme	reclining or hanging raceme	individual	one to many flexible vertical racemes
fruits/pods, shape	elongated	typically much longer than wide; distinct beak that is noticeably widened at base	tapers to slender beak, which is rather wide at base; widths: ½-1" (15-25 mm)	abruptly beaked; ovoid to sub-spheroid; widths: ¼-½" (5-13 mm)	round/sub-spheroid
fruits, length	to 1¾" (44.5 mm)	to 2½" (63.5 mm)	to 2" (20-50 mm)	½-¾" (8-13 mm)	to ¾" dia. (14-18 mm)
fruits, color & texture	dark purple/black early; when mature, dark brown to black when mature and easily crushed in hand	black at maturity; glabrous (not hairy)	black; generally pubescent (hairy)	black; glabrous (not hairy)	usually light brown; glabrous (not hairy)
leaves	<i>arrangement: alternate, attachment: petiolate, type: trifoliolate</i>				
leaves, length	to 2" (51 mm)	¾-2" (18-51 mm)	1¼-2½" (30-60 mm)	1-3" (25-80 mm)	to 2½" (36-67 mm)
overall foliage	glabrous (not hairy)	glabrous (not hairy)	densely pubescent (hairy)	finely pubescent (minute hairs; downy), becoming glabrate (lacking hairs)	glabrous (not hairy)
structure	erect posture; may have shrubby appearance	erect posture; single thick, bluish green/gray and glabrous stem	drooped posture; often wider than tall; branching structure (branching at or near the ground)	erect posture; multi-stem (ramet) base of spherical bush-like plant	generally erect posture with one to many small, flexible glabrous (not hairy) stems branching close to base; multi-stem (ramet) base of spherical bush-like plant
height	2-6.5' (61-200 cm)	1½-4' (46-122 cm)	¾-2½' (21-76 cm)	to about 4' (120 cm)	2-3' (61-91 cm)
width	2-2½' (61-76 cm)	to 4' (122 cm)	2-2½' (61-76 cm)	to 2' (61 cm)	1½-3½' (40-100 cm)
soils/habitat	tolerates dry and poor soils	clay, dry, or shallow-rocky soil; prairies, pastures	well-drained, sandy soil; open woods, prairies, pastures, roadsides	sandy soils; open woods, pastures, roadsides, powerline cuts	sandy or silty clay; pastures, roadsides, fencelines

occ. = occasionally; raceme = a single stalk with multiple flowers