Plant Spread Sheet

Protected Plant Species of Georgia

Protected Plant Species in Georgia

Find details for plants on this list at NatureServe.

Date of information - 10/22/2004
106 plants on this list

Scientific Name	Common Name	State Status (whats this?)	Federal Status (whats this?)
Allium speculae	Flatrock Onion	T	
Amphianthus pusillus	Pool Sprite	T	LT
Arabis georgiana	Georgia Rockcress	T	C
Arnoglossum diversifolium	Variable-leaf Indian-plantain	T	
Asplenium heteroresiliens	Wagner's Spleenwort	T	
Balduina atropurpurea	Purple Honeycomb Head	R	
Baptisia arachnifera	Hairy Rattleweed	E	LE
Calamintha ashei	Ohoopee Dunes Wild Basil	T	
Carex baltzellii	Baltzell's Sedge	E	
Carex biltmoreana	Biltmore Sedge	T	
Carex dasycarpa	Velvet Sedge	R	
Carex manhartii	Manhart's Sedge	T	
Carex misera	Wretched Sedge	T	
Carex purpurifera	Purple Sedge	T	
Ceratiola ericoides	Rosemary	T	
Chamaecyparis thyoides	Atlantic White-cedar	R	
Clematis socialis	Alabama Leather Flower	E	LE
Croomia pauciflora	Croomia	T	
Cuscuta harperi	Harper's Dodder	T	
Cymophyllus fraserianus	Fraser's Sedge	T	
Cypripedium acaule	Pink Ladyslipper	U	
Cypripedium parviflorum var. parviflorum	Small-flowered Yellow Ladyslipper	U	
Cypripedium parviflorum var. pubescens	Large-flowered Yellow Ladyslipper	U	

Draba aprica	Open-ground Whitlow-grass	E	
Echinacea laevigata	Smooth Purple Coneflower	E	LE
Elliottia racemosa	Georgia Plume	T	
Epidendrum conopseum	Green-fly Orchid	U	
Evolvulus sericeus var. sericeus	Creeping Morning-glory	E	
Fimbristylis perpusilla	Harper's Fimbry	E	
Fothergilla gardenii	Dwarf Witch-alder	T	
Gentianopsis crinita	Fringed Gentian	T	
Gymnoderma lineare	Rock Gnome Lichen	E	LE
Hartwrightia floridana	Hartwrightia	T	
Helonias bullata	Swamp-pink	T	LT
Hexastylis shuttleworthii var. harperi	Harper's Heartleaf	U	
Hydrastis canadensis	Goldenseal	E	
Hymenocallis coronaria	Shoals Spiderlily	E	
Illicium floridanum	Florida Anise-tree	E	
Isoetes melanospora	Black-spored Quillwort	E	LE
Isoetes tegetiformans	Mat-forming Quillwort	E	LE
Isotria medeoloides	Small Whorled Pogonia	T	LT
Jeffersonia diphylla	Twinleaf	E	
Leavenworthia exigua var. exigua	Gladecress	T	
Lindera melissifolia	Pondberry	E	LE
Lindernia saxicola	Rock False Pimpernel	E	
Litsea aestivalis	Pondspice	T	
Lysimachia fraseri	Fraser's Loosestrife	R	
Lythrum curtissii	Curtiss' Loosestrife	T	
Marshallia mohrii	Coosa Barbara Buttons	T	LT
Marshallia ramosa	Pineland Barbara Buttons	R	
Matelea alabamensis	Alabama Milkvine	T	

Matelea pubiflora	Trailing Milkvine	R	
Melanthium woodii	Ozark Bunchflower	R	
Myriophyllum laxum	Lax Water-milfoil	T	
Nestronia umbellula	Indian Olive	T	
Neviusia alabamensis	Alabama Snow-wreath	T	
Oxypolis canbyi	Canby's Dropwort	E	LE
Panicum hirstii	Hirst's Panic Grass	E	C
Penstemon dissectus	Grit Beardtongue	R	
Physostegia leptophylla	Tidal Marsh Obedient Plant	T	
Pinguicula primuliflora	Clearwater Butterwort	T	
Pityopsis pinifolia	Sandhill Golden-aster	T	
Platanthera integrilabia	Monkeyface Orchid	T	C
Ptilimnium nodosum	Harperella	E	LE
Quercus oglethorpensis	Oglethorpe Oak	T	
Rhododendron prunifolium	Plumleaf Azalea	T	
Rhus michauxii	Dwarf Sumac	E	LE
Sabatia capitata	Cumberland Rose Gentian	R	
Sageretia minutiflora	Tiny-leaf Buckthorn	T	
Sagittaria secundifolia	Little River Water-plantain	T	LT
Salix floridana	Florida Willow	E	
Sanguisorba canadensis	Canada Burnet	T	
Sarracenia flava	Yellow Flytrap	U	
Sarracenia leucophylla	Whitetop Pitcherplant	E	
Sarracenia minor	Hooded Pitcherplant	U	
Sarracenia oreophila	Green Pitcherplant	E	LE
Sarracenia psittacina	Parrot Pitcherplant	T	
Sarracenia purpurea	Purple Pitcherplant	E	
Sarracenia rubra	Sweet Pitcherplant	E	(PS)

Schisandra glabra	Bay Starvine	T	
Schwalbea americana	Chaffseed	E	LE
Scutellaria montana	Large-flowered Skullcap	T	LT
Scutellaria ocmulgee	Ocmulgee Skullcap	T	
Sedum nevii	Nevius' Stonecrop	T	
Sedum pusillum	Granite Stonecrop	T	
Senecio millefolium	Blue Ridge Golden Ragwort	T	
Shortia galacifolia	Oconee Bells	E	
Sibbaldiopsis tridentata	Three-tooth Cinquefoil	E	
Sideroxylon thornei	Swamp Buckthorn	E	
Silene polypetala	Fringed Campion	E	LE
Silene regia	Royal Catchfly	R	
Spiraea virginiana	Virginia Spirea	T	LT
Spiranthes magnicamporum	Great Plains Ladies-tresses	E	
Stewartia malacodendron	Silky Camellia	R	
Stylisma pickeringii var. pickeringii	Pickering's Morning-glory	T	
Thalictrum cooleyi	Cooley's Meadowrue	E	LE
Thalictrum debile	Trailing Meadowrue	T	
Tillandsia recurvata	Ball-moss	T	
Torreya taxifolia	Florida Torreya	E	LE
Trientalis borealis	Northern Starflower	E	
Trillium persistens	Persistent Trillium	E	LE
Trillium reliquum	Relict Trillium	E	LE
Viburnum bracteatum	Limerock Arrow-wood	E	
Waldsteinia lobata	Piedmont Barren Strawberry	T	
Xerophyllum asphodeloides	Eastern Turkeybeard	R	
Xyris tennesseensis	Tennessee Yellow-eyed Grass	E	LE

NOTE: This is a working list and is constantly revised (see element occurance data disclaimer). For the latest changes, acknowledgment of numerous sources, interpretation of data, or other information connected with this list, please contact:

Greg Krakow - Data Manager
Georgia Department of Natural Resources
Wildlife Resources Division
Georgia Natural Heritage Program
2117 U.S. Highway 278 S.E.
Social Circle, Georgia 30025-4714
Phone: (770)918-6411
Fax: (706)557-3033
Click here to send e-mail

* indicates species out of range for study area

Plant Species Field Identification Sheets

Amphianthus pusillus Torrey

Little Amphianthus, Pool Sprite, Snorkelwort

Figwort Family, SCROPHULARIACEAE

LEGAL STATUS:
State: THREATENED
Federal: THREATENED

SYNONYMY: None in current usage.

RANGE: Piedmont Plateau from Alabama to South Carolina. Recorded from 17 counties in Georgia (see map).

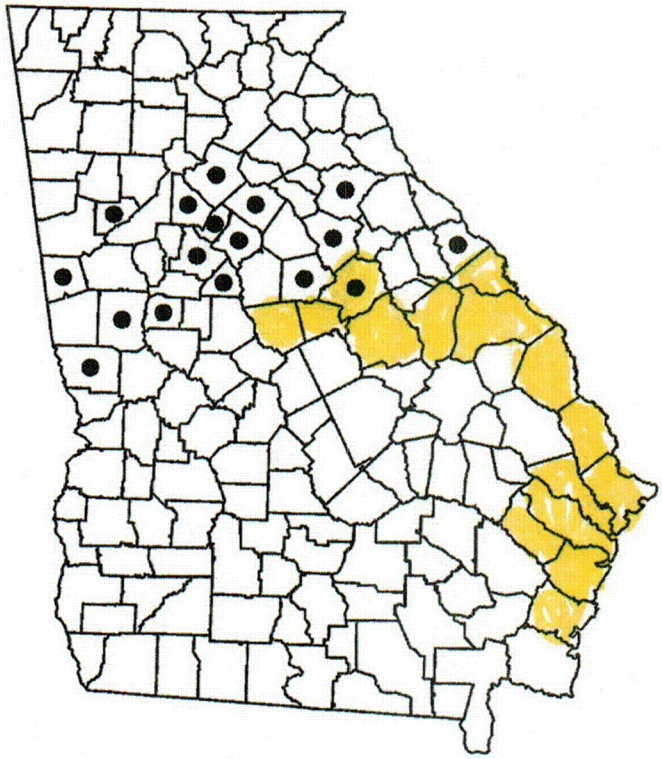
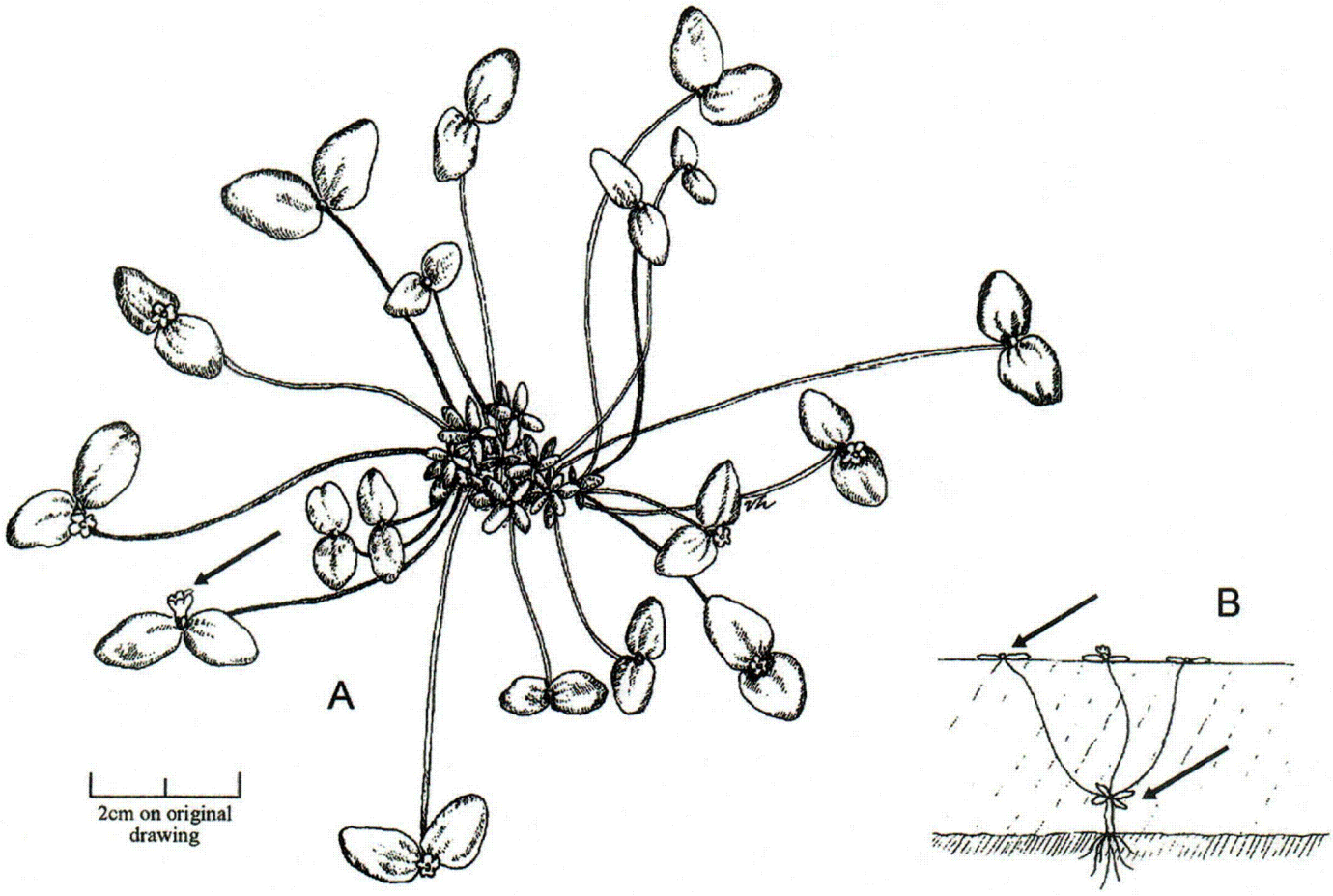


ILLUSTRATION: (A) plant habit, top view, with two types of leaves, 2x; note tiny flower; (B) profile sketch of plant in standing water, 0.75x; note floating leaves in pairs and submerged leaves in a rosette. Source: original drawing by Vicky Holifield.

DESCRIPTION: Annual herb. This is a diminutive plant easily overlooked. It has both floating and submerged leaves. The floating leaves are paired, ovate, 4-8 mm long, 3-5 mm wide, and attached to the submerged plant base by threadlike stems. The submerged leaves are clustered atop a short (6 mm or less) stem, are lanceolate, and less than 1 cm long. The flowers are small, inconspicuous, white to pale violet, and found both among the submerged leaves and between the floating surface leaves. The fruit is a



From: Patrick, Allison and Krakow (1995), *Protected Plants of Georgia*, Georgia Department of Natural Resources

shallowly bilobed capsule, 1-2 mm long, 2-3 mm broad, with a few seeds that are oblong, slightly curved, about 1 mm long, and dark brown to black. **Flowering period**: March to April; **fruiting period**: April to May. **Best search time**: during flowering or fruiting, since plants disintegrate rapidly after fruiting.

HABITAT: Restricted to shallow, flat-bottomed depressions on granitic outcrops, where water collects after a rain. These depressions are less than one foot in depth, are entirely rock-rimmed, and usually contain soil at least 2 cm deep. They may be dry much of the summer, except during rainy periods. The depressions, sometimes called vernal pools, solution pits or weather pits, are formed naturally by erosion over millions of years.

SPECIAL IDENTIFICATION FEATURES: No other Georgia plant resembles pool sprite when in flower. Water starwort (*Callitriche heterophylla*) may be an associate, especially in less pristine pools, and also produces two types of leaves. The water starwort has longer, leafier stems, and, toward the upper stem, the leaves tend to form a floating rosette. The underwater leaves of *Amphianthus* only form a rosette atop a short seedling stem (see illustration). The floating leaves of *Amphianthus* are in single pairs, terminating a delicate, threadlike stem.

MANAGEMENT RECOMMENDATIONS: Because the microhabitat of *Amphianthus* is naturally quite stable—very slow to undergo change—*Amphianthus* is not adapted to withstand any habitat modification. Therefore avoid disturbance of any kind, such as from grazing animals or vehicular traffic.

REMARKS: Melines Conklin Leavenworth (1796-1862) made the first collection of this species in 1836, in Newton or Rockdale County. Leavenworth was an army surgeon and talented amateur botanist, in whose honor John Torrey named the genus of another of our protected plants, least gladecress (*Leavenworthia exigua*). *Amphianthus pusillus* is the sole species within the genus (monotypic genus). After extensive searches it has been found at about 65 localities, the vast majority of them with only one or two small pools (with areas of 1-2 square meters) that support it. At least eight populations have been eradicated, mostly through quarrying of granite outcrops, its sole habitat. *Amphianthus* is rare throughout its range and is suffering continued habitat loss.

SELECTED REFERENCES

Allison, J. R. 1993. Recovery plan for three granite outcrop plant species. United States Fish and Wildlife Service, Jackson, Mississippi. 41 pp.

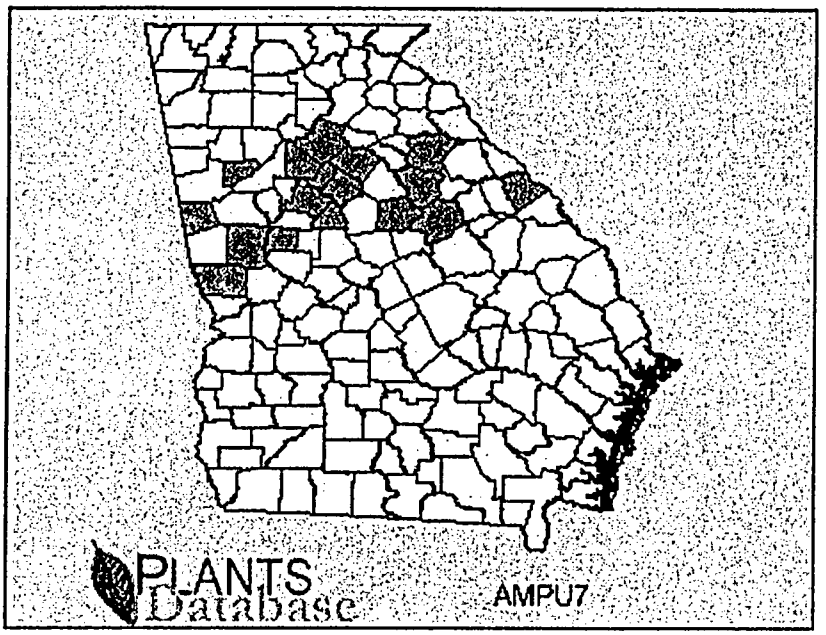
Duncan, W. H. and L. E. Foote. 1975. Wildflowers of the Southeastern United States. University of Georgia Press, Athens. 296 pp.

McVaugh, R. 1943. The vegetation of the granitic flatrocks of the southeastern United States. Ecological Monographs 13:119-166.

McVaugh, R. and J. H. Pyron. 1937. The distribution of *Amphianthus* in Georgia. Castanea 2:104-105.

Pennell, F. W. 1935. The Scrophulariaceae of Eastern Temperate North America. Monograph Number 1. Academy of Natural Sciences of Philadelphia. 650 pp.

Radford, A. E., H. E. Ahles, and C. R. Bell. 1968. Manual of the Vascular Flora of the Carolinas. University of North Carolina Press, Chapel Hill. 1183 pp.



County Distribution of
AMPU7 **in** Georgia

Amphianthus pusillus Torr.
little amphianthus

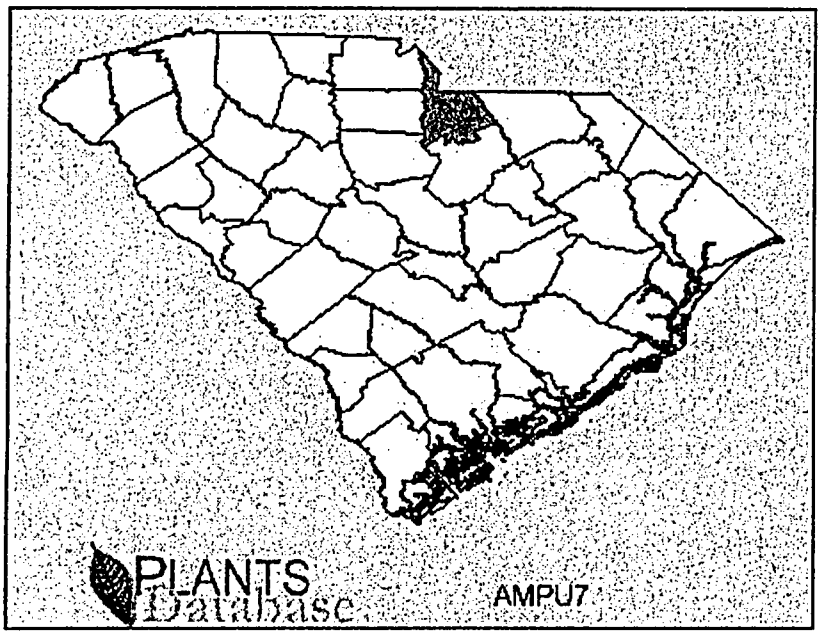
Return to the
AMPU7 Plant Profile Page

Our county data are based primarily on the literature, herbarium specimens, and confirmed observations. Not all populations have been documented, however, and significant gaps in the distribution shown above may not be real. Please use the Distribution Update module to improve the data by adding your new distribution information to PLANTS. Remember that only native and naturalized populations are mapped!

Intellectual Property Statement / How to Cite the PLANTS Database

Disclaimers

Time Generated: Fri 8:10 AM - 02/11/2005



County Distribution of
AMPU7 **in** South Carolina

Amphianthus pusillus Torr.
little amphianthus

Return to the
AMPU7 Plant Profile Page

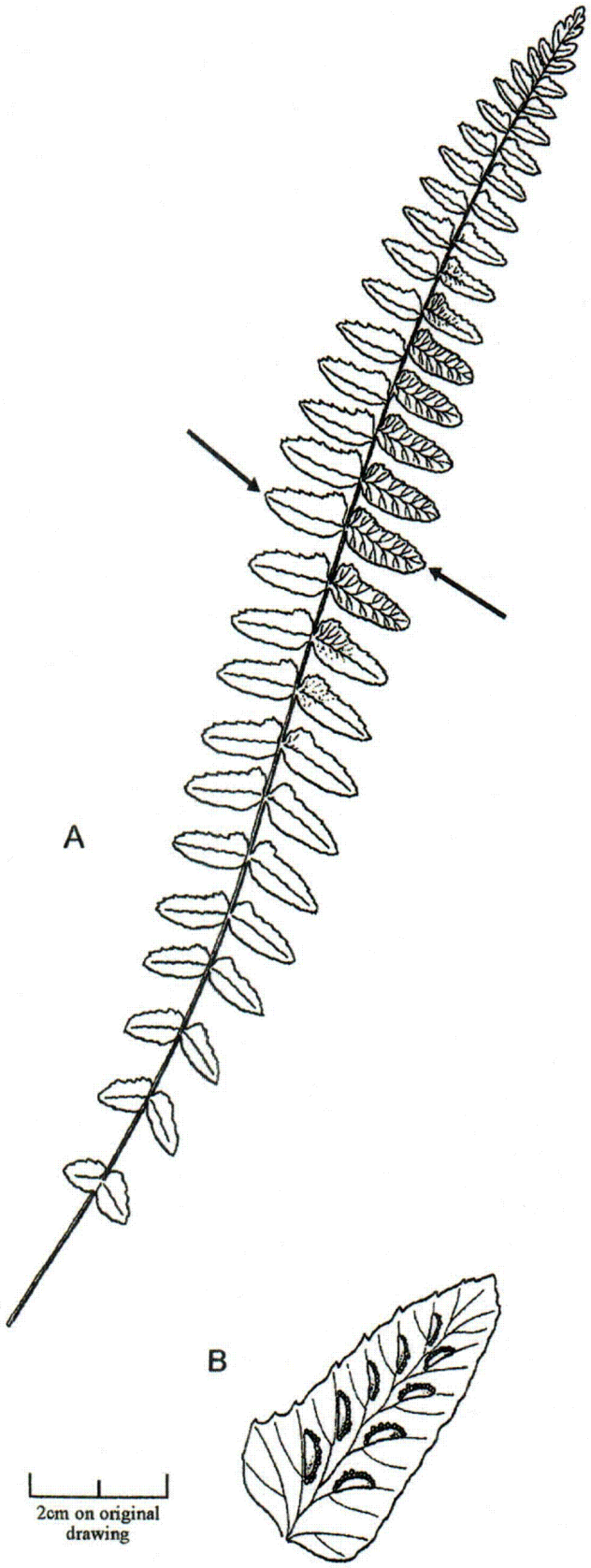
Our county data are based primarily on the literature, herbarium specimens, and confirmed observations. Not all populations have been documented, however, and significant gaps in the distribution shown above may not be real. Please use the Distribution Update module to improve the data by adding your new distribution information to PLANTS. Remember that only native and naturalized populations are mapped!

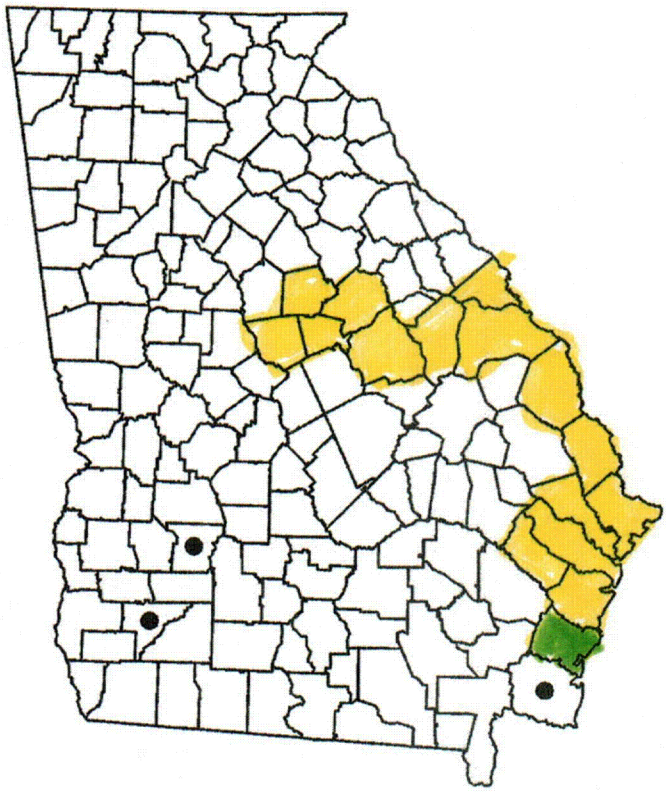
Time Generated: Fri 8:09 AM - 02/11/2005

Asplenium heteroresiliens Wagner

Marl Spleenwort, Morzenti Spleenwort, Wagner Spleenwort

Spleenwort Family, ASPLENIACEAE





LEGAL STATUS:
State: THREATENED
Federal: CANDIDATE

SYNONYMY: None in current usage.

RANGE: Coastal Plain of southern Alabama and northern Florida to North Carolina. Recorded from three counties in Georgia (see map).

ILLUSTRATION: (A) leaf (frond), 1.5x; note opposite leaflets (pinnae); (B) single leaflet (pinna), underside, showing spore cases (sori), 4x. Source: Dunbar (1989), drawn by John Norton and used with permission.

DESCRIPTION: Evergreen fern. The leaves (fronds) are 7-15 cm long, 1.3-2.0 cm wide, erect to spreading, somewhat leathery, once pinnately divided, the leaflets opposite on a black to purplish-black leaf axis, with tiny (ca. 2 mm long), black scales surrounding the base. The central leaflets are oblong, shallowly toothed, with low, ear-like basal lobes on the upper margin; the lower leaflets are triangular-ovate, also with small basal lobes on both upper and lower margins. The spores are produced in linear-elliptic spore cases (sori) that are 1.0-1.5 mm long, and found on the undersides of the leaflets along the secondary veins. **Spore-producing period:** April to October. **Best search time**: all year, since the fronds are evergreen.

From: Patrick, Allison and Krakow (1995), *Protected Plants of Georgia*, Georgia Department of Natural Resources

33-210-202-202

HABITAT: Found on outcrops of marl (a mixture of clay, sand, and a calcareous substrate that is soft and crumbly, usually containing shell fragments), on damp limestone ledges, and on masonry composed of tabby (a mixture of sand, lime, and oyster shells).

SPECIAL IDENTIFICATION FEATURES: On Georgia's Coastal Plain there are three or four spleenworts. One, ebony spleenwort (*Asplenium platyneuron*), is common in a wide variety of upland forest habitats, old fields and even found in lawns and on masonry. It has alternate leaflets. The others have opposite leaflets and are uncommon to extremely rare on the Coastal Plain. Wagner spleenwort (*A. heteroresiliens*) is difficult to identify, combining the features of both blackstem spleenwort (*A. resiliens*) and bicolor spleenwort (*A. heterochroum*). Blackstem spleenwort has a shiny, purplish-black leaf axis; the leaflets are nearly entire, especially on the lower margin. Bicolor spleenwort, rare if present at all in Georgia, has a leaf axis progressing from shiny, purplish-black below to brownish toward the apex; the leaflets are distinctly and often sharply toothed. Most of the veins bearing spore cases are forked in blackstem spleenwort, whereas in bicolored spleenwort few, if any, of these veins are forked. *Asplenium heteroresiliens* is more or less intermediate in these characters, and an expert's opinion may be needed for identification. Additional criteria used by the fern specialist include spore morphology, number of spores produced per sporangium, and chemical traits—all requiring elaborate equipment. However, due to the extreme rarity of both *A. heterochroum* and *A. heteroresiliens* in Georgia, finding either is a significant discovery.

MANAGEMENT RECOMMENDATIONS: Control exotic weeds, such as the ferns spider brake (*Pteris multifida*) and Chinese brake (*P. vittata*).

REMARKS: Warren H. Wagner described this species in 1966. Preceding collections, including one made in Georgia in 1948 by Wilbur Duncan, had been identified as *Asplenium resiliens* or as *A. heterochroum*. Although a distinct species, *A. heteroresiliens* had its origin in a hybrid between the two spleenworts just mentioned. It is rare throughout its range. There are one or two disputable records for *A. heterochroum* in Georgia, and less than five sites known for *A. heteroresiliens* in Georgia.

SELECTED REFERENCES

Dunbar, L. 1989. Ferns of the Coastal Plain: Their Lore, Legends, and Uses. University of South Carolina Press, Columbia. 165 pp.

Flora of North America Editorial Committee. 1993. Flora of North America. Volume 2. Pteridophytes and Gymnosperms. Oxford University Press, New York. 475 pp.

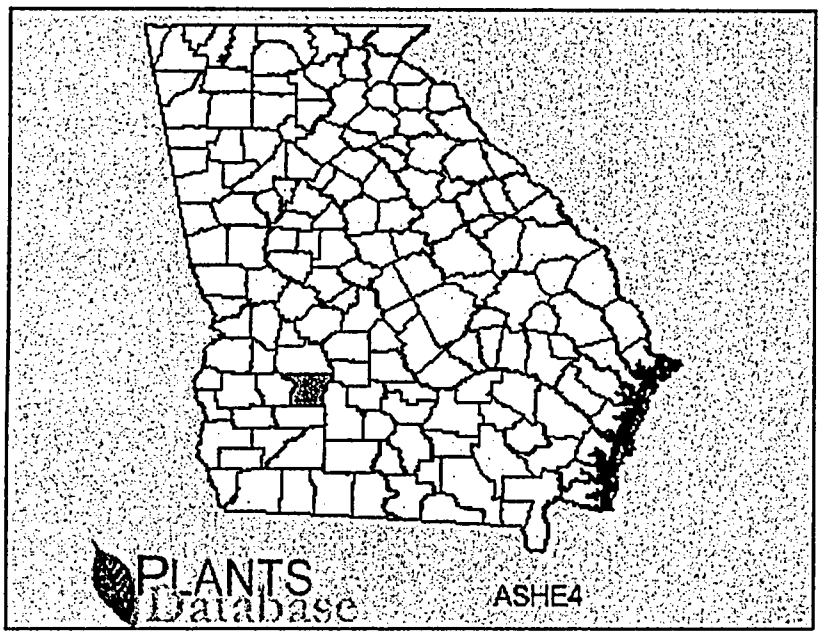
Lellinger, D. B. 1985. A Field Manual of the Ferns & Fern-Allies of the United States & Canada. Smithsonian Institution Press, Washington, D.C. 389 pp.

Morzenti, V. M. 1966. Morphological and cytological data on southeastern United States species of the *Asplenium heterochroum-resiliens* complex. American Fern Journal 56:167-177.

Radford, A. E., H. E. Ahles, and C. R. Bell. 1968. Manual of the Vascular Flora of the Carolinas. University of North Carolina Press, Chapel Hill. 1183 pp.

Snyder, L. H., Jr. and J. G. Bruce. 1986. Field Guide to the Ferns and Other Pteridophytes of Georgia. University of Georgia Press, Athens. 270 pp.

Wagner, W. H., Jr. 1966. Two new species of ferns from the United States. American Fern Journal 56:3-17.



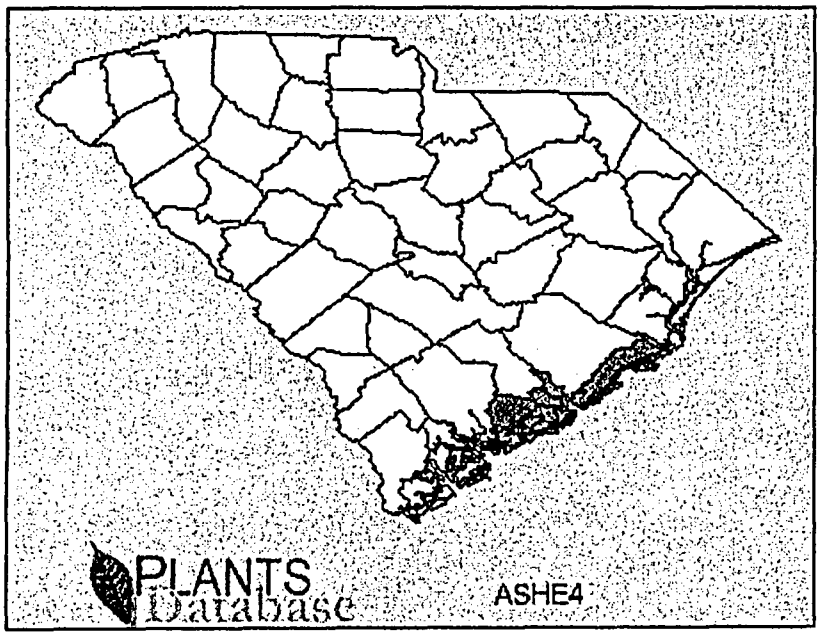
County Distribution of
ASHE4 in Georgia

Asplenium ×heteroresiliens
W.H. Wagner (pro sp.)

Return to the
ASHE4 Plant Profile Page

Our county data are based primarily on the literature, herbarium specimens, and confirmed observations. Not all populations have been documented, however, and significant gaps in the distribution shown above may not be real. Please use the Distribution Update module to improve the data by adding your new distribution information to PLANTS. Remember that only native and naturalized populations are mapped!

Time Generated: Fri 8:13 AM - 02/11/2005



County Distribution of
ASHE4 **in** South Carolina

Asplenium ×*heteroresiliens*
W.H. Wagner (pro sp.)

Return to the
ASHE4 Plant Profile Page

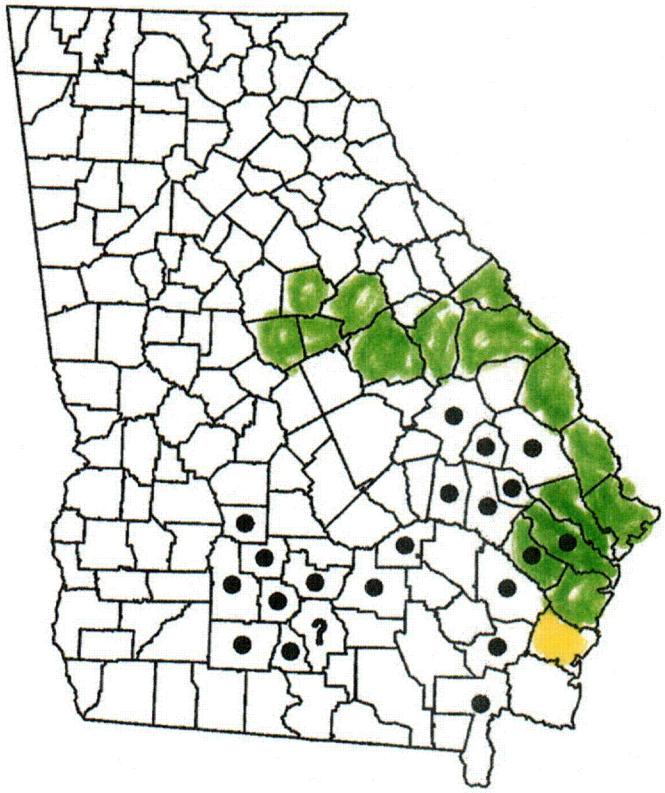
Our county data are based primarily on the literature, herbarium specimens, and confirmed observations. Not all populations have been documented, however, and significant gaps in the distribution shown above may not be real. Please use the Distribution Update module to improve the data by adding your new distribution information to PLANTS. Remember that only native and naturalized populations are mapped!

Time Generated: Fri 8:13 AM - 02/11/2005

Balduina atropurpurea Harper

Purple Honeycomb Head, Purple Balduina

Aster Family, ASTERACEAE



LEGAL STATUS:
State: RARE
Federal: CANDIDATE

SYNONYMY: None in current usage.

RANGE: Coastal Plain from southeastern and southcentral Georgia into northern Florida, much less frequent to possibly extirpated on the Florida Panhandle and adjacent Alabama, and disjunct in northeastern South Carolina. Recorded from 21 counties in Georgia, including an ambiguous report from Berrien County (see map).

ILLUSTRATION: (A) stem, lower portion, with numerous leaves, the lowermost with long-tapered bases, 0.5x; (B) stem, upper portion, with few leaves, 0.5x; note flower heads with toothed rays; (C) flower head, in fruit, with honeycomb pattern, 1x. Source: original drawing by Vicky Holifield.

DESCRIPTION: Perennial herb. The plant reaches a height of 0.8-1.2 m, producing a single, erect stem, sometimes with 2-5 or more branches, each with a single, large flower head. The main stem is purplish and grooved near the base, and occasionally has minute hairs toward the top. The leaves are clustered low on the stem, well-spaced and alternate higher on the stem. The lower leaves are linear-spatulate (narrowly spoon-shaped), 7-30 cm long, about 1 cm wide, and short-stalked; the upper leaves are

From: Patrick, Allison and Krakow (1995), *Protected Plants of Georgia*, Georgia Department of Natural Resources

smaller, narrower, 3-7 cm long, 0.3-0.8 cm wide, and stalkless (sessile). The flowers are arranged in showy, sunflower-like heads. Each of the 10-15 rays is deep yellow, 3-5-toothed at the apex, nearly 3.5 cm long, and about 0.5 cm wide. The disk flowers are burgundy-purple. The structure to which the individual flowers of the head are attached (receptacle) forms a honeycomb-like head in fruit. The fruit is an achene, borne singly in each 5-6-sided cell of the "honeycomb." Each achene is top-shaped (turbinate), hairy, 1.5-2.2 mm long, nearly 1 mm wide, and capped by a ring of 10-12 scales. **Flowering period**: late August to October; **fruiting period**: October to December. **Best search time:** during flowering, since flowering heads are showy, easily observed, and exhibit the diagnostic burgundy-purple center composed of disk flowers.

620, 890, 900, 980, ~~900~~, ~~420~~, 422, 440, 441

HABITAT: Found in wetter areas of peaty pitcherplant bogs and pine savannas. Common associates include cowbane (*Oxypolis filiformis* or *O. ternata*), St. John's-worts (*Hypericum brachyphyllum*, *H. cistifolium*, and/or *H. galioides*), yellow honeycomb head (*Balduina uniflora*), and pitcherplants (especially *Sarracenia flava*, *S. minor*, and *S. psittacina*).

SPECIAL IDENTIFICATION FEATURES: Only two species of *Balduina* are likely to be found in moist habitats. *Balduina uniflora* has greenish stem bases, usually only one or two flowering branches, and yellow disk flowers. In contrast, *B. atropurpurea* has reddish stem bases, multiple flowering branches in robust specimens, and purple disk flowers. *Balduina atropurpurea* tends to bloom two or three weeks later than *B. uniflora*. The leaves and fruiting heads are nearly identical in the two species. There are no other composites (members of the aster family) in which the fruiting head becomes a hardened, globose, "honeycomb." However, there are other composites with strongly toothed, yellow rays and dark disk flowers. These are the sneezeweeds (*Helenium brevifolium* and *H. flexuosum*), both with winged stems; the Indian blankets or fire wheels (*Gaillardia*, especially *G. aestivalis*); and the bog tickseed (*Coreopsis gladiata*). *Gaillardia* is distinguished from *Balduina* by shorter rays (usually up to 2 cm long in *Gaillardia*, over 3 cm long in *Balduina*). *Coreopsis* has fewer rays per flower head (normally only 5-8 in *Coreopsis*, while there are 10-15 in *Balduina*).

MANAGEMENT RECOMMENDATIONS: Control encroachment of woody vegetation through controlled burning. Avoid drainage of site and other impacts to hydrology, such as those resulting from improper firebreak construction. Hand thinning of shading trees may be beneficial to this species.

REMARKS: This species was first collected in 1900, in present-day Tift County, by Roland Harper (1878-1966). Harper made extensive collections in the state at the beginning of the 20th century, discovering many state records and a sizeable number of new species. The genus *Balduina* consists of only three species, all endemic to the southern United States. *Balduina atropurpurea* is rare throughout its range, and has sustained significant habitat loss due to fire suppression and to draining of its habitat for conversion to agricultural land.

SELECTED REFERENCES

Cronquist, A. 1980. Vascular Flora of the Southeastern United States. Volume 1. Asteraceae. University of North Carolina Press, Chapel Hill. 261 pp.

Godfrey, R. K. and J. W. Wooten. 1981. Aquatic and Wetland Plants of Southeastern United States. Volume 2. Dicotyledons. University of Georgia Press, Athens. 933 pp.

Harper, R. M. 1901. On a collection of plants made in Georgia in the summer of 1900. Bulletin of the Torrey Botanical Club 28:454-484.

Harper, R. M. 1904. Explorations in the Coastal Plain of Georgia during the season of 1902. Bulletin of the Torrey Botanical Club 31:9-27.

Kral, R. 1983. A report on some rare, threatened, or endangered forest-related vascular plants of the South. Technical Publication R8-TP2. United States Forest Service, Atlanta, Georgia. 1305 pp.

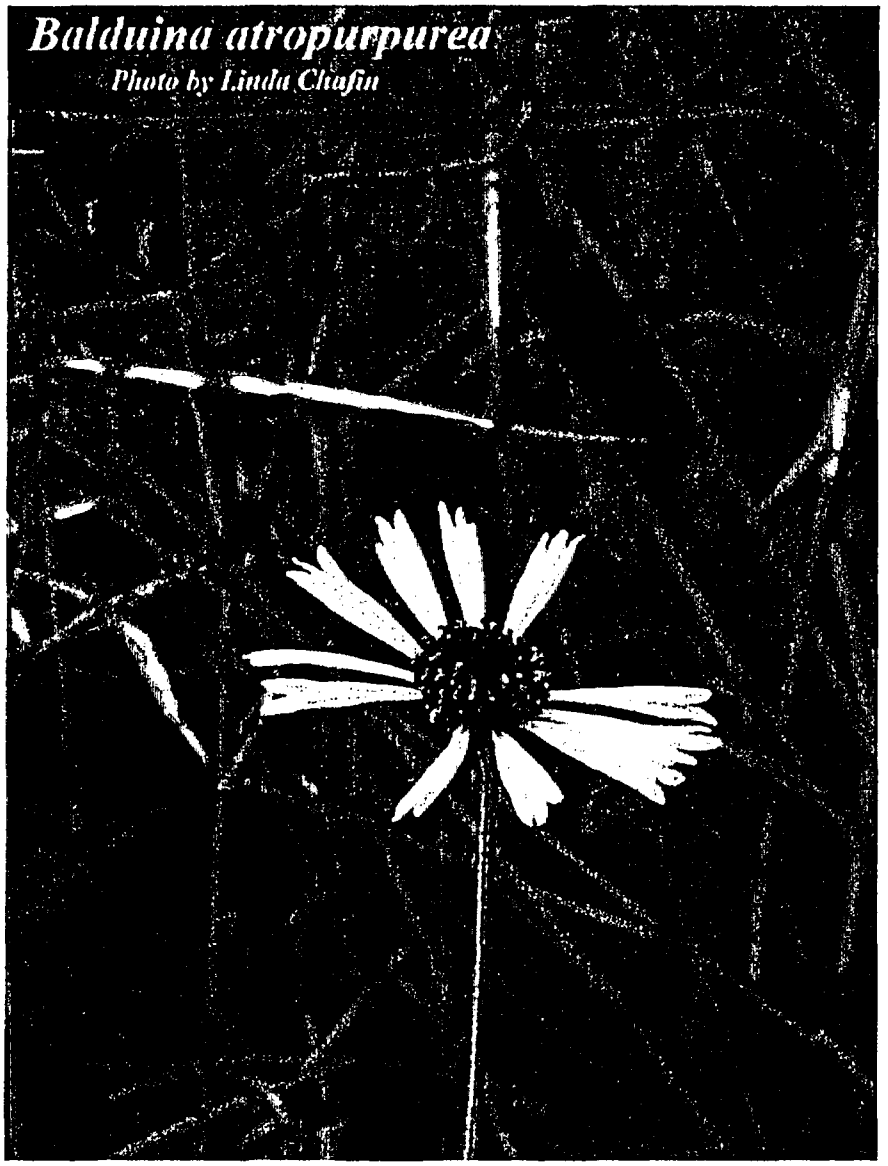
Parker, E. S. and S. B. Jones. 1975. A systematic study of the genus *Balduina* (Compositae, Heliantheae). Brittonia 27:355-361.

Radford, A. E., H. E. Ahles, and C. R. Bell. 1968. Manual of the Vascular Flora of the Carolinas. University of North Carolina Press, Chapel Hill. 1183 pp.

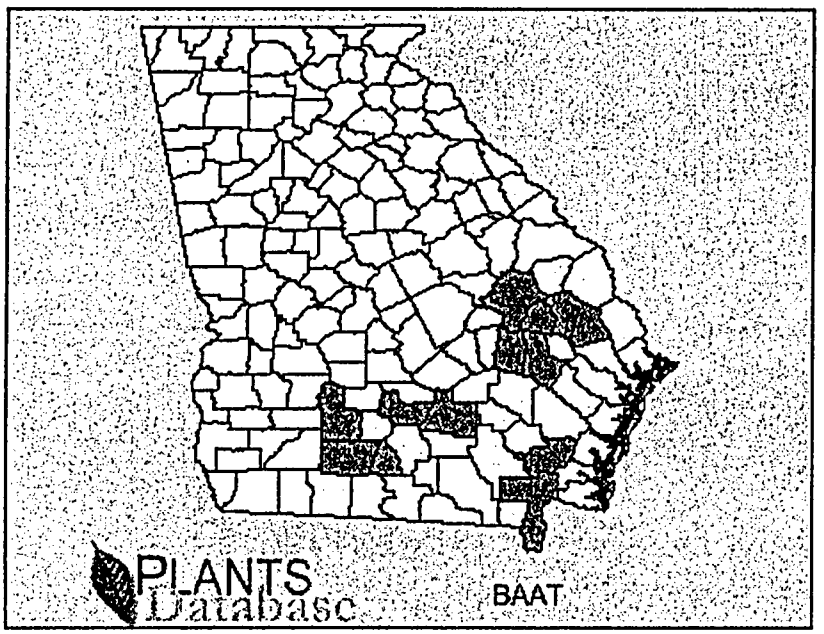
Small, J. K. 1933. Manual of the Southeastern Flora. 1972 Reprint Edition. Hafner Publishing Company, New York. 1554 pp.

620 ✓
890 ✓
900 ✓
980 ✓
~~900~~
~~420~~
422
440
441

From: Patrick, Allison and Krakow (1995), *Protected Plants of Georgia*, Georgia Department of Natural Resources


Balduina atropurpurea
Photo by Linda Chafin


Balduina atropurpurea
Photo by Linda Chafin



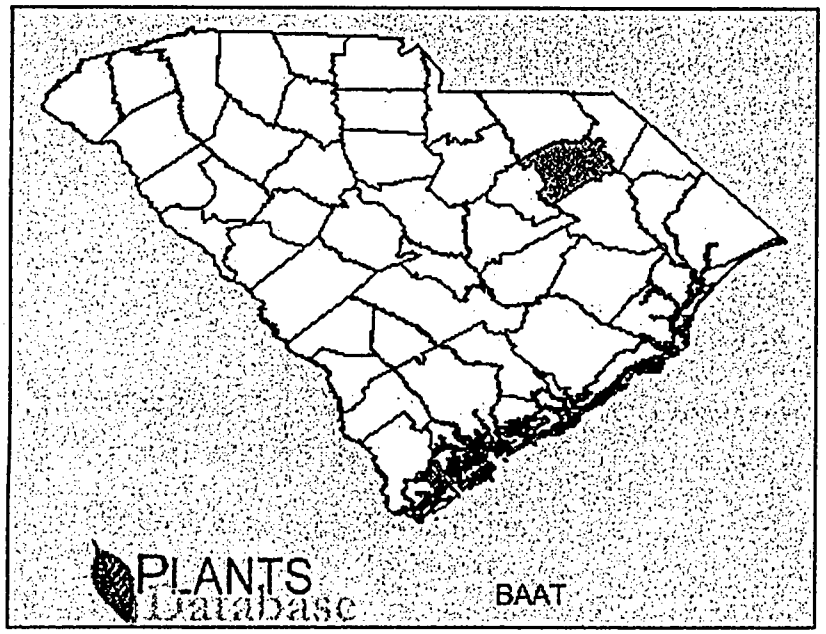
County Distribution of BAAT
in Georgia

Balduina atropurpurea
Harper
purpledisk honeycombhead

Return to the
BAAT Plant Profile Page

Our county data are based primarily on the literature, herbarium specimens, and confirmed observations. Not all populations have been documented, however, and significant gaps in the distribution shown above may not be real. Please use the Distribution Update module to improve the data by adding your new distribution information to PLANTS. Remember that only native and naturalized populations are mapped!

Time Generated: Fri 8:21 AM - 02/11/2005



County Distribution of BAAT
in South Carolina

Balduina atropurpurea
Harper
purpledisk honeycombhead

Return to the
BAAT Plant Profile Page

Our county data are based primarily on the literature, herbarium specimens, and confirmed observations. Not all populations have been documented, however, and significant gaps in the distribution shown above may not be real. Please use the Distribution Update module to improve the data by adding your new distribution information to PLANTS. Remember that only native and naturalized populations are mapped!

Time Generated: Fri 8:21 AM - 02/11/2005

Baptisia arachnifera Duncan

Hairy Rattleweed, Hairy Wild Indigo, Hairy False Indigo

Bean Family, FABACEAE

LEGAL STATUS:
State: ENDANGERED
Federal: ENDANGERED

SYNONYMY: None in current usage.

RANGE: Coastal Plain of southeastern Georgia. Recorded from two counties in Georgia (see map).

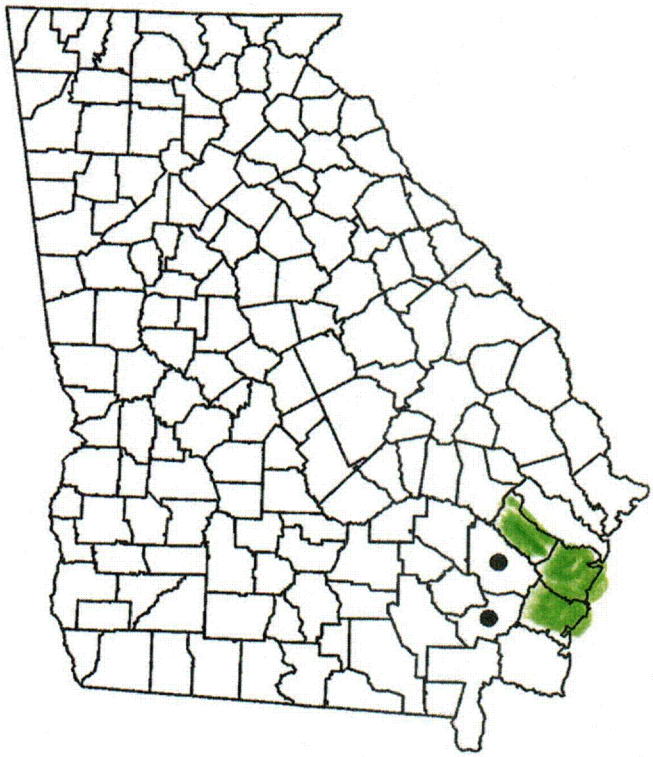
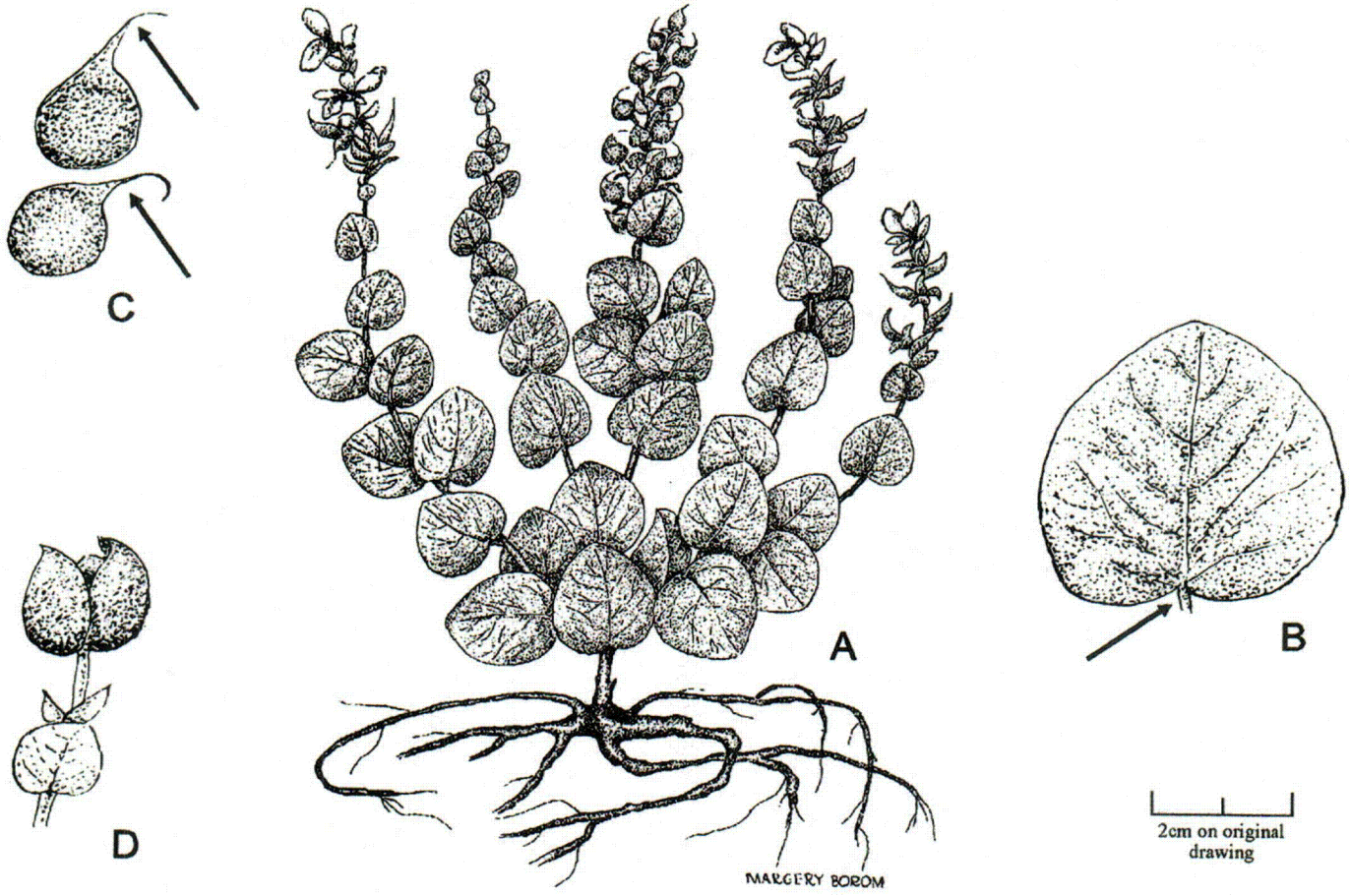


ILLUSTRATION: (A) plant habit, with terminal elongated flower clusters (racemes), 0.3x; (B) leaf, 1x; note short stalk; (C) immature unopened fruits, 2x; note conspicuous styles; (D) mature stalked fruit (legume), with split valves, 1.8x. Source: Faircloth (1987), drawn by Margery Borom and used with permission.

DESCRIPTION: Perennial herb. Plants are 4-8 dm tall and covered with grayish-white, cobwebby hairs, especially on the upper stems, leaves, bracts and sepals. The leaves are simple, alternate, heart-shaped, 2-6 cm long, 1.5-5.0 cm wide, blue-green, and with or without short (1-2 mm long) stalks (petioles). The flowers are in terminal racemes, usually on several secondary branches. The five petals are bright yellow, about 1 cm long and as wide. The fruit is a pod, 8-15 mm long, 6-9 mm wide,



From: Patrick, Allison and Krakow (1995), *Protected Plants of Georgia*, Georgia Department of Natural Resources

woody, conspicuously stalked and beaked, containing very few seeds (2-7). **Flowering period**: late June to early August; **fruiting period**: August to October. **Best search time**: during flowering and fruiting, since prior to this time shoots are inconspicuous or dormant. Stems persist until broken off at ground level by frost or disturbance.

HABITAT: Found on sandy soils in open, pine flatwoods, persisting on intensively managed slash pine plantations, and along road and powerline rights-of-way where competitors (invading woody plants) are kept under control.

SPECIAL IDENTIFICATION FEATURES: Only two species of *Baptisia* found in Georgia have simple leaves. Perfoliate wild indigo (*B. perfoliata*) has solitary, axillary flowers and smooth, waxy leaves completely pierced by the stem. In contrast, *B. arachnifera* has terminal clusters of flowers and slightly clasping leaves covered with cobwebby hairs. Stems of both species resemble the eucalyptus sprigs used commonly in dried flower arrangements.

422 ✓
440 ✓
441
620
18
20

MANAGEMENT RECOMMENDATIONS: Avoid drainage of site. Controlled burning at long intervals would likely be beneficial.

REMARKS: Wilbur Duncan, longtime professor of Botany at the University of Georgia, made the first collection of this plant in 1942, in Wayne County. This species has since been found at about 22 other locations in Brantley and Wayne Counties, all within an area of only about 50 square miles. Most of its habitat has been converted to pine plantations, where it is so far persisting. *Baptisia arachnifera* is a rare endemic with an extremely limited range, and has suffered significant habitat alteration.

SELECTED REFERENCES

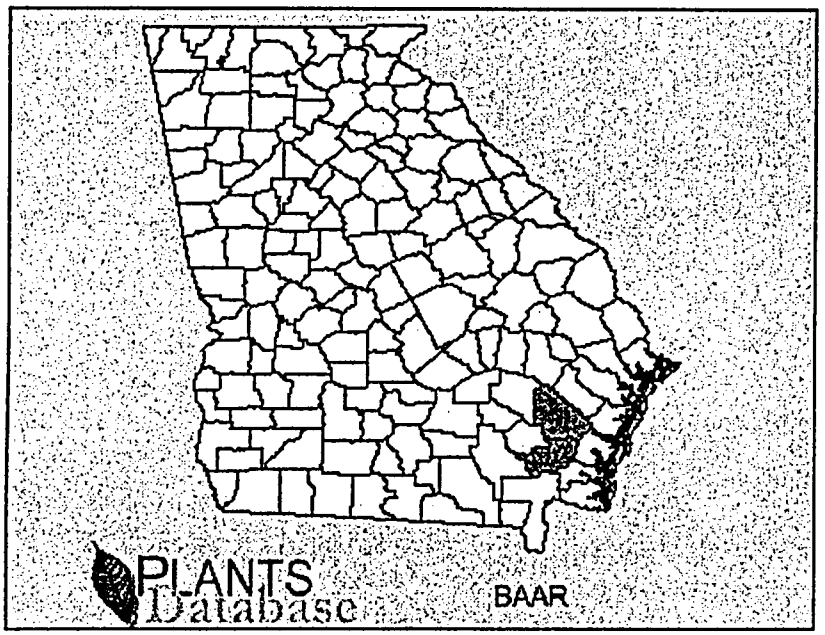
Armitage, A. M. 1989. Herbaceous Perennial Plants. Varsity Press, Athens, Georgia. 646 pp.

Duncan, W. H. 1944. A new species of *Baptisia*. Rhodora 46:29-31.

Faircloth, W. R. 1984. Hairy rattleweed recovery plan. United States Fish and Wildlife Service, Atlanta, Georgia. 58 pp.

Faircloth, W. R. 1987. Doomsday looms in the pine barrens. Tipularia 1(2):2-6.

Isely, D. 1990. Vascular Flora of the Southeastern United States. Volume 3, Part 2. Leguminosae (Fabaceae). University of North Carolina Press, Chapel Hill. 258 pp.



County Distribution of
BAAR **in** Georgia

Baptisia arachnifera Duncan

cobwebby wild indigo

Return to the
BAAR Plant Profile Page

Our county data are based primarily on the literature, herbarium specimens, and confirmed observations. Not all populations have been documented, however, and significant gaps in the distribution shown above may not be real. Please use the Distribution Update module to improve the data by adding your new distribution information to PLANTS. Remember that only native and naturalized populations are mapped!

Time Generated: Fri 8:33 AM - 02/11/2005

Bumelia thornei Cronquist

Swamp Buckthorn

Sapodilla Family, SAPOTACEAE

LEGAL STATUS:
State: ENDANGERED
Federal: CANDIDATE

SYNONYMY:
Sideroxylon thornei (Cronquist) T. D. Pennington

RANGE: Coastal Plain of Georgia, the Florida Panhandle, and adjacent southeastern Alabama. Recorded from six counties in Georgia (see map).

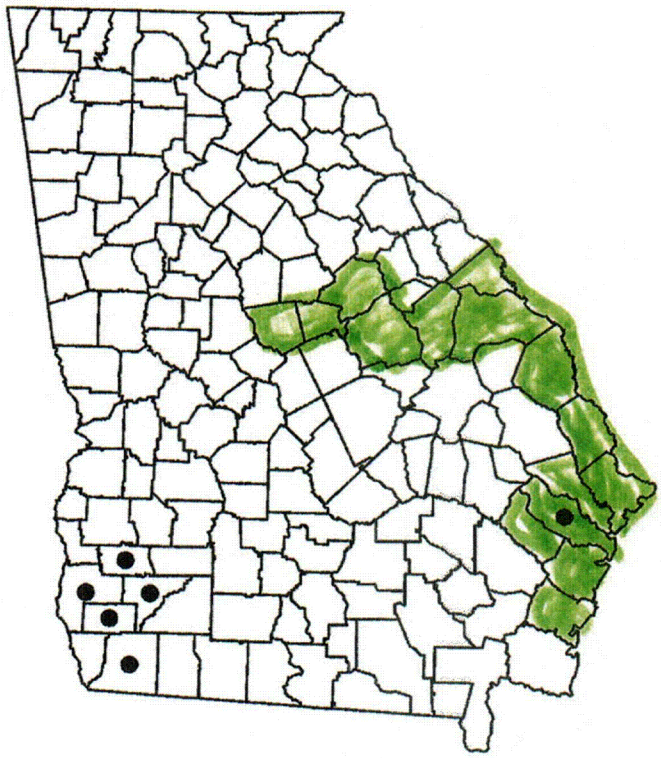
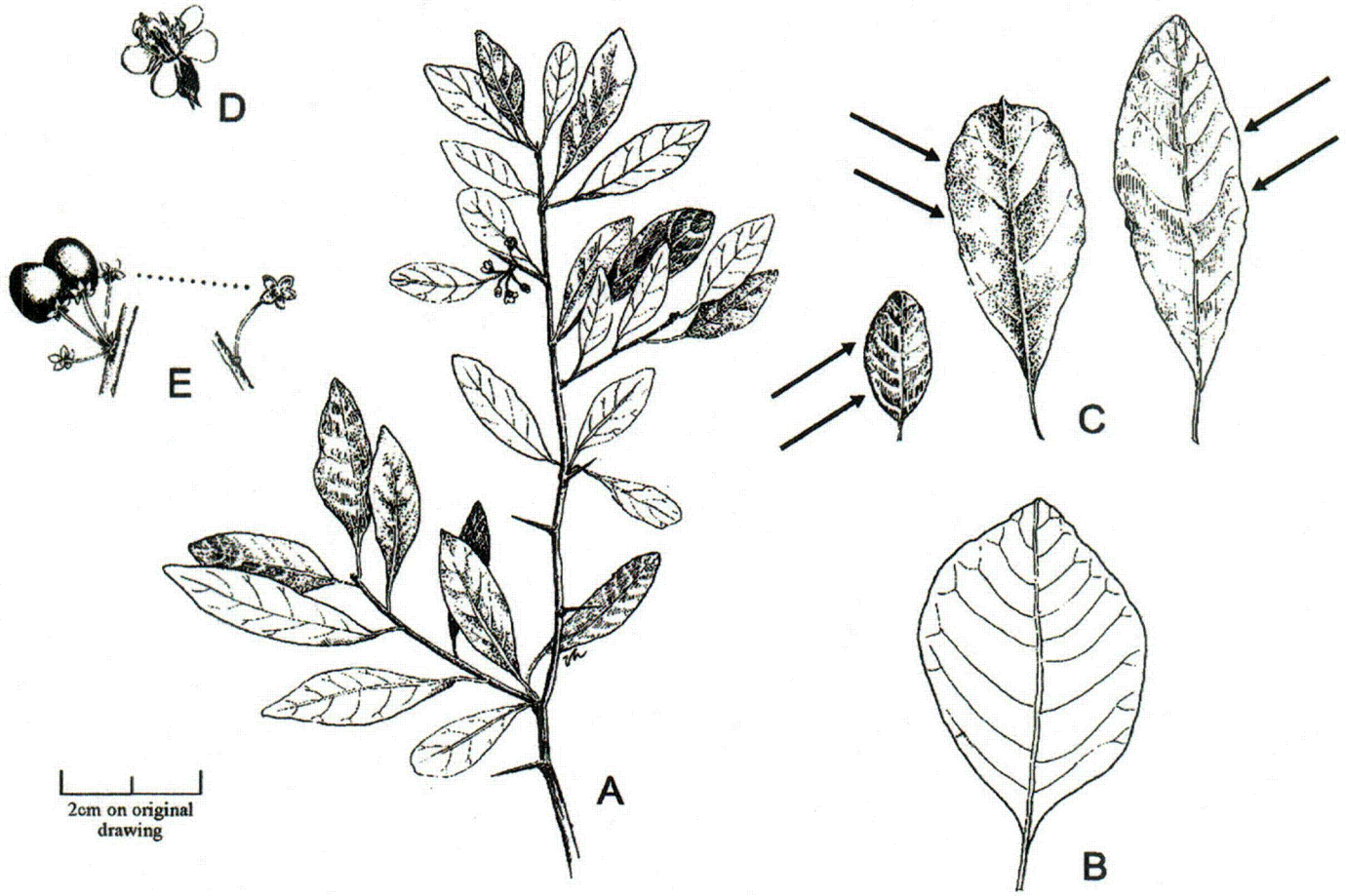


ILLUSTRATION: (A) branch, with scattered thorns and one flower cluster, 0.3x; (B,C) mature leaves, 1x; note variation in shapes and, on the three upper leaves (C), the patchy hairs on their undersides; (D) flower, 3x; (E) fruit and fruit stalks, with persistent sepals, 0.9x. Source: original drawing by Vicky Holifield.

DESCRIPTION: Tardily deciduous, erect shrub or small tree, bearing thorns and reaching a height of 2.5 m. The leaves are simple, alternate, up to 7 cm long and 4 cm wide, with the margins entire. Sometimes older twigs produce spur shoots, which are slow-growing, somewhat thickened, short branchlets on which the leaf arrangement is congested. Leaf shapes (elliptic, obovate, or round) and



sizes vary greatly (see illustration B). The leaf surfaces are smooth above at maturity with obscure, sunken, coarsely netted veins, and densely tawny-hairy beneath when young, with the hairs becoming patchy by mid-season. The leafstalks (petioles) are persistently hairy. The small, cream-colored flowers are in umbels. The flower stalks are hairy when young, becoming essentially bare by the fruiting season, with the persistent calyx at the tip (see illustration D). The mature fruit is a subglobose, black berry about 1 cm in diameter. **Flowering period**: May to June; **fruiting period**: August to early October. **Best search time**: during fruiting, because both the persistent, patchy hairs on the leaf undersides, and the fruit size are useful in identification.

HABITAT: Found in oak flatwoods where the soil is normally saturated for long periods following floods or periods of heavy rains (for example, calcareous swamps and woods bordering cypress ponds).

SPECIAL IDENTIFICATION FEATURES: The species of *Bumelia* are vegetatively variable—especially in leaf morphology and degree of thorniness. Many characters are needed to identify some of the species. Of the five types found in Georgia, *B. thornei* is distinguished by the following features: (1) patchy, tawny hairs on undersides of leaves late in the growing season; (2) habit (tall, erect shrub or small tree); (3) large fruits (about 1 cm in diameter); and (4) wetland habitat.

MANAGEMENT RECOMMENDATIONS: Avoid drainage of site. Hand thinning of shading trees in its vicinity, if done carefully, may be beneficial to this species.

REMARKS: This species was first collected in 1940, by Donald Eyles, in Baker County (labeled as *Bumelia lanuginosa*). Arthur Cronquist described it in 1949, from collections sent to him by Robert Thorne. Besides the Baker County locality it has been found at about a half dozen locations in Georgia, at a single location in the Florida Panhandle, and within a small area in Houston County, Alabama. Its range is similar to that of Indian plantain (*Cacalia diversifolia*) and Curtiss loosestrife (*Lythrum curtissii*), with which it sometimes grows. A *Bumelia* occurs in Georgia's southeastern Coastal Plain that has patchy hairs on the leaf undersides similar to those found in *B. thornei*, and has sometimes been confused with it. It differs from *B. thornei* in preferring very dry habitats and in being a low-growing plant that forms dense patches. It is probably closer taxonomically to *B. reclinata*. Recent studies indicate that the New World genus *Bumelia* is only weakly differentiated from the Old World genus *Sideroxylon* (Pennington, 1990). These genera have recently been combined, the reason for the new nomenclatural combination, *Sideroxylon thornei*. The older name is employed in this book since *Bumelia* is used in a majority of the available standard references and is in conformity with the 1992 revision of the protected plant list. *Bumelia thornei* is a rare endemic, one that has sustained significant habitat loss due to draining of its habitat for conversion to agriculture or pine plantation.

SELECTED REFERENCES

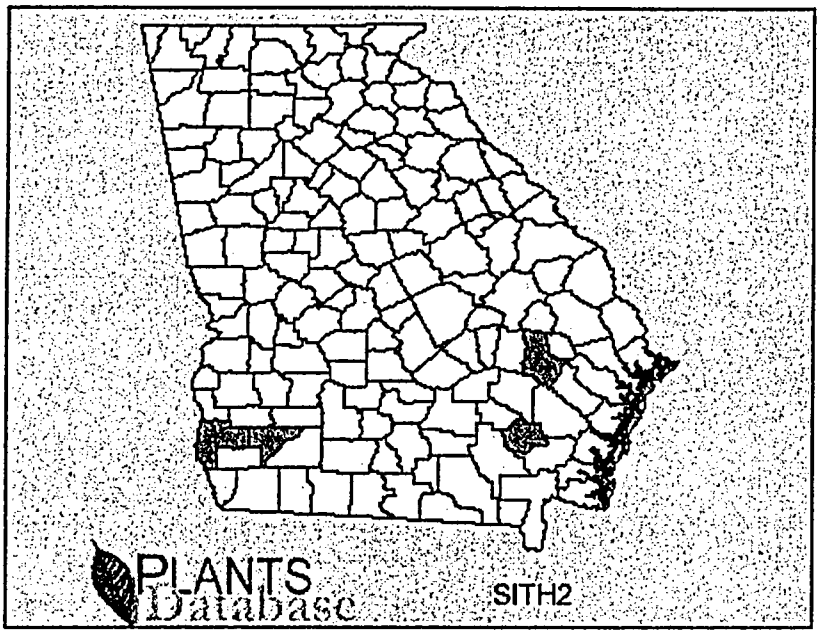
Cronquist, A. 1949. Noteworthy plants of Georgia. Castanea 14:103-104.

Godfrey, R. K. 1988. Trees, Shrubs, and Woody Vines of Northern Florida and Adjacent Georgia and Alabama. University of Georgia Press, Athens. 734 pp.

Pennington, T. D. 1990. Sapotaceae. Flora Neotropica. Monograph Number 52. 770 pp.

Wood, C. E. and R. B. Channell. 1960. The genera of Ebenales in the southeastern United States. Journal of the Arnold Arboretum 41:1-35.

420
890
900



County Distribution of
SITH2 **in** Georgia

Sideroxylon thornei (Cronq.)
T.D. Pennington
Georgia bully

Return to the
SITH2 Plant Profile Page

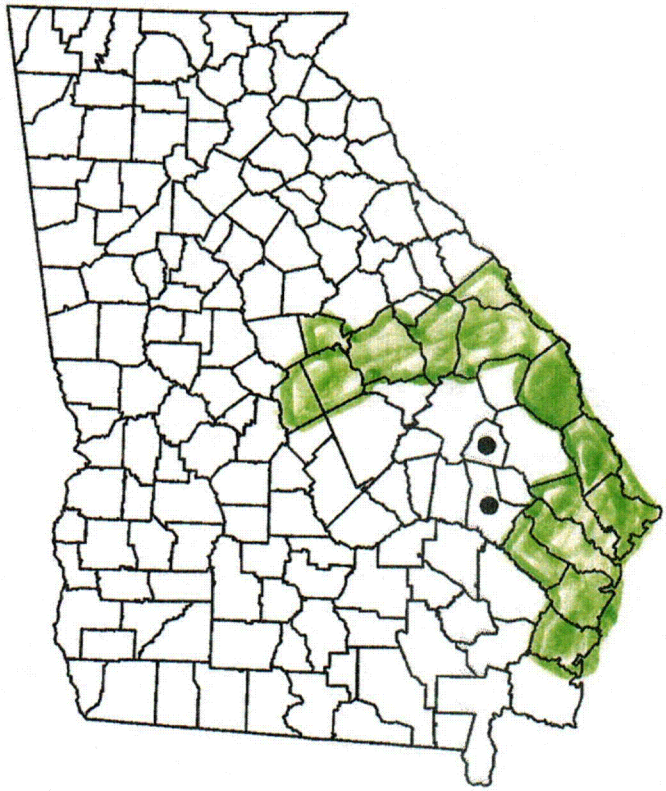
Our county data are based primarily on the literature, herbarium specimens, and confirmed observations. Not all populations have been documented, however, and significant gaps in the distribution shown above may not be real. Please use the Distribution Update module to improve the data by adding your new distribution information to PLANTS. Remember that only native and naturalized populations are mapped!

Time Generated: Fri 8:41 AM - 02/11/2005

Calamintha ashei (Weatherby) Shinners

Ashe's Savory, Ashe's Calamint, Ohoopee Wild Basil

Mint Family, LAMIACEAE



LEGAL STATUS:
State: THREATENED
Federal: CANDIDATE

SYNONYMY:
Clinopodium ashei (Weatherby) Small
Satureja ashei Weatherby

RANGE: Coastal Plain of central peninsular Florida on the Lake Wales Sand Ridge and disjunct on the Coastal Plain of southeastern Georgia on sand dunes along the Ohoopee River. Recorded from two counties in Georgia (see map).

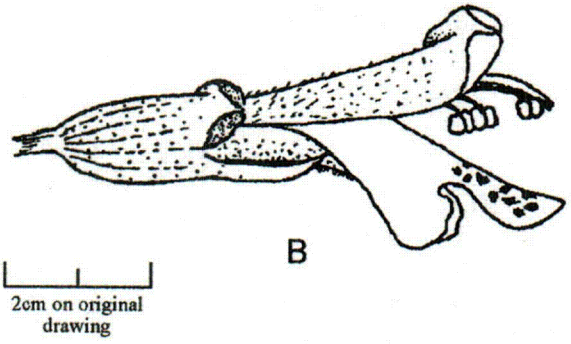


ILLUSTRATION: (A) flowering branch habit, 1x; (B) flower, side view, 5x. Source: Wunderlin et al. (1980), drawn by Anna-Lisa King and used with permission.

DESCRIPTION: Tardily deciduous, sometimes evergreen, shrub. This is a square-stemmed, low, compact shrub, usually 10-40 cm tall (rarely taller), and pungently aromatic with the fragrance of basil. The leaves are opposite, narrowly obovate to linear-elliptic, gray-green, 5-12 mm long, 2-4 mm wide, with the margins entire and rolled under (revolute). The flowers are produced in 1- to 3-flowered clusters in the axils of the upper leaves. The corolla is purplish-pink to lavender-rose, paler and somewhat darkly mottled on the inside, about 1.0-1.5 cm long, and 2-lipped; the lower lip is 3-lobed, with the

middle lobe the longest. The calyx consists of a prominently ridged tube and two lips, with the lower lip divided into two long, narrow lobes. The fruit is made up of four nutlets. **Flowering period**: late April to October; **fruiting period**: June to November. **Best search time**: all year, since plants tend to form dense, conspicuous, knee-high clumps and some of the diagnostic leaves are always present.

HABITAT: Found on sand dunes along the Ohoopee River in longleaf pine-scrub oak forests with scattered rosemary (*Ceratiola ericoides*), woody goldenrod (*Chrysoma pauciflosculosa*), and red mint shrub or scarlet wild basil (*Calamintha coccinea*).

SPECIAL IDENTIFICATION FEATURES: Two shrubby mints grow together on the ancient "fossil" dunes of the Ohoopee River. *Calamintha coccinea* has red (rarely yellow) flowers that are 2.5-3.0 cm long, and is taller (usually 5-8 dm high) and lanky. *Calamintha ashei* has purplish flowers that are under 2 cm long, and is shorter (usually 2-4 dm high) and more compact.

MANAGEMENT RECOMMENDATIONS: Timber removal, if desired, may be beneficial to this light-loving plant.

REMARKS: The first report of this species from Georgia was by Roland Harper, early in this century (Kral, 1983). Previously it was thought to be restricted to an area of Florida some 200 miles to the south. This species shares the sandhill scrub habitat with several other species in this book (*Ceratiola ericoides*, *Chrysopsis pinifolia*, *Matelea pubiflora*, and *Stylisma pickeringii*). These sandhills are fascinating and beautiful, in essence islands or archipelagos of desert landscape within a sea of more familiar pine forest. *Calamintha ashei* is rare throughout its range. It is designated a Threatened Species by the State of Florida. In Georgia it is a rare disjunct.

413
620
512

SELECTED REFERENCES

Foote, L. E. and S. B. Jones, Jr. 1989. Native Shrubs and Woody Vines of the Southeast: Landscaping Uses and Identification. Timber Press, Portland, Oregon. 199 pp.

Kral, R. 1983. A report on some rare, threatened, or endangered forest-related vascular plants of the South. Technical Publication R8-TP2. United States Forest Service, Atlanta, Georgia. 1305 pp.

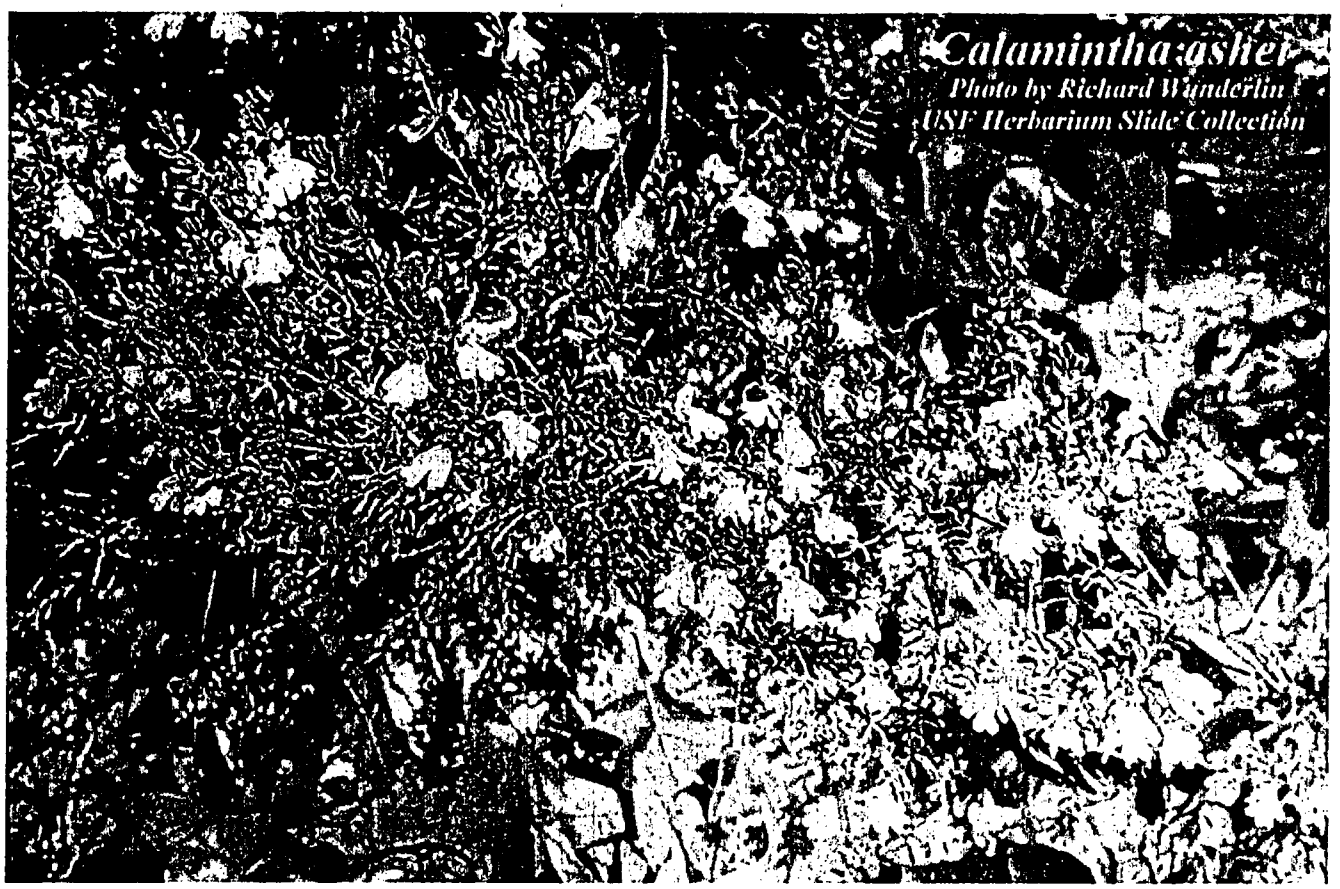
Shinners, L. H. 1962. *Calamintha* (Labiatae) in the southern United States. Sida 1:69-75.

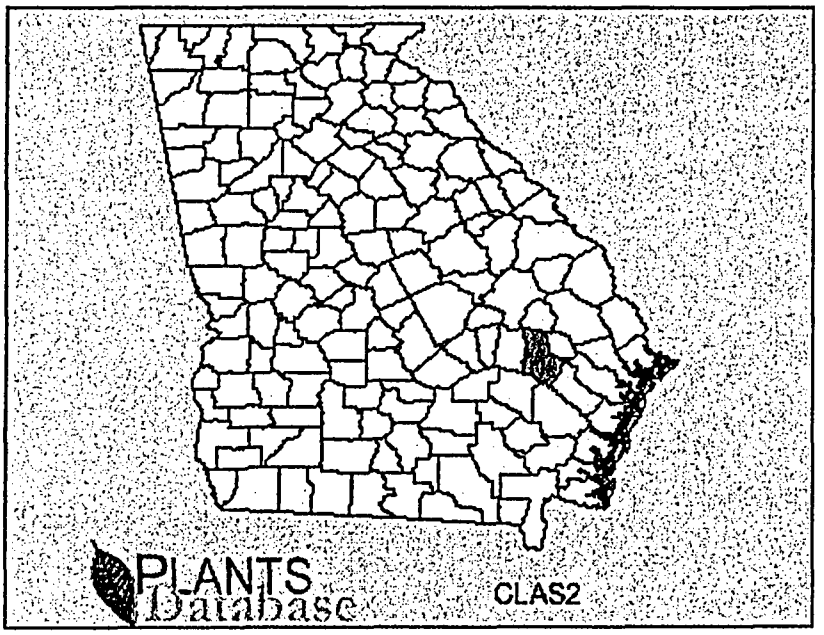
Small, J. K. 1933. Manual of the Southeastern Flora. 1972 Reprint Edition. Hafner Publishing Company, New York. 1554 pp.

Wunderlin, R. P. 1982. Guide to the Vascular Plants of Central Florida. University Presses of Florida, Gainesville. 472 pp.

Wunderlin, R. P., D. Richardson, and B. Hansen. 1980. Status report on *Calamintha ashei*. Unpublished report for the United States Fish and Wildlife Service, Region Office, Atlanta, Georgia. 48 pp.


Calamintha ashei
Photo by Gil Anglin


Calamintha:ashei
Photo by Richard Wunderlin
USF Herbarium Slide Collection



County Distribution of
CLAS2 **in** Georgia

Clinopodium ashei
(Weatherby) Small
Ashe's calamint

Return to the
CLAS2 Plant Profile Page

Our county data are based primarily on the literature, herbarium specimens, and confirmed observations. Not all populations have been documented, however, and significant gaps in the distribution shown above may not be real. Please use the Distribution Update module to improve the data by adding your new distribution information to PLANTS. Remember that only native and naturalized populations are mapped!

Intellectual Property Statement / How to Cite the PLANTS Database

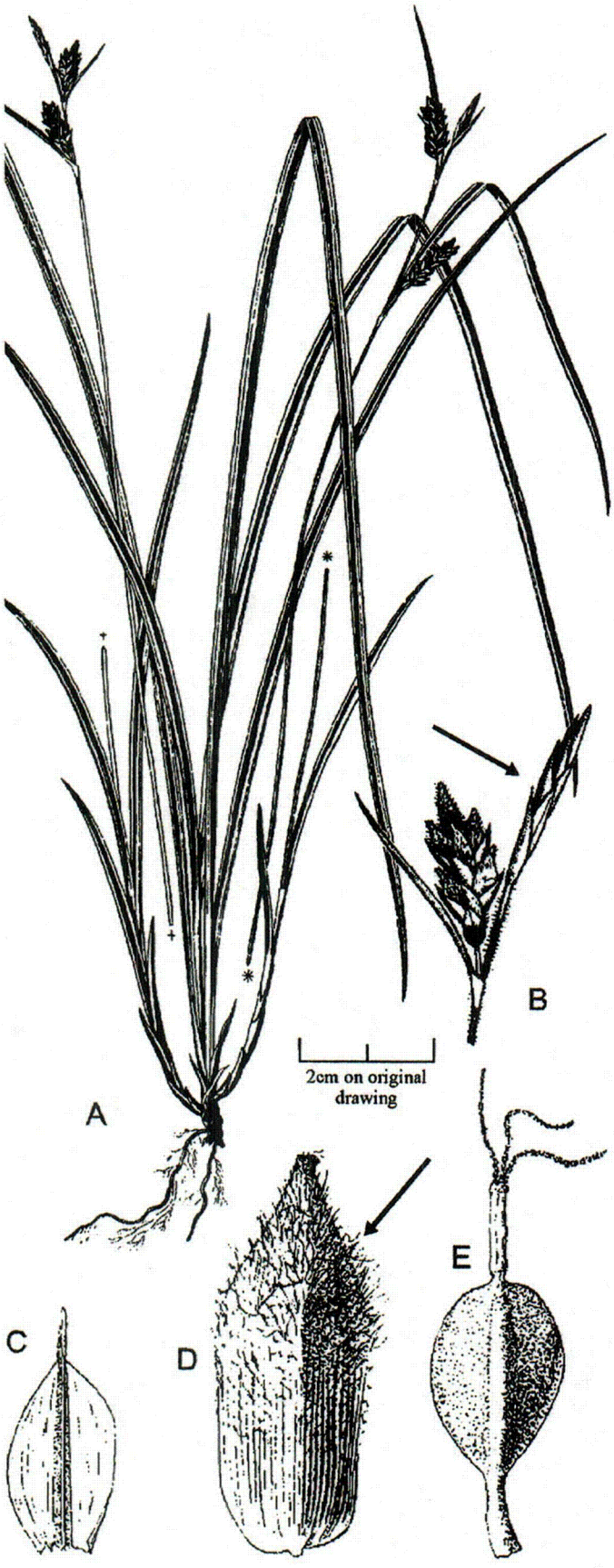
Disclaimers

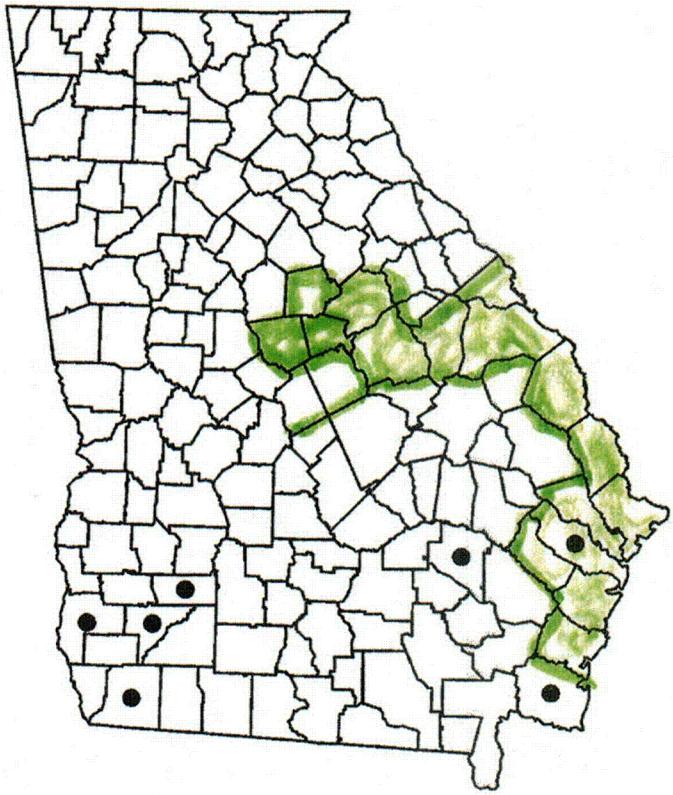
Time Generated: Fri 8:49 AM - 02/11/2005

Carex dasycarpa Muhlenberg

Velvet Sedge

Sedge Family, CYPERACEAE





LEGAL STATUS:
State: RARE
Federal: None

SYNONYMY: None in current usage.

RANGE: Coastal Plain from Mississippi to South Carolina. Recorded from seven counties in Georgia (see map).

ILLUSTRATION: (A) plant habit, 0.5x; (B) male (arrow) and female spikes, 1.5x; (C) fruit scale, 10x; (D) fruit sac (perigynium), with prominent whitish-wool coat, 10x; (E) fruit (achene), 10x. Source: (A,B) Boott (1858), drawn by Mr. Maubert; (C,D,E) Mackenzie (1940), drawn by Harry Charles Creutzburg and used with permission.

DESCRIPTION: Perennial, grasslike herb, growing in clumps (cespitose) interconnected by short, slender, somewhat ascending rhizomes. The fertile stems are 1.5-3.0 dm tall, each with 3-8 leaves clustered near the base. The leaves are 5-35 cm long, 2.0-4.5 mm wide, light green, and softly hairy. Male and female flower spikes are produced on the same plant (monoecious). The male (staminate) spikes are terminal and solitary, relatively inconspicuous, 1-2 cm long, and 2-3 mm wide. The female (pistillate) spikes are lateral and larger, the apex of at least the uppermost exceeding the base of the male spike (see illustration). The pistillate scales are acute to

bristle-tipped, whitish to straw-colored with a longitudinal, 3-veined green band. The pistillate spikes bear 5-25 fruits, each of which is surrounded by an ellipsoid-ovoid sac (perigynium), 4.5-6.0 mm long, 1.5-2.0 mm wide, with coarse longitudinal veins, and whitish due to wooly hairs near the apex. The fruit is an achene, sharply 3-angled, about 2.5 mm long, and stalked (stipitate). **Flowering period**: March to April; **fruiting period**: May to June. **Best search time**: during fruiting, since mature fruits are needed for proper identification.

HABITAT: Found in sandy, acid woods of floodplain hammocks and streambanks; also on barrier islands, in mature longleaf pine forests.

SPECIAL IDENTIFICATION FEATURES: The best features for use in identification of the velvet sedge are the soft hairs found on the leaves and lower stems, and the whitish, wooly hairs found on the mature fruit sacs (perigynia).

MANAGEMENT RECOMMENDATIONS: Control exotic weeds, especially Japanese honeysuckle.

REMARKS: This species was described by Henry Muhlenberg (born Gotthilf Heinrich Ernst Muehlenberg, 1753-1815), and published posthumously in 1817. Muhlenberg, a German-born, Lutheran minister who emigrated to Pennsylvania, discovered many new American plants. Muhlenberg based his description on material collected on Paris Island, South Carolina (Beaufort County). The date of the earliest Georgia collection of this species is not known to the writers, except that it was before 1883. *Carex dasycarpa* has sustained significant habitat loss due to clearing of forest land for conversion to agricultural land or pine plantation.

620
$96
900
930

SELECTED REFERENCES

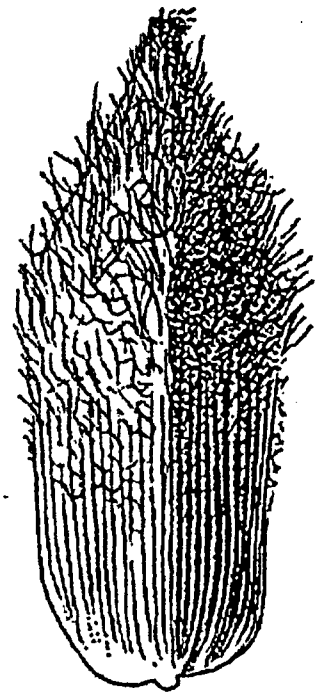
Boott, F. 1858. Illustrations of the Genus *Carex*. 1968 Reprint Edition. Historiae Naturalis Classica. Volume 62. J. Cramer, New York. 74 pp., 600 pl.

Clewell, A. F. 1985. Guide to the Vascular Plants of the Florida Panhandle. Florida State University Press, Tallahassee. 605 pp.

Mackenzie, K. K. 1940. North American Cariceae. New York Botanical Garden, Bronx. 547 pp.

Radford, A. E., H. E. Ahles, and C. R. Bell. 1968. Manual of the Vascular Flora of the Carolinas. University of North Carolina Press, Chapel Hill. 1183 pp.


a
h
f



a

Ceratiola ericoides Michaux

Rosemary, Sandhill Rosemary

Crowberry Family, EMPETRACEAE

LEGAL STATUS:
State: THREATENED
Federal: None

SYNONYMY: None in current usage.

RANGE: Coastal Plain from Mississippi to South Carolina, found mostly on coastal dunes, but also inland on the Florida Peninsula, river dunes and sand ridges in southeastern Georgia, and on sandhills along the Fall Line in eastcentral Georgia and South Carolina. Recorded from seven counties in Georgia (see map).

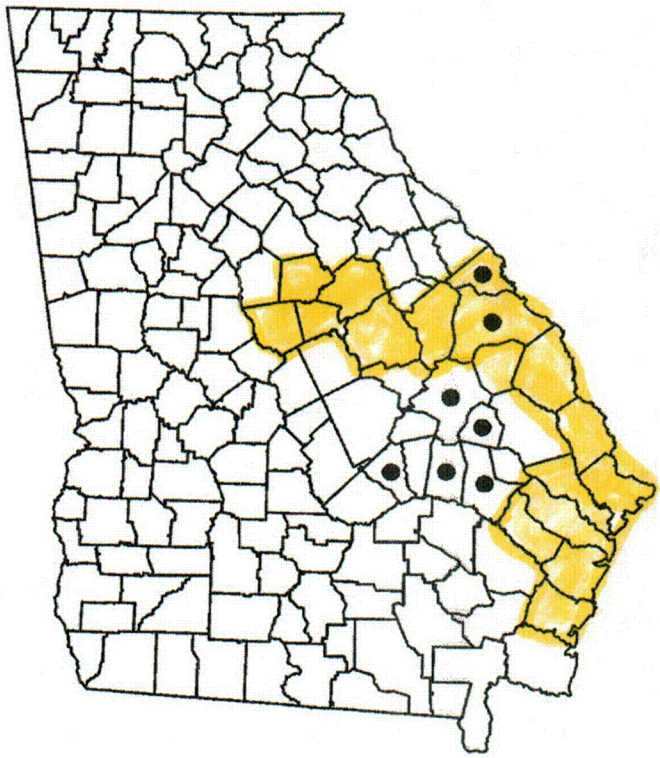
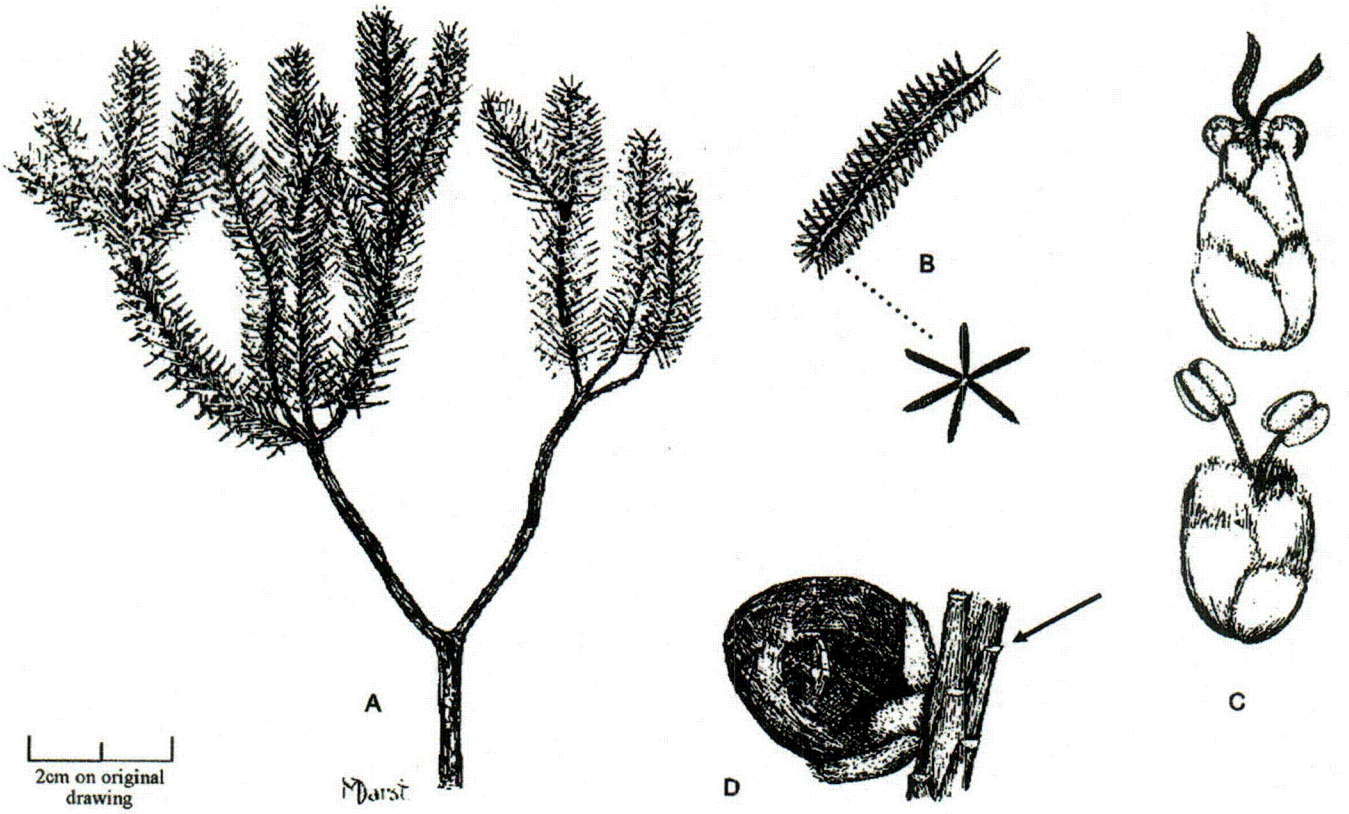


ILLUSTRATION: (A) branch habit, 0.7x; (B) branchlet, with diagrammatic cross section, showing leaf arrangement, 0.8x; (C) male (below) and female (above) flowers, 10x; (D) fruit, with portion of stem, showing prominent attachment scars from fallen leaves, 10x. Source: Godfrey (1988), drawn by Melanie Darst and used with permission.

DESCRIPTION: Shrub to a height of 2.0-2.5 m, the foliage aromatic (fragrance of rosemary). The stems are densely multi-branched, with grayish, shreddy bark; the young twigs are covered with a dense coat of gray, short,



wooly hairs (tomentose). The leaves are evergreen, needle-like, 8-15 mm long, less than 1 mm wide with margins inrolled beneath (revolute), arranged in whorls of 4 or 6, giving the twigs a square or hexagonal shape when viewed endwise, each leaf appearing as a stiff tubular structure. Flowers are either male or female, borne on separate plants (dioecious), with persistent, yellowish to reddish sepals and petals, each two (rarely three) in number and about 1.5 mm long; the two stamens or two styles are long and protruding (exserted). The flowers are produced in the axils of the leaves and resemble those of myrtle or bayberry in their arrangement near the ends of the young branches. The fruit is yellow or pinkish-red, 2-3 mm in diameter, similar to a drupe but with two stones (nutlets). **Flowering period**: mostly early March to June, sporadically all year, especially after a prolonged rain; **fruiting period**: mostly June to August, sporadically all year. **Best search time**: all year, since plants are evergreen.

HABITAT: Found on the driest, openly vegetated, scrub oak sandhills and river dunes with deep white sands of the Kershaw soil series, with woody goldenrod (*Chrysoma pauciflosculosa*) and extensive mats of lichens.

SPECIAL IDENTIFICATION FEATURES: Rosemary resembles no other native shrub. The evergreen, needle-like leaves give the appearance of a juniper or cedar, from a distance. The rosemary-scented leaves and the preference of the plants for openly vegetated, deep white sands are also useful in identification.

MANAGEMENT RECOMMENDATIONS: Controlled burning at long intervals (more than ten years) or hand thinning of shading trees in its vicinity will benefit this light-loving plant.

REMARKS: *Ceratiola ericoides* is the only species in its genus (monotypic genus); it has few close relatives, the family Empetraceae consisting of only five species distributed among three genera. The family is related to the Ericaceae, and its members resemble the portion of that family known as heaths, with small, close-set leaves. Some members of the Empetraceae have found limited use as rock garden subjects and the crowberry (*Empetrum nigrum*) has an edible black berry. *Ceratiola ericoides* is most abundant in areas of sandhill scrub in Florida, where it sometimes is abundant enough that the places it inhabits are called "rosemary balds. " This is a species that is found in some of Georgia's driest scrub habitats. Scrubs supporting *Ceratiola* typically have many scattered patches of bare soil that is nearly pure sand. Because the habitat is so severe, fuel (litter, biomass) is comparatively slow to accumulate. Due to the paucity of fuel and lack of continuous cover to carry wildfire over a large area, wildfires occurred historically at longer average intervals than prevailed in oak-dominated scrubs. The adaptation of *Ceratiola* to sites with fire frequency between 10 and 40 years is indicated by two observations (Johnson, 1982). First, fire is known to stimulate seed germination; second, seed production, the only means of reproduction in this species, begins when a plant reaches 10-15 years of age and declines after age 20-30. *Ceratiola ericoides* is a rare disjunct in Georgia. It has sustained significant habitat loss due to conversion of sand ridge habitat (e.g., to pine plantation or Bermuda grass pasture), and due to fire suppression.

SELECTED REFERENCES

Anderberg, A. A. 1994. Phylogeny of the Empetraceae, with special emphasis on character evolution in the genus *Empetrum*. Systematic Botany 19:35-46.

Clewell, A. F. 1985. Guide to the Vascular Plants of the Florida Panhandle. Florida State University Press, Tallahassee. 605 pp.

Foote, L. E. and S. B. Jones, Jr. 1989. Native Shrubs and Woody Vines of the Southeast: Landscaping Uses and Identification. Timber Press, Portland, Oregon. 199 pp.

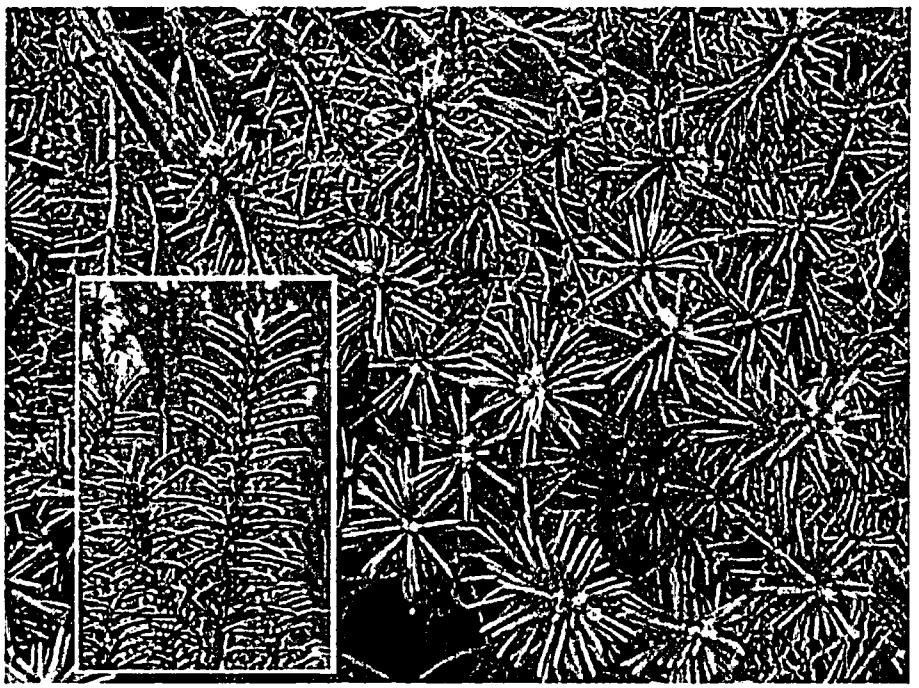
Godfrey, R. K. 1988. Trees, Shrubs, and Woody Vines of Northern Florida and Adjacent Georgia and Alabama. University of Georgia Press, Athens. 734 pp.

Johnson, A. F. 1982. Some demographic characteristics of the Florida Rosemary *Ceratiola ericoides* Michx. The American Midland Naturalist 108:170-174.

Radford, A. E., H. E. Ahles, and C. R. Bell. 1968. Manual of the Vascular Flora of the Carolinas. University of North Carolina Press, Chapel Hill. 1183 pp.

Small, J. K. 1933. Manual of the Southeastern Flora. 1972 Reprint Edition. Hafner Publishing Company, New York. 1554 pp.

413
512



Gallery

Plants of The Florida Scrub

Fact Tracks Floridata™

Florida rosemary

Ceratiola ericoides

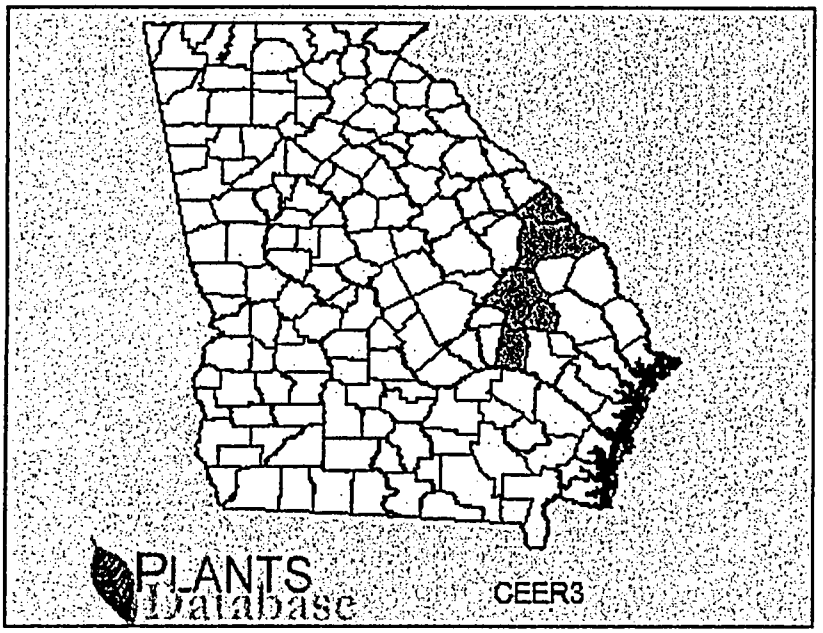
Not related to the culinary rosemary from the Mediterranean region, the poorly-named Florida rosemary is a characteristic scrub plant with many specialized adaptations to the harsh scrub environment. The needle-like leaves conserve water by reducing evaporation. The rounded dome-like shape, typical of many scrub plants, protects from wind and blowing sand damage. Rosemary plants release a chemical into the soil that prevents the germination of their own seeds. The seeds remain in the soil and do not germinate until after the parent plant dies, thus insuring a sunny spot for the new plant. Like many scrub plants, rosemary is aromatic, the result of volatile oils in the foliage that probably serve to protect the plant from being eaten.

Some Florida scrubs are so droughty with deep, loose sands that Florida rosemary is the only shrub that can survive. These "Rosemary balds" are among the most beautiful, and harshest, natural landscapes in Florida.

BACK Gallery MENU NEXT

4 of 20

Fact Tracks



County Distribution of
CEER3 **in** Georgia

Ceratiola ericoides Michx.
sand heath

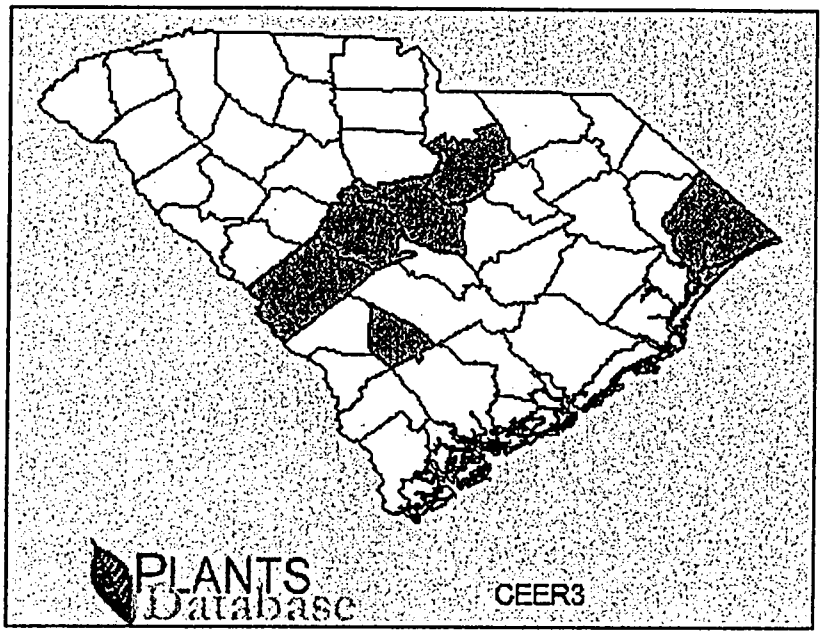
Return to the
CEER3 Plant Profile Page

Our county data are based primarily on the literature, herbarium specimens, and confirmed observations. Not all populations have been documented, however, and significant gaps in the distribution shown above may not be real. Please use the Distribution Update module to improve the data by adding your new distribution information to PLANTS. Remember that only native and naturalized populations are mapped!

Intellectual Property Statement / How to Cite the PLANTS Database

Disclaimers

Time Generated: Fri 9:04 AM - 02/11/2005



County Distribution of
CEER3 **in** South Carolina

Ceratiola ericoides Michx.
sand heath

Return to the
CEER3 Plant Profile Page

Our county data are based primarily on the literature, herbarium specimens, and confirmed observations. Not all populations have been documented, however, and significant gaps in the distribution shown above may not be real. Please use the Distribution Update module to improve the data by adding your new distribution information to PLANTS. Remember that only native and naturalized populations are mapped!

Intellectual Property Statement / How to Cite the PLANTS Database

Disclaimers

Time Generated: Fri 9:05 AM - 02/11/2005

Chamaecyparis thyoides (Linnaeus) Britton, Sterns & Poggenburg

Atlantic White-cedar, Swamp-cedar

Cypress Family, CUPRESSACEAE

LEGAL STATUS:
State: RARE
Federal: None

SYNONYMY: None in current usage.

RANGE: Outer Coastal Plain from Maine to North Carolina, appearing again from the Florida Panhandle to Mississippi; inland in the Fall Line Sandhills of the Carolinas and Georgia, and in northcentral peninsular Florida. Recorded from six counties in Georgia (see map).

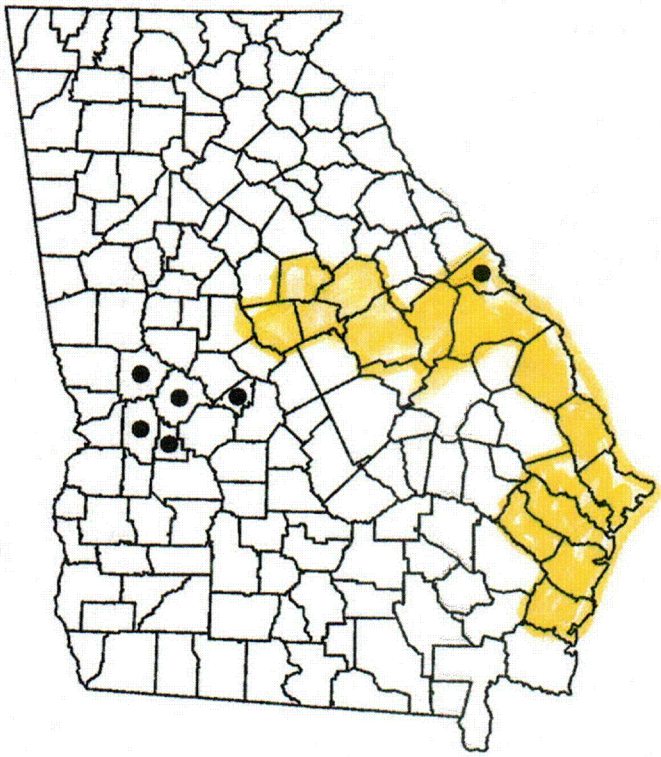
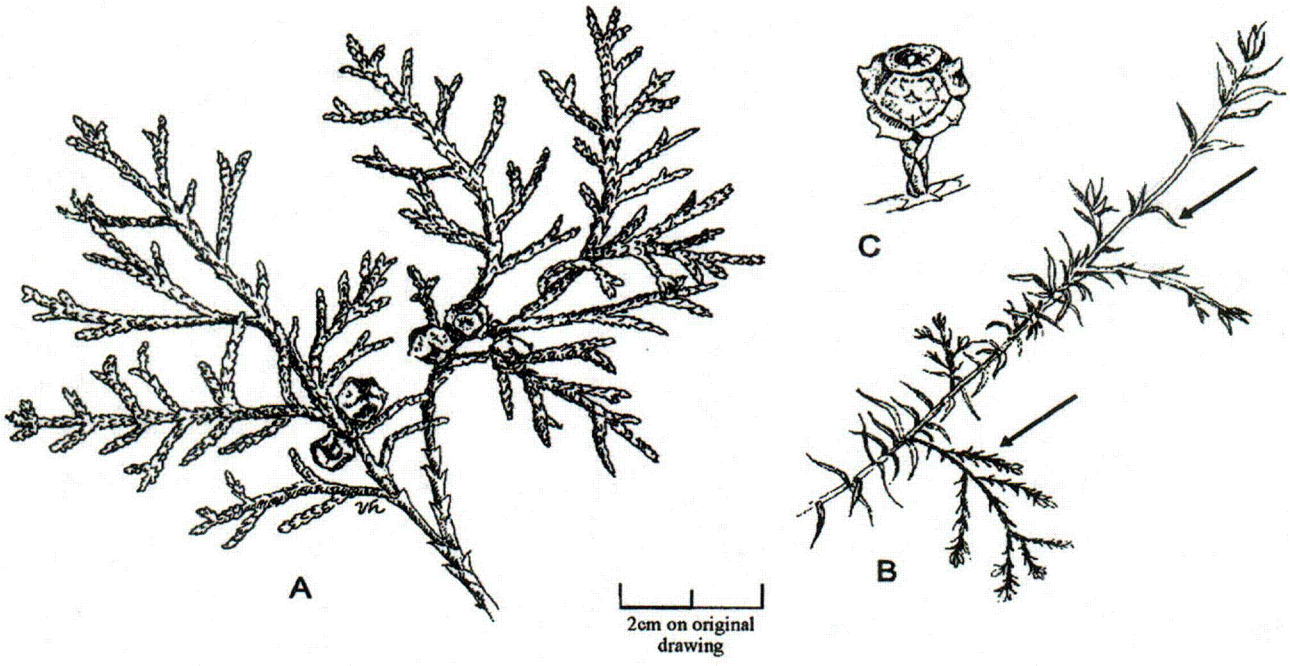


ILLUSTRATION: (A) branch, with cones, 1x; (B) juvenile shoot, with awl-shaped leaves of varying size, 1x; (C) cone, consisting of six woody scales, 3x. Source: original drawing by Vicky Holifield.

DESCRIPTION: A forest tree to 36 m tall, with a trunk to 1.5 m in diameter, and with tight, fibrous, light gray-brown bark. The leaves are evergreen, bluish-green, and of two types. The so-called "juvenile foliage" is produced on fast-growing branchlets, with the leaves needle-shaped, spirally arranged, and 5-8 mm long. The so-called "mature foliage" is produced on flattened branchlets up to 1 mm wide, with the leaves scale-like,



opposite, overlapping, and 1.5-3.0 mm long, each with an inconspicuous resinous dot (gland) on the underside. The male cones are 1-2 mm long, on ends of branchlets; the female cones, sometimes on same branchlet, are globose, 5-8 mm in diameter, with six scales, spreading apart upon drying to shed 10-12 broadly winged seeds. **Spore-producing period:** pollen is shed in early spring (March to April); seeds are shed in fall (September to October). **Best search time**: all year, since foliage is evergreen and old cones usually persist.

HABITAT: Found on wet, sandy terraces along clear streams and in acidic bogs; often with sweet pitcherplant (*Sarracenia rubra*).

SPECIAL IDENTIFICATION FEATURES: The flattened twigs of Atlantic white-cedar resemble northern white-cedar or arborvitae (*Thuja occidentalis*), a tree with wider branchlets (1.5 mm wide), oblong cones, and known only in cultivation in Georgia. The ubiquitous eastern redcedar (*Juniperus virginiana*) has fleshy, berry-like cones, and the branchlets are quadrangular rather than flattened. In contrast, Atlantic white-cedar has flattened, narrow (1 mm wide) branchlets and globose cones (see illustration).

MANAGEMENT RECOMMENDATIONS: Avoid drainage of site. Avoid land use upslope that would result in deposition of sediment into the white-cedar habitat.

REMARKS: A close relative of this species, Oregon-cedar (*Chamaecyparis lawsoniana*) is an important timber tree in the Pacific Northwest. Another relative, Alaska-cedar (*C. nootkatensis*) was one parent of the popular hybrid ornamental, Leyland cypress; the other was Monterey cypress (*Cupressus macrocarpa*). *Chamaecyparis thyoides* has sustained significant habitat loss due to draining and clearing of its habitat for conversion to agricultural land. In other portions of its range it has suffered from over-harvesting for, among other things, telephone poles.

SELECTED REFERENCES

Brown, C. L. and L. K. Kirkman. 1990. Trees of Georgia and Adjacent States. Timber Press, Portland, Oregon. 292 pp.

Dirr, M. A. 1990. Manual of Woody Landscape Plants. Fourth Edition. Stipes Publishing Company, Champaign, Illinois. 1007 pp.

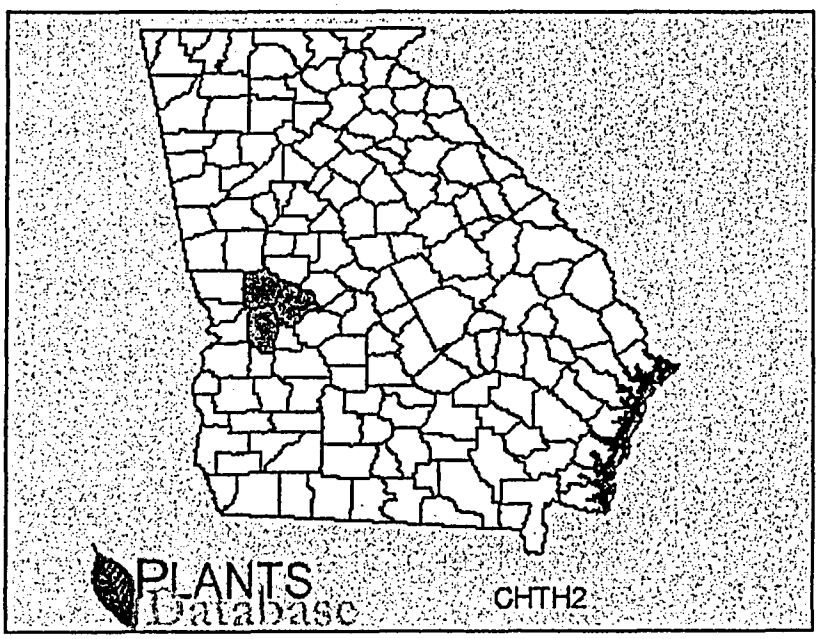
Duncan, W. H. and M. B. Duncan. 1988. Trees of the Southeastern United States. University of Georgia Press, Athens. 322 pp.

Flora of North American Editorial Committee. 1993. Flora of North America. Volume 2. Pteridophytes and Gymnosperms. Oxford University Press, New York. 475 pp.

Motzkin, G. 1991. Atlantic white-cedar wetlands of Massachusetts. Research Bulletin Number 731. Massachusetts Agricultural Experiment Station, University of Massachusetts, Amherst. 53 pp.

Radford, A. E., H. E. Ahles, and C. R. Bell. 1968. Manual of the Vascular Flora of the Carolinas. University of North Carolina Press, Chapel Hill. 1183 pp.

890
900
980
990



County Distribution of
CHTH2 **in** Georgia

Chamaecyparis thyoides
(L.) B.S.P.
Atlantic white cedar

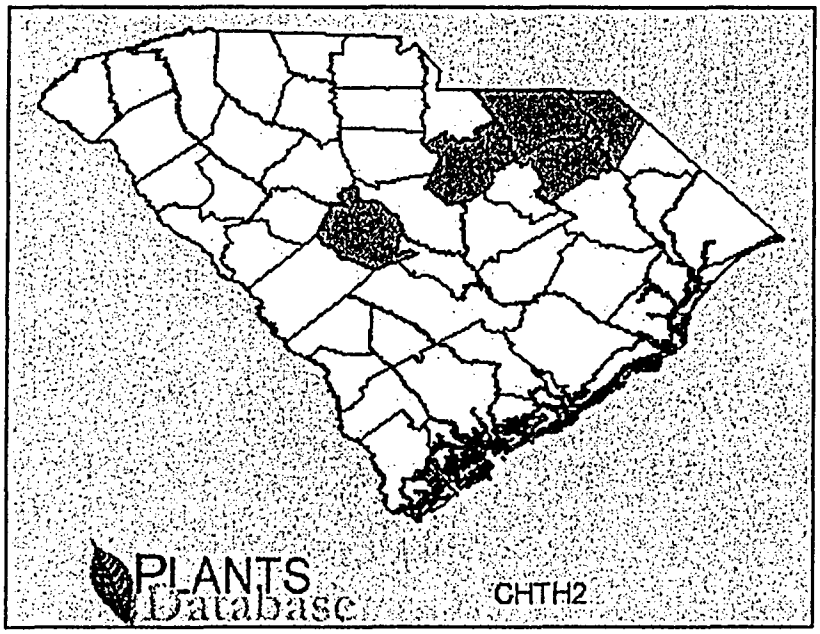
Return to the
CHTH2 Plant Profile Page

Our county data are based primarily on the literature, herbarium specimens, and confirmed observations. Not all populations have been documented, however, and significant gaps in the distribution shown above may not be real. Please use the Distribution Update module to improve the data by adding your new distribution information to PLANTS. Remember that only native and naturalized populations are mapped!

Intellectual Property Statement / How to Cite the PLANTS Database

Disclaimers

Time Generated: Fri 9:10 AM - 02/11/2005



County Distribution of
CHTH2 in South Carolina

Chamaecyparis thyoides
(L.) B.S.P.
Atlantic white cedar

Return to the
CHTH2 Plant Profile Page

Our county data are based primarily on the literature, herbarium specimens, and confirmed observations. Not all populations have been documented, however, and significant gaps in the distribution shown above may not be real. Please use the Distribution Update module to improve the data by adding your new distribution information to PLANTS. Remember that only native and naturalized populations are mapped!

Intellectual Property Statement / How to Cite the PLANTS Database

Disclaimers

Time Generated: Fri 9:11 AM - 02/11/2005

Cuscuta harperi Small

Harper Dodder, Harper Love-vine, Harper Strangle-weed

Dodder Family, CUSCUTACEAE

LEGAL STATUS:
State: THREATENED
Federal: CANDIDATE

SYNONYMY: None in current usage.

RANGE: Piedmont Plateau and Inner Coastal Plain of central Georgia; disjunct on the Cumberland Plateau (Little River Canyon area) of northeastern Alabama. Recorded from two counties in Georgia (see map).

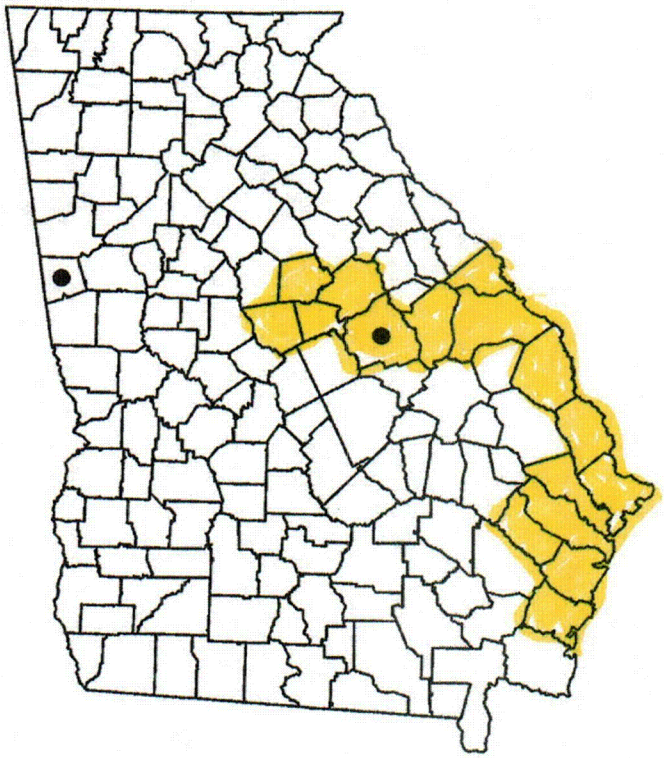
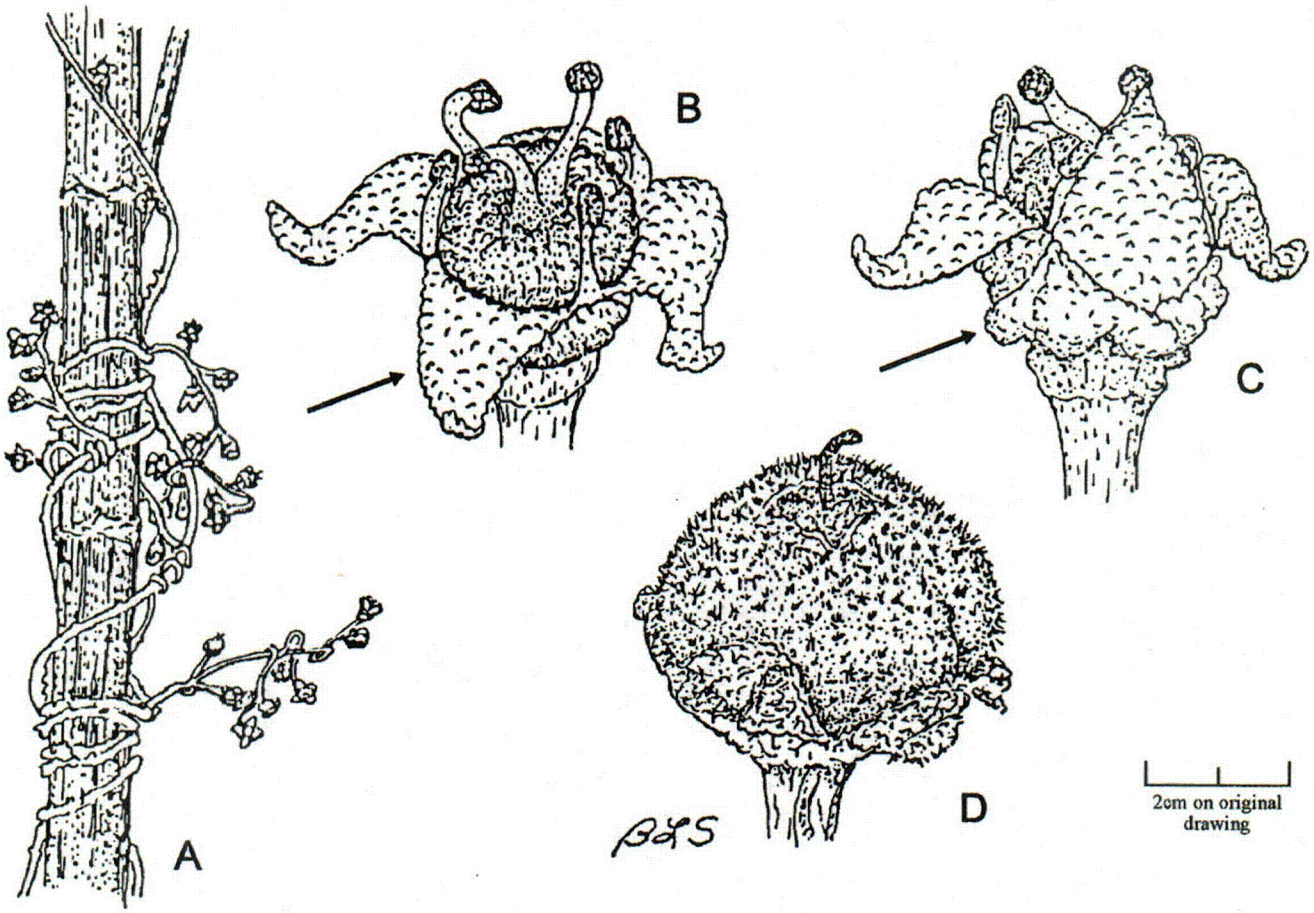


ILLUSTRATION: (A) vine, twining on host stem, 2x; (B) flower, top view, 4-parted, 30x; note recurved petal; (C) flower, side view, 30x; note upturned sepal; (D) fruit (capsule), 30x. Source: McDaniel (1981), drawn by Barry L. Snow and used with permission.

DESCRIPTION: Annual, parasitic vine. This plant belongs to a genus of parasitic vines. The stems are threadlike, bright yellowish-orange, and twine over their hosts forming loose mats. The alternate leaves are reduced to tiny scales and the plants attach to their hosts by minute suckers (haustoria). The small, white flowers are produced in loose clusters, and are not subtended by bracts. These flowers have four sepals and four petals, each about 1 mm



long or less. The tips of the petals are turned upward (see illustration). The fruit is a globose capsule, somewhat indented at the apex, usually containing a single seed, which is 1.0-1.2 mm long and yellowish-brown. **Flowering period**: June to September; **fruiting period**: August to October. **Best search time**: during flowering or fruiting, since flowers or fruits are needed for identification.

HABITAT: Found on granitic and sandstone (Altamaha Grit) outcrops; common hosts include rayless goldenrod (*Bigelowia nuttallii*, once known as *Chondrophora virgata*), blazing star (*Liatris microcephala*), and pineweed or orange-grass (*Hypericum gentianoides*).

SPECIAL IDENTIFICATION FEATURES: Harper dodder is the only dodder found on rock outcrops with bright yellowish-orange stems and tiny, white, bractless, loosely arranged flowers. The flowers are tiny, less than 2 mm broad, and the sepals and petals are mostly in fours. In contrast, field dodder (*Cuscuta campestris*), common on Georgia's outcrops, has stems more yellow than orange, and larger flowers, with the sepals and petals mostly in fives. The field dodder's favorite host on granite outcrops is yellow daisy (*Viguiera porteri*, also known as *Helianthus porteri*), but it occasionally parasitizes buttonweed (*Diodia teres*) and pineweed.

MANAGEMENT RECOMMENDATIONS: Avoid disturbance, such as from vehicular traffic.

REMARKS: This species is a typical *Cuscuta* in that it is an obligate parasite with yellowish or orange, stringy stems that twine around the host plant. The plants lack chlorophyll, thus seedlings must locate an adjacent host plant quickly or perish. The genus comprises about 145 species and is found on all continents except Antarctica. Roland Harper made the first collection of the present species in 1906, from Washington County, where it was growing on rayless goldenrod over Altamaha Grit. It was named in his honor in 1913. The Altamaha Grit, now classified by geologists as the Altamaha Formation, outcrops only in South Georgia; it presumably extends into South Carolina (Huddlestun, 1988) but has either been eroded away or remains buried under soil or under other types of rock. A similar rock type occurs on the Florida Panhandle, but the Florida formation is a few thousand years younger in geologic age. The Altamaha Grit supports a distinctive flora, including pineland Barbara buttons (*Marshallia ramosa*), cutleaf beardtongue (*Penstemon dissectus*), and sometimes Georgia plume (*Elliottia racemosa*) or silky morning-glory (*Evolvulus sericeus*). *Cuscuta harperi* has been found on outcrops of sandstone or (rarely) granite at several locations in Alabama but only three populations are known in Georgia, two on granite and one on sandstone (Altamaha Grit). Opinions vary as to which botanical family contains the dodders. Although placed in their own family, the Cuscutaceae, by Arthur Cronquist and Armen Takhtajan, Robert Thorne retains them in the morning-glory family (Convolvulaceae). The ongoing Flora of North America Project follows Cronquist, as do the authors of *Protected Plants of Georgia*. For a review of these systems of family classification, see Flora of North America Editorial Committee (1993). *Cuscuta harperi* is rare throughout its range.

SELECTED REFERENCES

Flora of North America Editorial Committee. 1993. Flora of North America. Volume 1. Introduction. Oxford University Press, New York. 372 pp.

Huddlestun, P. F. 1988. A revision of the lithostratigraphic units of the Coastal Plain of Georgia. The Miocene through Holocene. Bulletin 104. Georgia Geologic Survey, Environmental Protection Division, Georgia Department of Natural Resources, Atlanta. 162 pp., attachments.

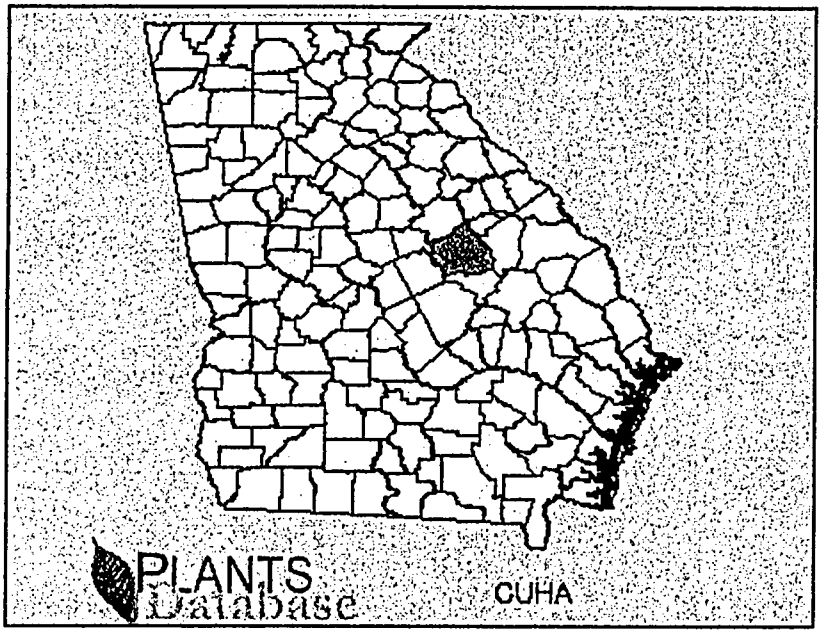
McDaniel, S. 1981. Status report on *Cuscuta harperi*. Unpublished report for the United States Fish and Wildlife Service, Region Office, Atlanta, Georgia. 17 pp.

Small, J. K. 1933. Manual of the Southeastern Flora. 1972 Reprint Edition. Hafner Publishing Company, New York. 1554 pp.

Yuncker, T. G. 1943. Nomenclatural changes in the genus *Cuscuta*, and notes on some American species. Bulletin of the Torrey Botanical Club 70:61-67.

Yuncker, T. G. 1965. *Cuscuta*. North American Flora, Series II, 4:1-40.

33
512
413



County Distribution of CUHA **in** Georgia

Cuscuta harperi Small
Harper's dodder

Return to the
CUHA Plant Profile Page

Our county data are based primarily on the literature, herbarium specimens, and confirmed observations. Not all populations have been documented, however, and significant gaps in the distribution shown above may not be real. Please use the Distribution Update module to improve the data by adding your new distribution information to PLANTS. Remember that only native and naturalized populations are mapped!

Intellectual Property Statement / How to Cite the PLANTS Database

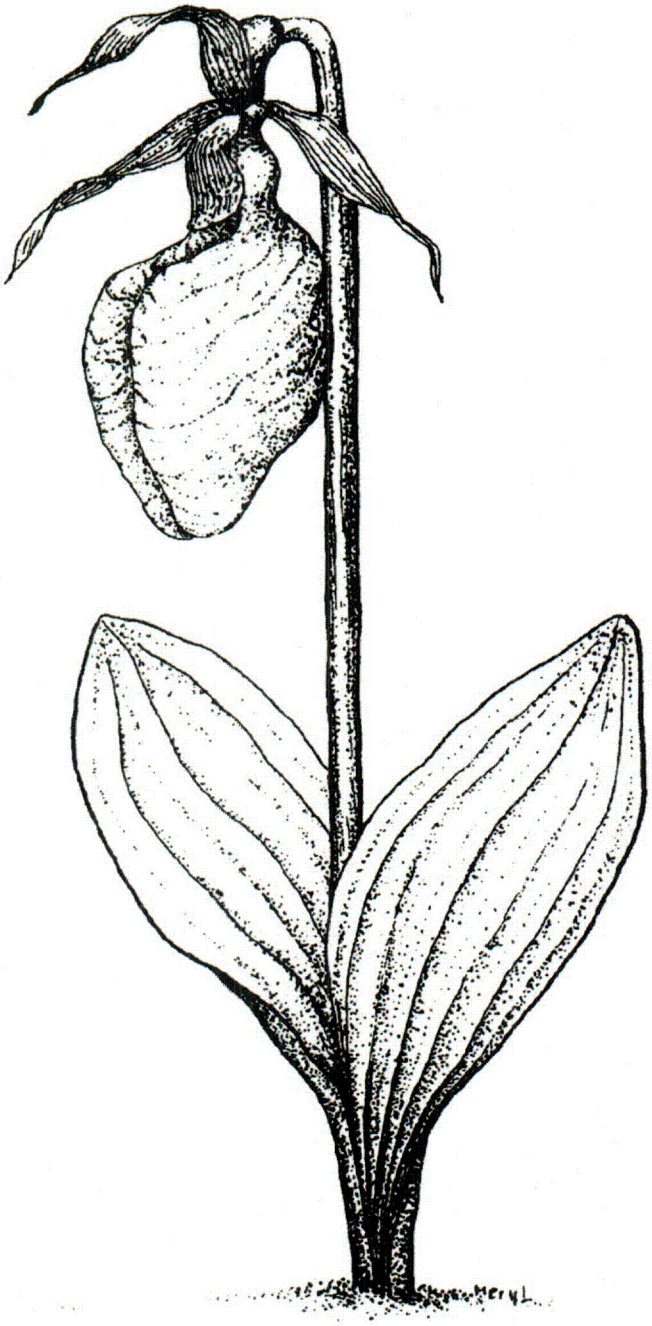
Disclaimers

Time Generated: Fri 9:14 AM - 02/11/2005

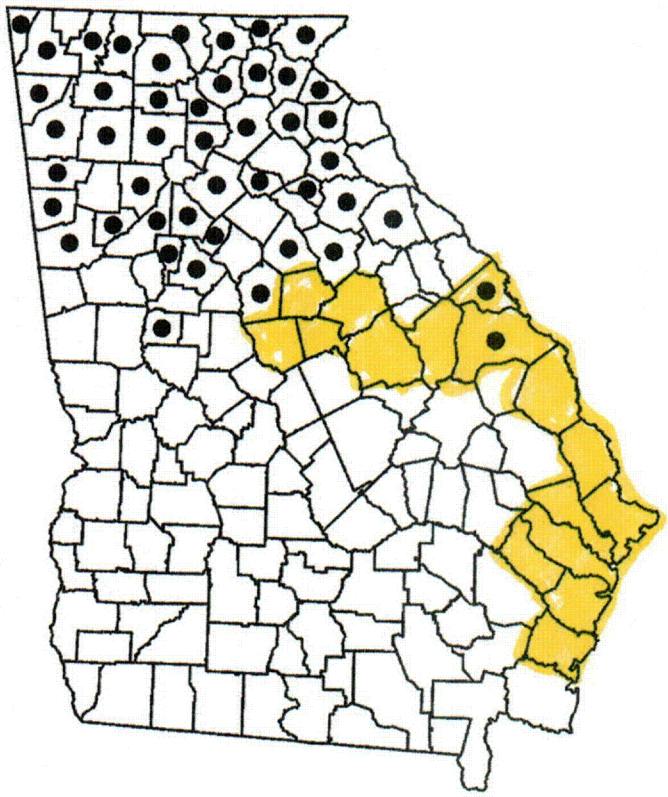
Cypripedium acaule Aiton

Moccasin Flower, Pink Ladyslipper

Orchid Family, ORCHIDACEAE



2cm on original drawing



LEGAL STATUS:
State: UNUSUAL
Federal: None

SYNONYMY: None in current usage.

RANGE: Foothills and mountains of Alabama, Georgia, South Carolina, adjacent Tennessee, and North Carolina, north to Canada. Recorded from 46 counties in Georgia (see map).

ILLUSTRATION: plant habit, showing basal pair of leaves and single, moccasin-like flower, 1x. Source: Natural Resources Defense Council (1985), drawn by Meryl Lee Hall and used with permission.

DESCRIPTION: Perennial herb. This is a showy plant up to 45 cm tall. It has two basal leaves that are hairy, with strongly raised, longitudinal veins, green above, gray beneath, and up to 24 cm long and 14 cm wide. The single flower is on a leafless flower stalk (scape) that extends well above the leaves. Two of the petals are green, and the third, the lip petal, is pink (rarely white), showy, 4-6 cm long, 2.5-3.5 cm wide, and shaped like a "slipper" or a "moccasin." The fruit is an ellipsoid capsule, 3-4 cm long, containing dustlike seeds. **Flowering period**: April to June; **fruiting period**: May to July. **Best search time**: during flowering and fruiting, since plants become dormant soon after fruiting.

From: Patrick, Allison and Krakow (1995), *Protected Plants of Georgia*, Georgia Department of Natural Resources

HABITAT: Found in acid soils of pinelands, upland hardwoods with pine, occasionally on the edges of rhododendron thickets, and in mountain bogs.

SPECIAL IDENTIFICATION FEATURES: Pink ladyslipper is easily recognized in flower, fruit, or leaf. Leaves are paired in flowering individuals, otherwise single, produced at ground level, and uniformly covered with coarse, sticky hairs. They have typical monocot venation (major veins parallel to the leaf margin), in this species forming longitudinal ridges.

MANAGEMENT RECOMMENDATIONS: Avoid disturbance. This species may require periodic forest thinning and winter burns at several-year intervals to maintain its pine-dominated habitat. Otherwise, the forest habitat may develop into a stand with too much shade or too many hardwoods. Of horticultural interest: protect from removal by irresponsible persons. Control exotic weeds, especially Japanese honeysuckle.

REMARKS: Among the plants protected by law in Georgia are a few that are not particularly rare, but have a history of exploitation that raises concern about their future. Orchids and carnivorous plants such as pitcherplants have many devotees, not all of whom exhibit a well-developed conservation ethic. Unscrupulous or thoughtless collectors and nurserymen have wiped out whole populations of these plants. Sadly, although huge quantities of *Cypripedium acaule* have been dug and offered for sale, the plants are seldom provided conditions that mimic their natural habitat well enough to result in their survival. The listing of species such as this one is done to regulate commerce in them and to protect them on public lands. For the above reasons, the Georgia Natural Heritage Program does not need to be informed of every occurrence in the state of this species. We are quite interested, however, in records from additional counties or information about large populations (100 or more flowering plants).

412 ✓ 413 ✓
420
422 ✓
440
441 443
620
980
TB

SELECTED REFERENCES

Case, F. W., Jr. 1987. Orchids of the Western Great Lakes Region. Revised Edition. Cranbrook Institute of Science Bulletin 48. 251 pp.

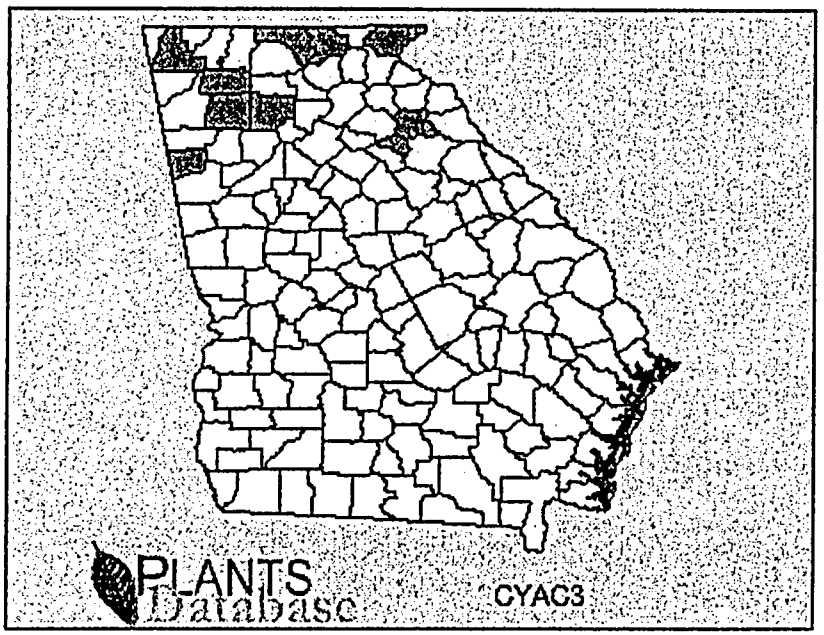
Duncan, W. H. and L. E. Foote. 1975. Wildflowers of the Southeastern United States. University of Georgia Press, Athens. 296 pp.

Luer, C. A. 1975. The Native Orchids of the United States and Canada Excluding Florida. New York Botanical Garden, Bronx. 363 pp.

Natural Resources Defense Council. 1985. Wildflowers in the Garden. Circulated brochure, Plant Conservation Project, Washington, D.C. 8 pp.

Radford, A. E., H. E. Ahles, and C. R. Bell. 1968. Manual of the Vascular Flora of the Carolinas. University of North Carolina Press, Chapel Hill. 1183 pp.

Rickett, H. W. 1966. Wild Flowers of the United States. Volume 2. The Southeastern States. McGraw-Hill, New York. 688 pp.



County Distribution of CYAC3 **in** Georgia

Cypripedium acaule Ait.
moccasin flower

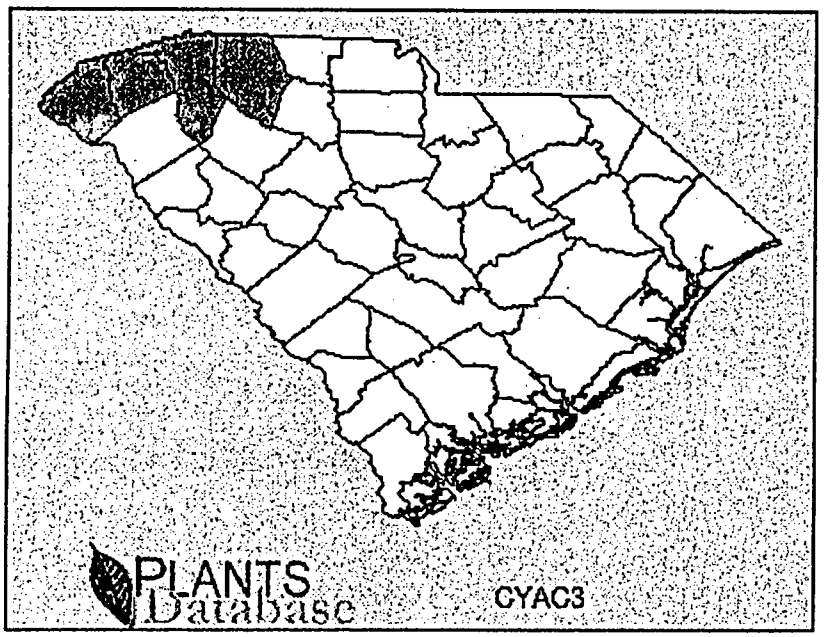
Return to the CYAC3 Plant Profile Page

Our county data are based primarily on the literature, herbarium specimens, and confirmed observations. Not all populations have been documented, however, and significant gaps in the distribution shown above may not be real. Please use the Distribution Update module to improve the data by adding your new distribution information to PLANTS. Remember that only native and naturalized populations are mapped!

Intellectual Property Statement / How to Cite the PLANTS Database

Disclaimers

Time Generated: Fri 9:22 AM - 02/11/2005



County Distribution of
CYAC3 **in** South Carolina

Cypripedium acaule Ait.
moccasin flower

Return to the
CYAC3 Plant Profile Page

Our county data are based primarily on the literature, herbarium specimens, and confirmed observations. Not all populations have been documented, however, and significant gaps in the distribution shown above may not be real. Please use the Distribution Update module to improve the data by adding your new distribution information to PLANTS. Remember that only native and naturalized populations are mapped!

Intellectual Property Statement / How to Cite the PLANTS Database

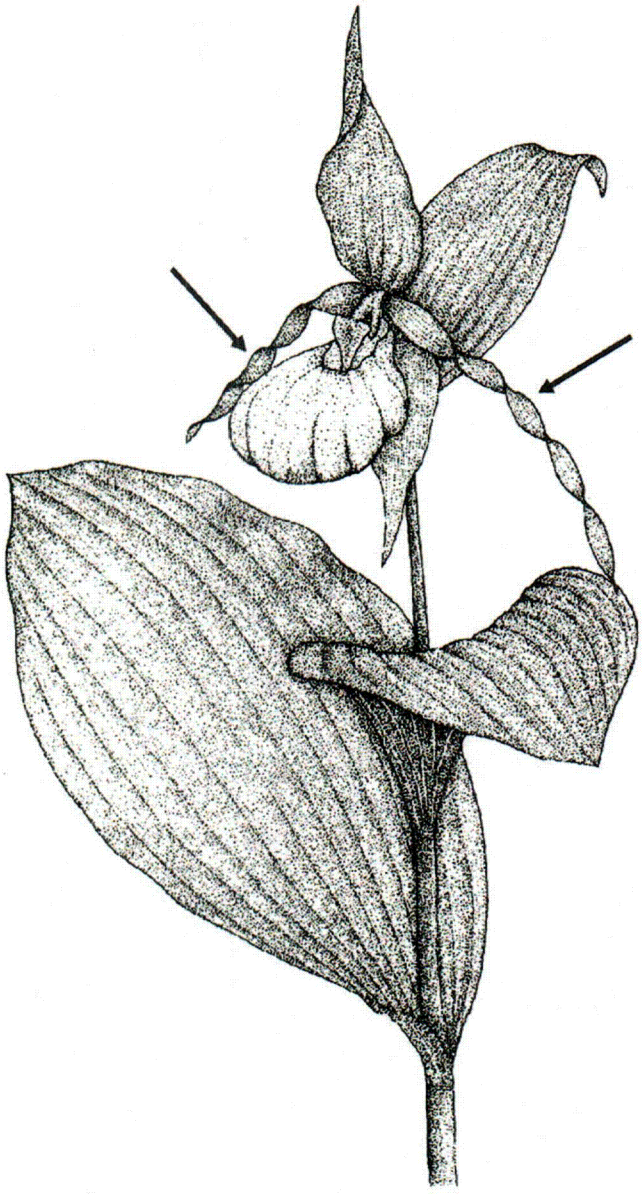
Disclaimers

Time Generated: Fri 9:22 AM - 02/11/2005

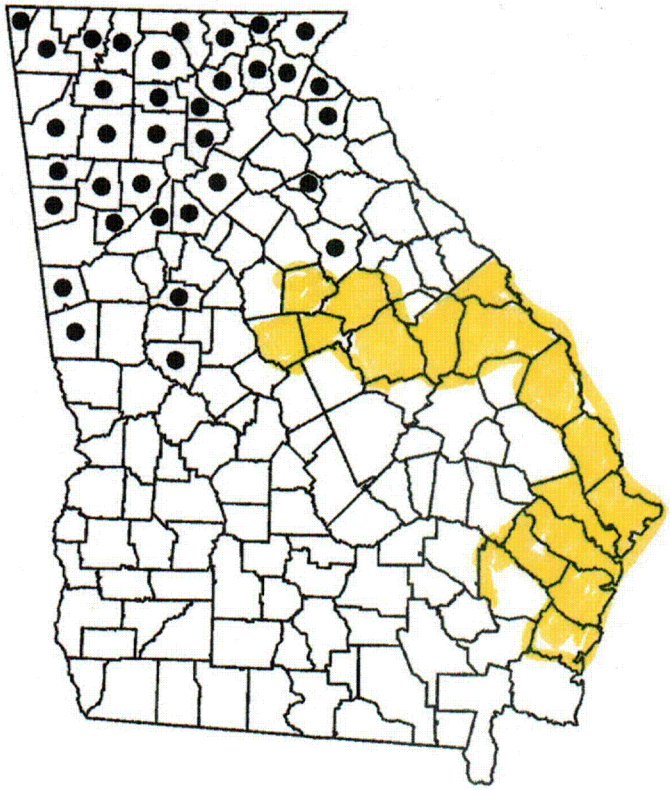
Cypripedium calceolus Linnaeus

Golden Slipper, Yellow Ladyslipper

Orchid Family, ORCHIDACEAE



2cm on original drawing



LEGAL STATUS:
State: UNUSUAL
Federal: None

SYNONYMY: *Cypripedium calceolus* Linnaeus is the name applied to all yellow ladyslippers in Georgia under provisions of Georgia's Wildflower Preservation Act. Other botanical names in current usage for the yellow ladyslippers of Georgia are:

Cypripedium calceolus subsp. *parviflorum* (Salisbury) Hultén
Cypripedium calceolus var. *parviflorum* (Salisbury) Fernald
Cypripedium calceolus var. *pubescens* (Willdenow) Correll
Cypripedium parviflorum Salisbury
Cypripedium parviflorum var. *pubescens* (Willdenow) Knight
Cypripedium pubescens Willdenow

RANGE: Foothills and mountains of Georgia and the Carolinas, west to Arizona, and north to Canada. Recorded from 35 counties in Georgia (see map).

ILLUSTRATION: upper flowering stem; note descending, twisted lateral petals; 1x. Source: Wofford (1989), drawn by José Panero and used with permission.

DESCRIPTION: Perennial herb. Yellow ladyslipper is a

showy plant up to 70 cm tall. The 3-5 leaves are alternate, hairy, prominently ribbed or veined, green above and beneath, and up to 20 cm long and 10 cm wide. The one or two flowers are terminal, with two green, purplish-streaked or entirely madder-purple, twisted lateral petals, and a yellow "slipper" (lip petal), spotted purple on the inside. The flowers are fragrant, ranging from lemony to vanilla-scented; they may vary in size of the "slipper" from 1.5-6.5 cm long, and 1.2-3.5 cm wide. The fruit is an ellipsoid capsule, to 5 cm long, conspicuously covered with small hairs, and containing an estimated 10,000 dustlike seeds. **Flowering period**: April to June; **fruiting period**: May to July. **Best search time**: during flowering and fruiting, since plants become dormant soon after fruiting.

HABITAT: Found in rich, moist, hardwood coves and forests.

SPECIAL IDENTIFICATION FEATURES: Yellow ladyslipper is easily recognized in flower, fruit, or leaf. Leaves and stems are conspicuously hairy; the hairs are straight, soft, and sticky. The leaf veins are parallel to the leaf margin, and form longitudinal ridges. Sterile specimens could be confused with pink ladyslipper, but yellow ladyslipper grows in damper, richer woods and produces an above-ground leafy stem. The small-flowered yellow ladyslipper (var. *parviflorum*) is separated from the large-flowered yellow ladyslipper (var. *pubescens*) by several seemingly variable characters, including: (1) the lip or pouch is less than 2.5 cm long; (2) the flowers are sweeter, like vanilla rather than lemony; and (3) the twisted lateral petals are entirely madder-purple and glossy, rather than dull and streaked with purple or entirely green.

MANAGEMENT RECOMMENDATIONS: Avoid disturbance. This species will tolerate hand thinning of shading trees in its vicinity, at most. Of horticultural interest: protect from removal by irresponsible persons.

REMARKS: The plants of the genus *Cypripedium* are often called ladyslippers, but might better be called Venus' slippers, for the name comes from the Latin *Cypris*, "Venus" and *pedilon*, "shoe." Although there are roughly 35 species of the genus worldwide, the typical variety of this species (var. *calceolus)* is the only *Cypripedium* native to western Europe. The plant is legally protected in Great Britain—perhaps literally *the plant* because there is reportedly only a single wild individual remaining there due to over-collecting! Of the two varieties that grow in Georgia, var. *parviflorum* is truly rare. This species is protected to ensure that the situation in Britain is not repeated in Georgia (see also the remarks for *C. acaule*).

SELECTED REFERENCES

Case, F. W., Jr. 1987. Orchids of the Western Great Lakes Region. Revised Edition. Cranbrook Institute of Science Bulletin 48. 251 pp.

Case, M. A. 1993. High levels of allozyme variation within *Cypripedium calceolus* (Orchidaceae) and low levels of divergence among its varieties. Systematic Botany 18:663-677.

Duncan, W. H. and L. E. Foote. 1975. Wildflowers of the Southeastern United States. University of Georgia Press, Athens. 296 pp.

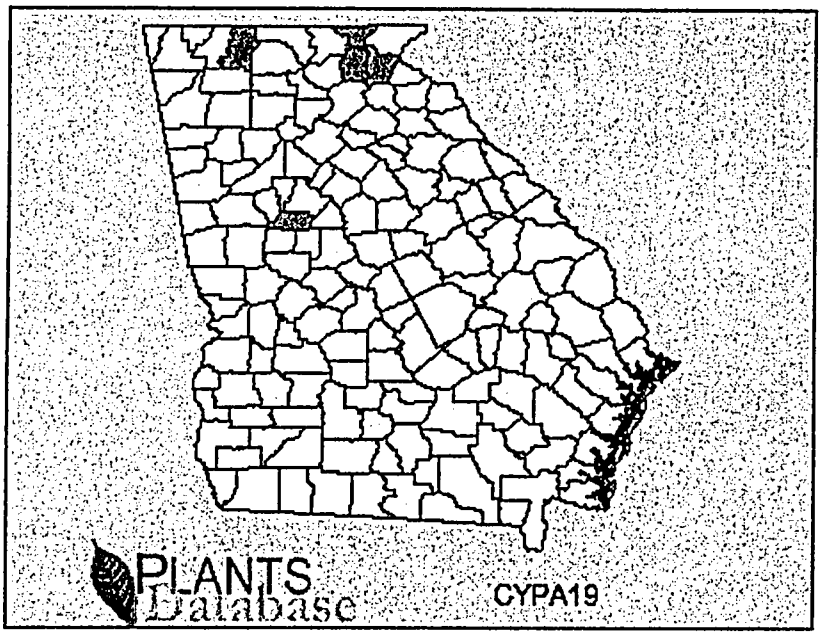
Luer, C. A. 1975. The Native Orchids of the United States and Canada Excluding Florida. New York Botanical Garden, Bronx. 363 pp.

Radford, A. E., H. E. Ahles, and C. R. Bell. 1968. Manual of the Vascular Flora of the Carolinas. University of North Carolina Press, Chapel Hill. 1183 pp.

Rickett, H. W. 1966. Wild Flowers of the United States. Volume 2. The Southeastern States. McGraw-Hill, New York. 688 pp.

Wofford, B. E. 1989. Guide to the Vascular Plants of the Blue Ridge. University of Georgia Press, Athens. 384 pp.

212
900
434



County Distribution of
CYPA19 **in** Georgia

Cypripedium parviflorum
Salisb.
lesser yellow lady's slipper

Return to the
CYPA19 Plant Profile Page

Our county data are based primarily on the literature, herbarium specimens, and confirmed observations. Not all populations have been documented, however, and significant gaps in the distribution shown above may not be real. Please use the Distribution Update module to improve the data by adding your new distribution information to PLANTS. Remember that only native and naturalized populations are mapped!

Intellectual Property Statement / How to Cite the PLANTS Database

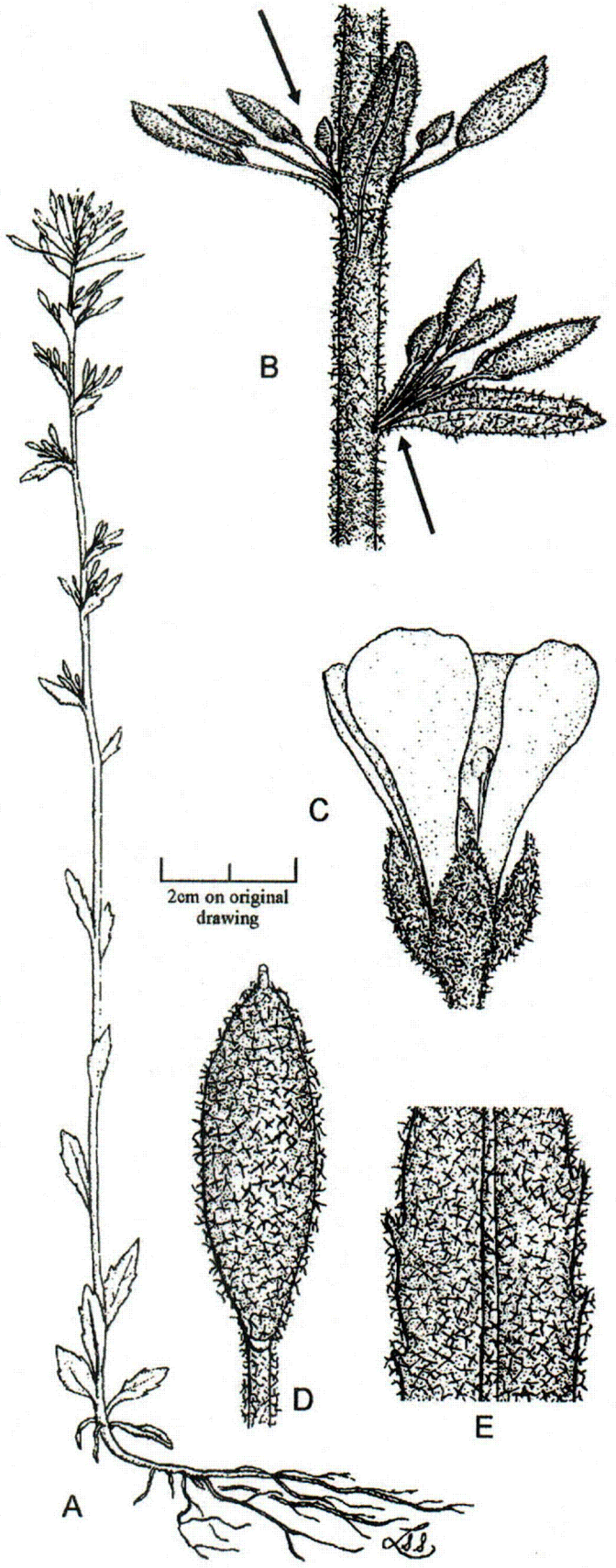
Disclaimers

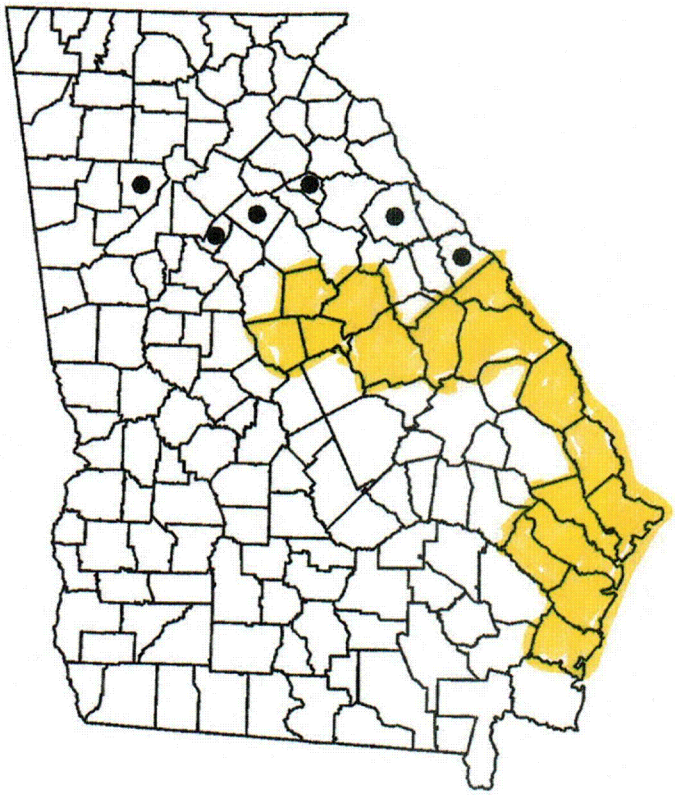
Time Generated: Fri 9:23 AM - 02/11/2005

Draba aprica Beadle

Sun-loving Draba, Open-ground Draba, Granite Whitlow-grass

Mustard Family, BRASSICACEAE





LEGAL STATUS:
State: ENDANGERED
Federal: None

SYNONYMY: None in current usage.

RANGE: Ozark Plateau of Arkansas and southern Missouri; disjunct in the Piedmont of Georgia and South Carolina. Recorded from six counties in Georgia (see map).

ILLUSTRATION: (A) plant habit, 1x; (B) stem, upper portion, with fruit clusters in leaf axils, 3x; (C) flower, profile, 15x; (D) fruit, 10x; note tiny branched hairs; (E) leaf, underside, 15x, also with tiny branched hairs. Source: Gaddy (1980), drawn by Susan Sizemore and used with permission.

DESCRIPTION: annual herb. *Draba aprica* is 8-20 cm tall; the stems, leaves, sepals, and fruits are covered with tiny, branched, stalkless hairs (best seen with 10x lens). The basal leaves are narrowly obovate, elliptic, or lanceolate, have 1-2 teeth per side, and are 1.5-3.0 cm long; the stem leaves are alternate, widely spaced, and similar in size and shape to the basal leaves. The flowers are produced at the leaf bases in congested, axillary clusters and also terminally. The four white petals are up to 3 mm long, and rounded to slightly notched at the apex. The fruit is a bivalved pod, narrowly ellipsoid, 2-6 mm

From: Patrick, Allison and Krakow (1995), *Protected Plants of Georgia*, Georgia Department of Natural Resources

long, 0.8-1.2 mm wide, covered with minute, branched or star-shaped hairs (must use 10x hand lens). **Flowering period**: March to April; **fruiting period**: April to May. **Best search time**: during fruiting, since branched hairs on fruits are diagnostic.

HABITAT: Found in shallow soils on granitic outcrops, especially beneath widely scattered, old-growth eastern redcedar (*Juniperus virginiana*).

SPECIAL IDENTIFICATION FEATURES: On Georgia's granitic outcrops there are three drabas. Vernal whitlow-grass (*Draba verna* or *Erophila verna*), has basal leaves only, strongly notched (cleft) petals, and broader (2-3 mm), smooth fruits. Short-fruited draba (*D. brachycarpa*) closely resembles *D. aprica*, but has smooth fruit (lacking hairs), tends to branch more freely, and produces more elongated axillary flower clusters (the axillary branchlets well over 1 cm in length). In contrast, *D. aprica* has fruits covered with branched hairs, and has congested axillary flower clusters (the axillary branchlets 1 cm or less in length).

MANAGEMENT RECOMMENDATIONS: Control exotic weeds, especially Japanese honeysuckle.

REMARKS: This species was first collected in 1819 from Arkansas by Thomas Nuttall, and described as *Draba brachycarpa* var. *fastigiata* in 1838. Nuttall (1786-1859) was a Philadelphia botanist and ornithologist who discovered many new species of plants, especially in the midwestern states. In 1901 collectors of the Biltmore Herbarium collected a *Draba* at Kennesaw Mountain National Battlefield Park, Cobb County, Georgia; C. D. Beadle described *D. aprica* in 1913, based on this collection. In 1961 the foremost American authority on the mustard family, Reed C. Rollins, suggested that both names represented the same, distinct species. The accepted name, therefore, is *D. aprica*, the first (and only) name for the plant published previously at the level of species. It is probable that most of the fruits produced by this species are the product of self-fertilization rather than cross-pollination. Even when the tiny flowers are at their most conspicuous they would appear to be poor attractants to insect visitors. The more so since plants of this species seldom form the dense patches common with some other granite outcrop plants, such as granite stonecrop (*Sedum pusillum*). Such cross-pollination as does occur surely takes place mostly early in the flowering season, for the petals tend to be best developed on the earlier flowers of an individual plant. As the brief flowering season progresses, the petals of the newer flowers tend to be progressively shorter, and by late in the season the flowers lack petals altogether. In the smallest plants petals may not develop at all. *Draba aprica* is rare throughout its range. In the Southeast it is known from only nine sites in Georgia and approximately three in South Carolina. Several of these populations face imminent peril. It is slightly more abundant on the Ozark Plateau. *Draba aprica* is a rare disjunct in Georgia, one that has sustained significant habitat loss in the Southeast due chiefly to quarrying of granite outcrops.

SELECTED REFERENCES

Fernald, M. L. 1934. *Draba* in temperate northeastern America. Rhodora 34:361-363.

Gaddy, L. L. 1980. A status survey of *Draba aprica* Beadle. United States Fish and Wildlife Service, Field Office, Asheville, North Carolina. 31 pp.

Radford, A. E., H. E. Ahles, and C. R. Bell. 1968. Manual of the Vascular Flora of the Carolinas. University of North Carolina Press, Chapel Hill. 1183 pp.

Rickett, H. W. 1966. Wild Flowers of the United States. Volume 2. The Southeastern States. McGraw-Hill, New York. 688 pp.

Steyermark, J. A. 1963. Flora of Missouri. Iowa State University Press, Ames. 1725 pp.

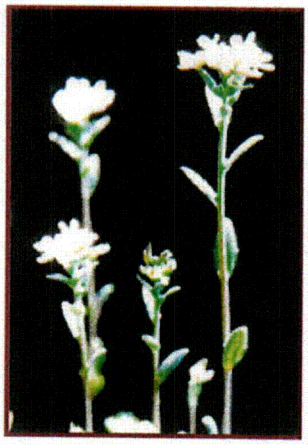
413

US Army Corps of Engineers

Threatened & Endangered Species of the Upper Savannah River Basin

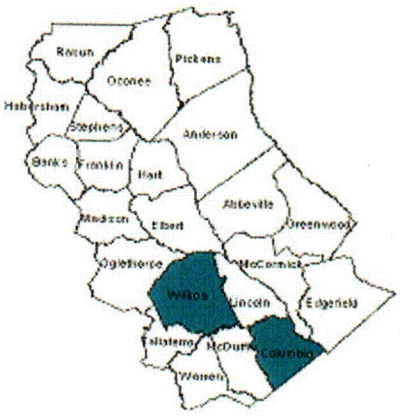
PLANTS

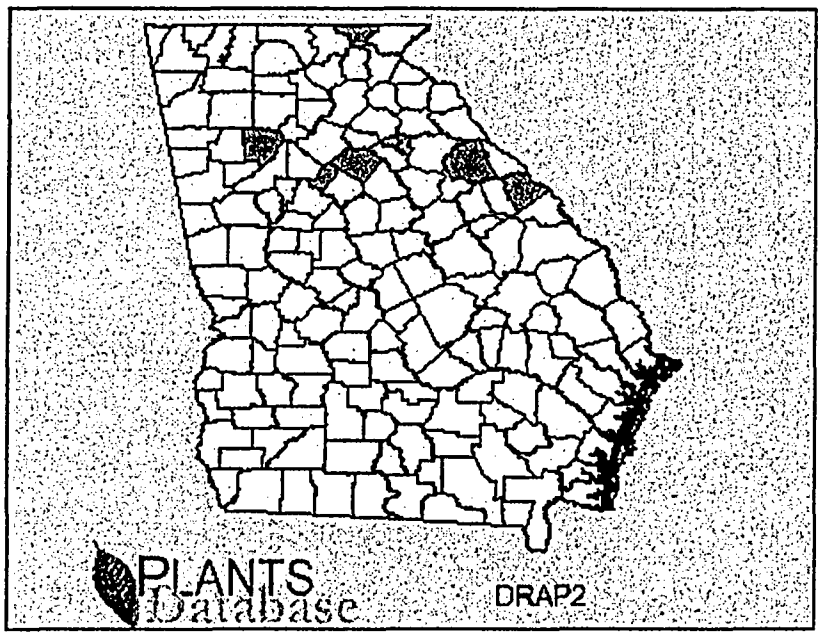
Sun-Loving Draba or Ground Whitlow-Grass *(Draba aprica)*



General Description: This annual is from 6-12in (15-30cm) tall. Basal leaves have 1-2 teeth per side, and are 0.5-0.75in (1-2cm) long and rounded. Flowers are produced at the base of the side branches and also terminal. The flowers have four white petals that are less than 0.1in (3mm) long and have a small notch at the apex. The fruit is a narrowly elliptic, two-parted pod (short silique or silicle), 0.15-0.2in (4-6mm) long and is covered with tiny star-shaped hairs. Draba brachycarpa strongly resembles this species but has hairless fruits and more elongated lower branches. Draba aprica flowers from March to April and the fruiting period is from April to May.

General Habitat: Found in shallow soils on granitic outcrops, especially beneath widely scattered, old-growth eastern redcedar (Juniperus virginiana).





County Distribution of
DRAP2 in Georgia

Draba aprica Beadle
openground draba

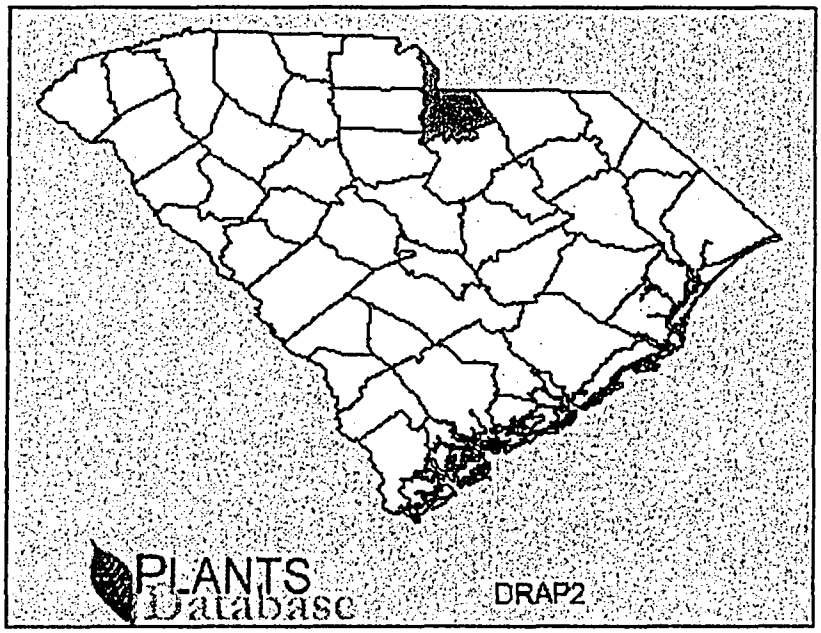
Return to the
DRAP2 Plant Profile Page

Our county data are based primarily on the literature, herbarium specimens, and confirmed observations. Not all populations have been documented, however, and significant gaps in the distribution shown above may not be real. Please use the Distribution Update module to improve the data by adding your new distribution information to PLANTS. Remember that only native and naturalized populations are mapped!

Intellectual Property Statement / How to Cite the PLANTS Database

Disclaimers

Time Generated: Fri 9:24 AM - 02/11/2005



County Distribution of
DRAP2 **in** South Carolina

Draba aprica Beadle
openground draba

Return to the
DRAP2 Plant Profile Page

Our county data are based primarily on the literature, herbarium specimens, and confirmed observations. Not all populations have been documented, however, and significant gaps in the distribution shown above may not be real. Please use the Distribution Update module to improve the data by adding your new distribution information to PLANTS. Remember that only native and naturalized populations are mapped!

Intellectual Property Statement / How to Cite the PLANTS Database

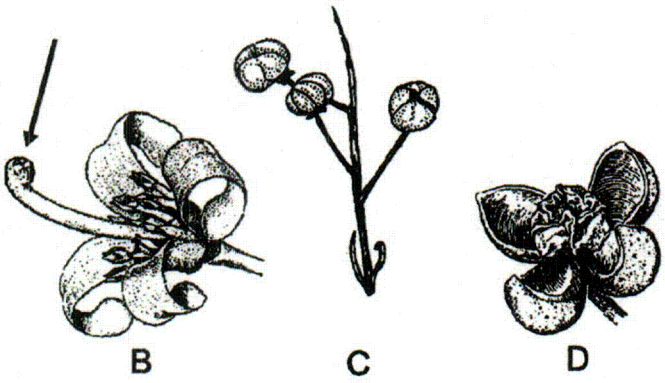
Disclaimers

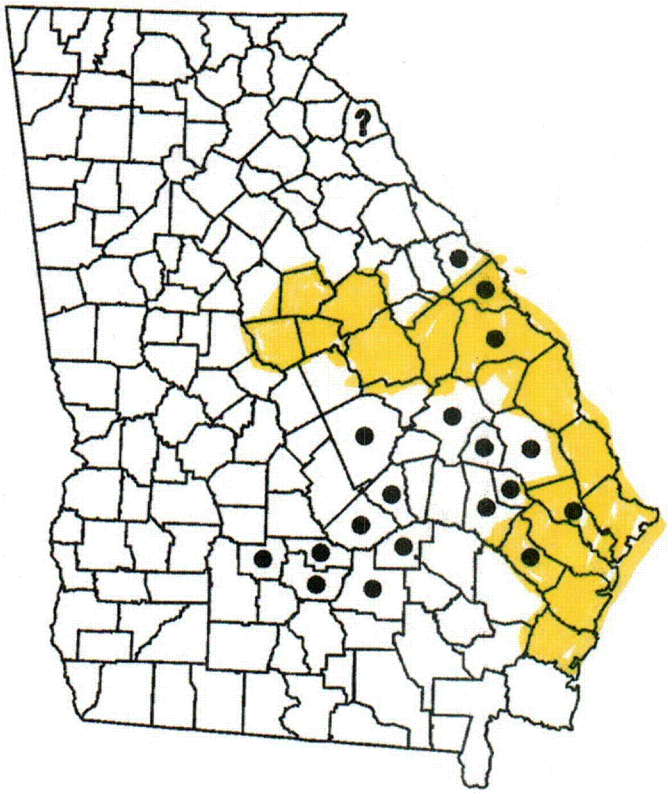
Time Generated: Fri 9:25 AM - 02/11/2005

Elliottia racemosa Muhlenberg ex Elliott

Georgia Plume, Elliottia

Heath Family, ERICACEAE





LEGAL STATUS:
State: THREATENED
Federal: None

SYNONYMY: None in current usage.

RANGE: Coastal Plain, rarely Piedmont, of Georgia; no longer found in adjacent South Carolina. Recorded from 19 counties in Georgia, including an ambiguous report from Hart County (see map).

ILLUSTRATION: (A) flowering twig, with long terminal "plume" of blooms, 0.5x; (B) flower, mature, 2x; note long-protruding style; (C) sparse fruits (capsules), in late summer, 1x; (D) open fruit, showing the four valves and winged seeds within, 1.2x. Source: (A, B, D) Wood (1961), drawn by Dorothy H. Marsh; (C) Harrar and Harrar (1962), drawn by Helene S. Millar; all used with permission.

DESCRIPTION: Deciduous small tree or shrub. Elliottia grows to 10 m or more tall; some plants have multiple trunks due to root sprouting following injury, such as from cutting or fire. The bark is gray and furrowed. The leaves are alternate, elliptic, and 4-12 cm long, 3-5 cm wide, tapering at both ends, with a tiny (0.5 mm long) bristle at the apex, and sometimes covered with soft hairs on the underside. Produced at the ends of the higher branches, the multi-flowered, plume-shaped flower cluster is quite

showy, 1.5-3.0 dm long, unbranched (racemose) or branched (paniculate) near the base, and erect. The flowers have four white petals, each 12-14 mm long, strap-shaped, and becoming recurved. The flowers have 4-10 (usually 8) stamens and a single ovary with a somewhat incurved, long-protruding style. The fruit is a globose capsule, 10-12 mm in diameter, opening by 4-5 valves, exposing up to about 40, flattened, marginally winged, light-brown seeds, each 3-4 mm long. **Flowering period:** June to July, sporadically to September; **fruiting period:** July to December. **Best search time:** during flowering, since plants are most conspicuous when in flower.

HABITAT: Found on sand ridges, dry oak ridges, evergreen hammocks, and sandstone outcrops (Altamaha Grit) in a variety of sandy soil conditions ranging from moist to extremely dry (xeric).

SPECIAL IDENTIFICATION FEATURES: In its tree form, Georgia plume resembles sourwood (*Oxydendrum arboreum*) with its furrowed bark, terminal clusters of white blooms, and similar leaves. Elliottia flowers are 4-parted, the strap-shaped petals are separate and the style long-protruding. Sourwood, on the other hand, has urn-shaped flowers, 5-parted, with petals united. Elliottia leaves have entire margins, undersides are smooth or softly hairy with smooth central veins, and tips have tiny bristles. In contrast, sourwood leaves have toothed margins, undersides are smooth with long, stiff hairs on the central veins, and tips are without bristles. In its shrub form, Georgia plume vegetatively resembles horse-sugar (*Symplocos tinctoria*). Horse-sugar has sweet-tasting, rather fleshy leaves on stout twigs (the twig pith is divided into chambers). Georgia plume has bitter-tasting, thinner leaves on narrower, somewhat 3-angled twigs (the twig pith is solid).

MANAGEMENT RECOMMENDATIONS: At the moister sites, hand thinning of shading trees in its vicinity and controlled burning at long intervals may be beneficial to this species.

REMARKS: The famed naturalist William Bartram (1739-1823) observed and collected this species in 1773, somewhere near the Savannah River in Georgia. Based on an interpretation of Bartram's "Travels," it has been suggested that he saw it in present-day Hart County, well removed from any populations known today. It was not collected again until about 1808, when Stephen Elliott found it near Waynesboro (Burke County). Henry Muhlenberg named the genus in Elliott's honor in 1810, for Bartram's earlier specimen lay unnoticed in the British Museum. Allegedly *Elliottia* occurred at two places in South Carolina, but these reports may have been based on transplanted material. Although it persisted in cultivation, no wild populations were known to science after about 1875 until 1901, when J. Walter Hendricks and Roland Harper rediscovered it in present-day Candler County. It has since been found at about three dozen other locations, all in Georgia. *Elliottia* was formerly considered to contain a single species, *E. racemosa*, until Bohm et al. (1978) transferred the solitary species of *Cladothamnus* (of the Pacific Northwest) and the two species of *Tripetaleia* (Japan) into this genus. *Elliottia racemosa* is rare throughout its limited range, and has sustained significant habitat loss due to clearing of forest land for conversion to agricultural land or pine plantation.

SELECTED REFERENCES

Bohm, B. A, S. W. Brim, R. J. Hebda and P. F. Stevens. 1978. Generic limits in the tribe Cladothamnae (Ericaceae), and its position in the Rhododendroideae. Journal of the Arnold Arboretum 59:311-341.

Brown, C. L. and L. K. Kirkman. 1990. Trees of Georgia and Adjacent States. Timber Press, Portland, Oregon. 292 pp.

Copeland, H. F. 1943. A study, anatomical and taxonomic, of the genera of Rhododendroideae. American Midland Naturalist 30:533-625.

Dirr, M. A. 1990. Manual of Woody Landscape Plants. Fourth Edition. Stipes Publishing Company, Champaign, Illinois. 1007 pp.

Duncan, W. H. and M. B. Duncan. 1988. Trees of the Southeastern United States. University of Georgia Press, Athens. 322 pp.

Harrar, E. S. and J. G. Harrar. 1962. Guide to Southern Trees. Second Edition. Dover Publication, New York. 712 pp.

Small, J. K. 1933. Manual of the Southeastern Flora. 1972 Reprint Edition. Hafner Publishing Company, New York. 1154 pp.

Wood, C. E., Jr. 1961. Genera of Ericaceae. Journal of the Arnold Arboretum 42:20-23.

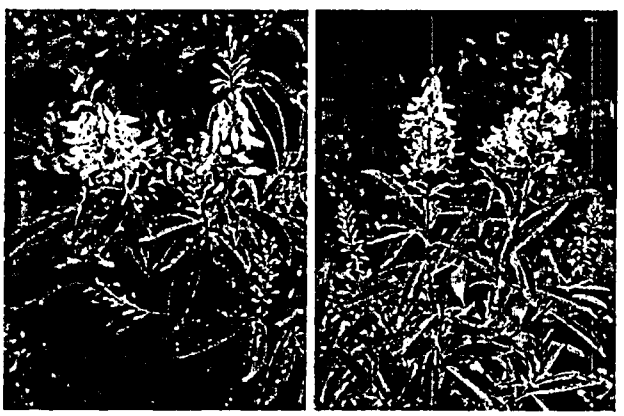
413

512

990

Georgia Plume

Elliottia racemosa



State Heritage Status Rankings

Georgia (S2/S3), South Carolina (SH)

Description: Georgia plume is a rare deciduous shrub or small tree with furrowed gray bark obtaining a height of up to 45 feet. The alternately arranged leaves are elliptic to oval in shape and are 4 to 12 cm in length by 3 to 5 cm in width tapering at both ends. The leaves, with a tiny (0.5 mm) bristle at the apex, are also sometimes lightly pubescent on the undersides with entire margins and a central vein. Between September and October the foliage turns bright crimson-red in color. The fruit is a round capsule 10 to 14 mm in diameter produced from July to August. A

dense terminal cluster of showy, plume-shaped flowers is a distinctive characteristic of the species. The flowers exhibit 4 or 5 white lobed petals, each being up to 14 mm in length. Georgia plume flowers between the months of June and July.

Habitat: Georgia Plume in habits generally sunny to partially shady conditions on sand ridges, oak ridges, evergreen hammocks, and sandstone outcrops. The known locations in Georgia are mostly within the Altamaha- Ogeechee-Savannah river drainage system. Although this species is rare and localized, it occurs on a wide variety of sandy soil conditions ranging from moist to extremely dry.

Range: Georgia plume is currently known to exist only in Georgia, where there are approximately 70 naturally occuring populations. The only colony known to occur in South Carolina has been extirpated (NatureServe, 2003).

References

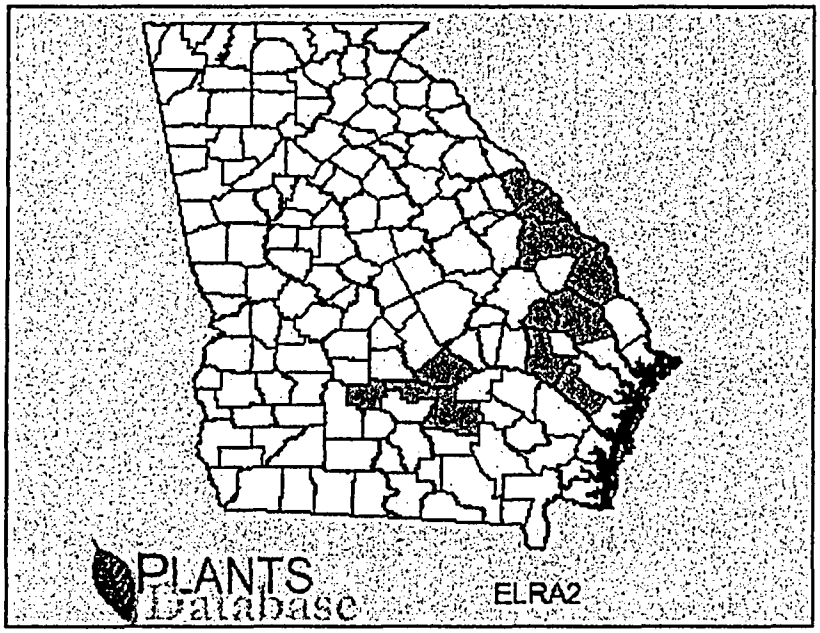
NatureServe. 2003. Internet Resource. NatureServe.

Patrick, T.S., Allison, J.R., and Krakow, G.A. 1995. Protected Plants of Georgia: AN INFORMATION MANUAL ON PLANTS DESIGNATED BY THE STATE OF GEORGIA AS ENDANGERED, THREATENED, RARE, OR UNUSUAL. Georgia Natural Heritage Program. Internet Resource. Protected Plants of Georgia.

Radford, A.E., Ahles, H.E., Bell, C.R. 1968. Manual of the Vascular Flora of the Carolinas. The University of North Carolina Press, Chapel Hill, North Carolina.

USDA, NRCS. 2002. The PLANTS Database, Version 3.5. Internet Resource USDA Plants Database. National Plant Data Center, Baton Rouge, LA 70874-4490 USA.

Weakley, A.S. July 2002. Flora of the Carolinas and Virginia, Working Draft. Internet Resource. Flora of the Carolinas and Virginia.



County Distribution of ELRA2 **in** Georgia

Elliottia racemosa Muhl. ex Ell.
georgiaplume

Return to the ELRA2 Plant Profile Page

Our county data are based primarily on the literature, herbarium specimens, and confirmed observations. Not all populations have been documented, however, and significant gaps in the distribution shown above may not be real. Please use the Distribution Update module to improve the data by adding your new distribution information to PLANTS. Remember that only native and naturalized populations are mapped!

Time Generated: Fri 9:31 AM - 02/11/2005

Epidendrum conopseum R. Brown in Aiton f.

Greenfly Orchid

Orchid Family, ORCHIDACEAE

LEGAL STATUS:
State: UNUSUAL
Federal: None

SYNONYMY:
Amphiglottis conopsea (R. Brown in Aiton f.) Small

RANGE: Southeastern Coastal Plain from North Carolina to Louisiana; disjunct in eastern Mexico. Recorded from 20 counties in Georgia (see map).

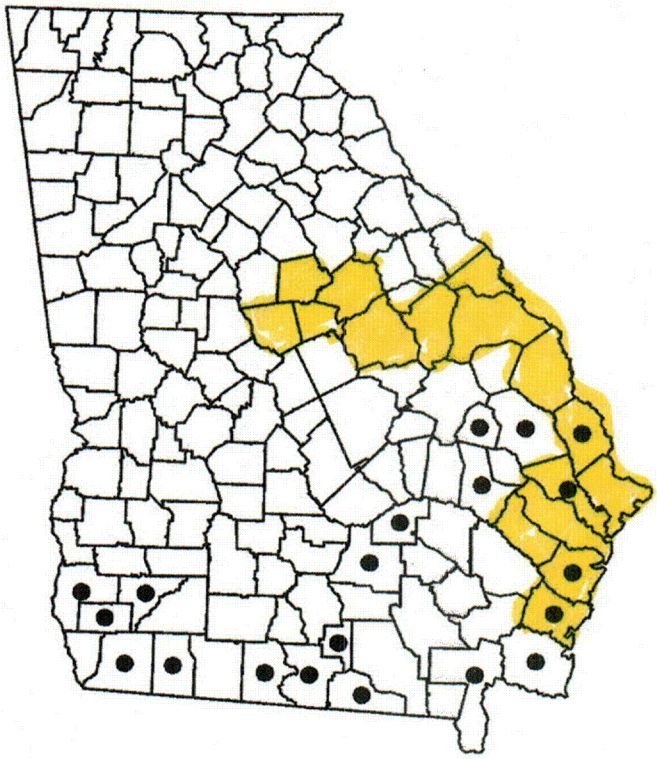


ILLUSTRATION: Plant habit, with substrate either tree bark or rock faces, 1x. Source: original drawing by Vicky Holifield.

DESCRIPTION: Perennial herb on trees (epiphytic) or rocks (epipetric). The leafy stems extend to 30 cm and are attached to the substrate by a mass of slender roots. The leaves are leathery, evergreen, narrowly elliptic, dull green, 3-10 cm long, and 5-15 mm wide. The flowers are 2-3 cm wide, arranged in a loose terminal cluster (raceme). The three sepals and two lateral petals are mostly yellowish-green, about 1.0-1.2 cm long; the 3-lobed lip petal is tinged with dull purple. The fruit is an elliptic, drooping capsule, 1.5-2.0 cm long, and 0.8-1.0 cm

From: Patrick, Allison and Krakow (1995). *Protected Plants of Georgia*. Georgia Department of Natural Resources

wide. **Flowering period**: June to July, sporadically to October; **fruiting period**: September to January. **Best search time**: all year, since plants have evergreen leaves.

HABITAT: Found in moist to seasonally dry woods on shaded limbs of hardwoods, especially southern magnolia (*Magnolia grandiflora*) and live oak (*Quercus virginiana*), and the walls of deep sandstone (actually hardened clay known as Altamaha Grit) crevices kept cool by shade and evaporation of moisture.

SPECIAL IDENTIFICATION FEATURES: Greenfly orchid is Georgia's only orchid perched on trees, where it is often associated with resurrection fern (*Pleopeltis polypodioides*, more widely known as *Polypodium polypodioides*) and air plants (*Tillandsia* spp.). When terrestrial (on rock), greenfly orchid is distinguished from our other orchids by its evergreen, leafy, flowering stem with inconspicuously colored (greenish-yellow, sometimes with purplish tinge), loosely arranged flowers.

MANAGEMENT RECOMMENDATIONS: Of horticultural interest: protect from removal by irresponsible persons.

412
413
434
900

REMARKS: *Epidendrum* is a genus of roughly 500 species found in the warmer portions of the New World. The genus name derives from the Greek words for "on tree," appropriate for a group comprised of non-parasitic plants that grow perched on trees (epiphytes). Most of the species are showier than the present species, and many are cultivated. This species was described in 1813, based on plants collected earlier in Florida by William Bartram. *Epidendrum conopseum* is the most frost-tolerant of our epiphytic orchids, and therefore is sometimes collected from the wild in excess by unscrupulous or unthinking orchid growers or dealers. It has also sustained significant habitat loss due to clearing of forest land, chiefly for conversion to agricultural land or pine plantation.

SELECTED REFERENCES

Bell, C. R. and B. J. Taylor. 1982. Florida Wild Flowers. Laurel Hill Press, Chapel Hill, North Carolina. 308 pp.

Correll, D. S. 1978. Native Orchids of North America. Stanford University Press, California. 400 pp.

Luer, C. A. 1972. The Native Orchids of Florida. New York Botanical Garden, Bronx. 295 pp.

Radford, A. E., H. E. Ahles, and C. R. Bell. 1968. Manual of the Vascular Flora of the Carolinas. University of North Carolina Press, Chapel Hill. 1183 pp.

Rickett, H. W. 1966. Wild Flowers of the United States. Volume 2. The Southeastern States. McGraw-Hill, New York. 688 pp.

DiscoverOrchids.com

Epidendrum conopseum

This is a wild Florida Orchid that smell like honey and you can smell it in the house from the greenhouse. A wild plant photo is to the left.

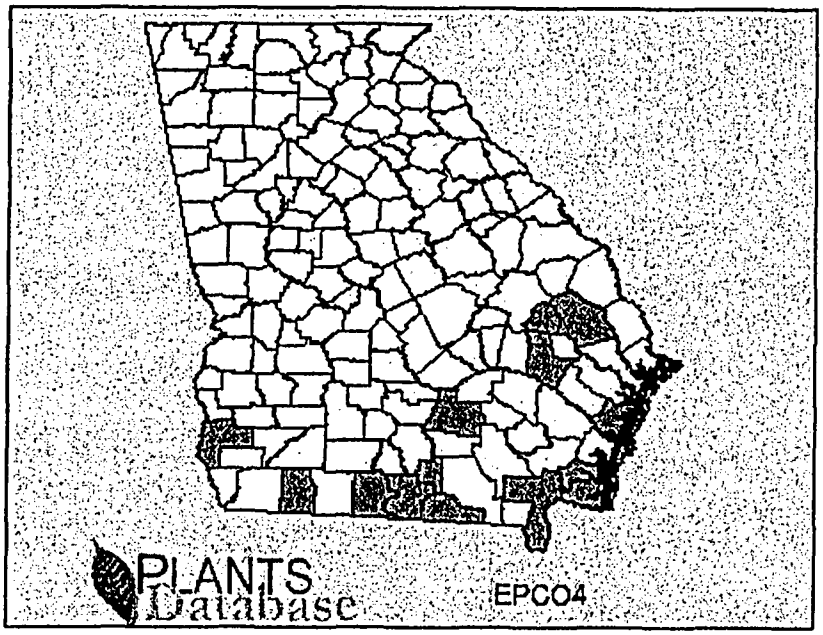
Hit back to return

OR

Return to www.discoverorchids.com

Return to Discover Orchids Bloom & Plant Index

If you would like to obtain a division of this plant or any other on our web pages please send



County Distribution of
EPCO4 **in** Georgia

Epidendrum conopseum Ait.
f.
green fly orchid

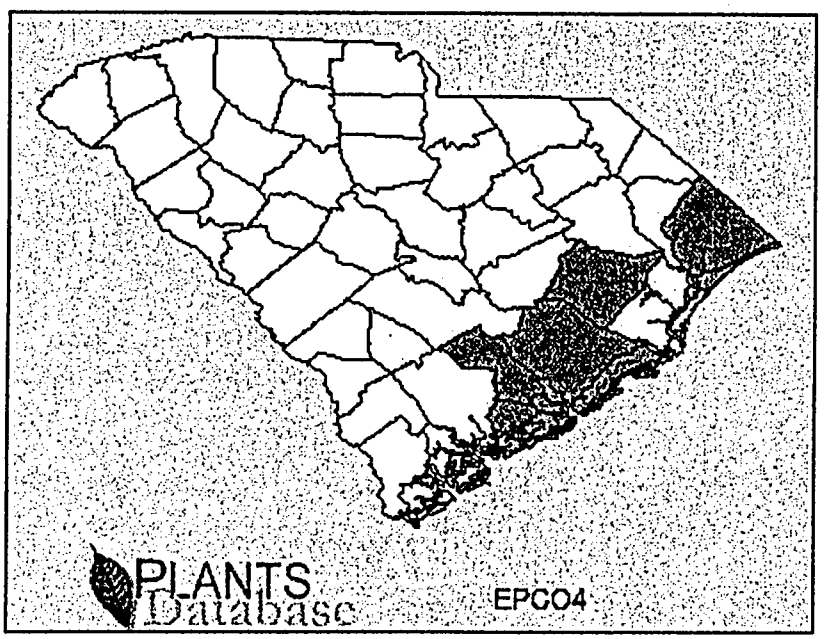
Return to the
EPCO4 Plant Profile Page

Our county data are based primarily on the literature, herbarium specimens, and confirmed observations. Not all populations have been documented, however, and significant gaps in the distribution shown above may not be real. Please use the Distribution Update module to improve the data by adding your new distribution information to PLANTS. Remember that only native and naturalized populations are mapped!

Intellectual Property Statement / How to Cite the PLANTS Database

Disclaimers

Time Generated: Fri 9:35 AM - 02/11/2005



County Distribution of
EPCO4 **in** South Carolina

Epidendrum conopseum Ait.
f.
green fly orchid

Return to the
EPCO4 Plant Profile Page

Our county data are based primarily on the literature, herbarium specimens, and confirmed observations. Not all populations have been documented, however, and significant gaps in the distribution shown above may not be real. Please use the Distribution Update module to improve the data by adding your new distribution information to PLANTS. Remember that only native and naturalized populations are mapped!

Intellectual Property Statement / How to Cite the PLANTS Database

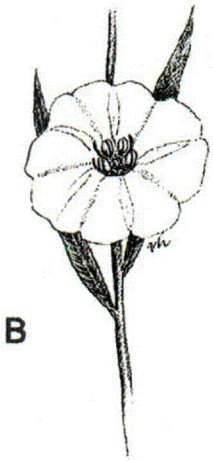
Disclaimers

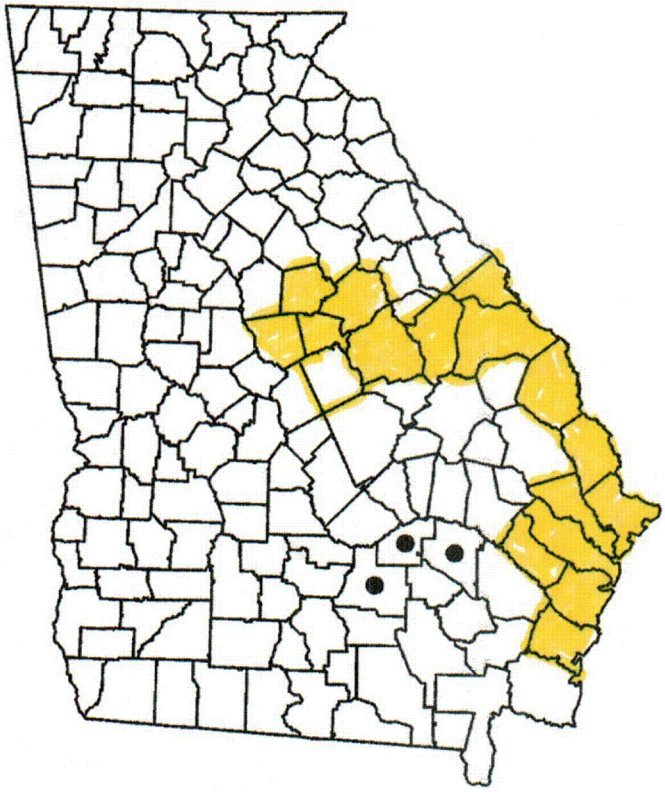
Time Generated: Fri 9:35 AM - 02/11/2005

Evolvulus sericeus Swartz

Silky Morning-glory, Creeping Morning-glory

Morning-glory Family, CONVOLVULACEAE





LEGAL STATUS:
State: ENDANGERED
Federal: None

SYNONYMY:
Evolvulus sericeus Swartz var. *sericeus*

RANGE: Wide-ranging in the Western Hemisphere, reaching its northern limit in the southern United States, mostly in Texas, local in other states from California to Louisiana, somewhat disjunct on the Florida Panhandle and in central peninsular Florida, with additional outlier populations in Arkansas and southcentral Georgia. Recorded from three counties in Georgia (see map).

ILLUSTRATION: (A) plant habit, 0.75x, the normally trailing stems drawn as though upright; (B) flower detail, 2x. Source: original drawing by Vicky Holifield.

DESCRIPTION: Perennial, creeping to reclining herb. The stems are wand-like, to 3 dm long, and radiate from the central thickened base. The leaves are 0.5-2.5 cm long, entire, matted with silky hairs beneath, linear to oblong, and tapered at both ends. The flowers are solitary in the leaf axils and nearly stalkless (sessile). The five petals are white and fused together to form a saucer-shaped corolla, 8-12 mm wide. The ovary has two distinct styles, each deeply 2-cleft, producing four linear stigmas. The fruit is a 4-seeded, globose capsule, 5-7 mm in diameter. **Flowering**

period: April to July; **fruiting period:** July to September. **Best search time:** during flowering and fruiting, since flowers or fruits with the leafy stems are needed for positive identification.

HABITAT: Found in sparsely vegetated, partially shaded outcrops of the Altamaha Formation (Altamaha Grit), a coarse, gritty, resilient, sandstone-like, hardened clay.

SPECIAL IDENTIFICATION FEATURES: The creeping, non-twining habit, the silkiness of the hairs on the undersides of the leaves, and the nearly stalkless (sessile) axillary flowers or fruits identify *Evolvulus sericeus*. All other morning-glories tend to twine up vegetation or have long-stalked, sometimes clustered, flowers. Several other morning-glories have silky, matted hairs, but their flowers are larger (wider than 12 mm) and distinctly stalked.

MANAGEMENT RECOMMENDATIONS: Hand thinning of shading trees may be beneficial to this species.

REMARKS: The genus *Evolvulus* consists of roughly 100 species, all but two confined to the New World, where most species are found in the warmer regions. A second variety of *E. sericeus*, var. *glaberrimus*, occurs in southern peninsular Florida and in Belize (Ward, 1968). Most of the populations of var. *sericeus* occur in South and Central America. There are also numerous sites in Texas and several in Florida. The first Georgia collection was made in the early to mid-1800s, but it was not collected again in the state until 1970. *Evolvulus sericeus* has been found in Georgia only within a relatively limited area. In this state it is a rare disjunct.

SELECTED REFERENCES

Bridges, E. L. and S. L. Orzell. 1989. *Evolvulus sericeus* (Convolvulaceae) in Georgia, with floristic and ecological notes. Sida 13:509-512.

Clewell, A. F. 1985. Guide to the Vascular Plants of the Florida Panhandle. Florida State University Press, Tallahassee. 605 pp.

Rickett, H. W. 1966. Wild Flowers of the United States. Volume 2. The Southeastern States. McGraw-Hill, New York. 688 pp.

Ward, D. B. 1968. Contributions to the flora of Florida—3, *Evolvulus* (Convolvulaceae). Castanea 33:76-79.

Fothergilla gardenii Murray

Dwarf Witch-alder

Witch-hazel Family, HAMMAMELIDACEAE

LEGAL STATUS:
State: THREATENED
Federal: None

SYNONYMY: None in current usage.

RANGE: Coastal Plain from Alabama and Panhandle Florida to North Carolina. Recorded from nine counties in Georgia (see map).

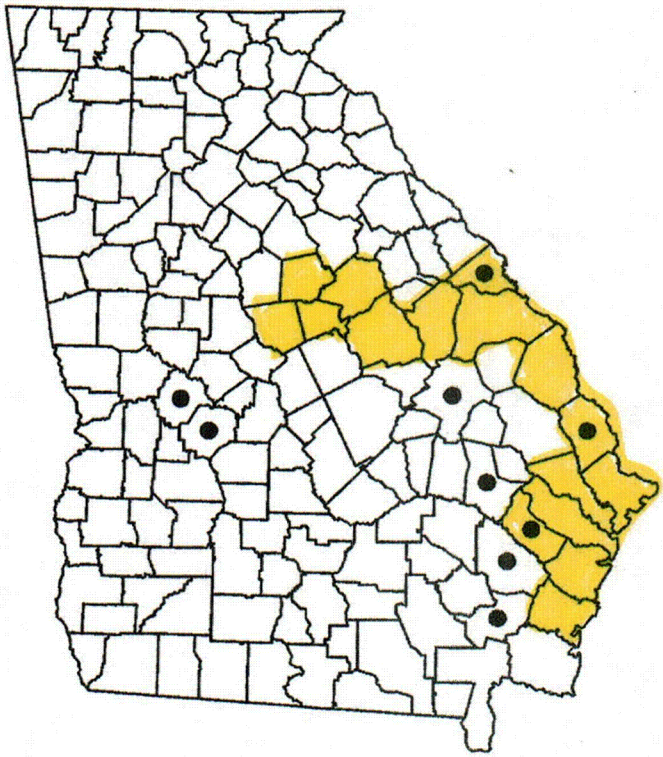


ILLUSTRATION: Flowering branch superimposed on fruiting one, 1x; note fruit cluster. Source: Bailey (1929), drawn by Charles Edward Faxon and used with permission.

DESCRIPTION: Deciduous shrub. Dwarf witch-alder is a small shrub 0.3-1.0 m tall, forming dense clumps. The leaves are alternate, obovate to rounded, covered with star-shaped (branched) hairs, which are most prevalent on the undersides. The leaf margins are wavy (sinuate) and have a few rounded teeth toward the apex. The expanded portion of the leaf is 2-6 cm long and 1.5-4.0 cm wide; the leafstalk is short (under 1 cm long). The flowers are either male or female, arranged in dense, terminal spikes, and are without petals. Only the male flowers are showy, having

From: Patrick, Allison and Krakow (1995), *Protected Plants of Georgia*, Georgia Department of Natural Resources

numerous, long, pure white stamens, forming en masse a miniature bottlebrush (see illustration). The fruit is a capsule, 7-10 mm long, densely hairy, ovoid, opening into two valves, each with a prominent beak (persistent style) and containing a single, shiny, brownish-black, oblong seed that is 5.0-5.5 mm long. **Flowering period:** March to April; **fruiting period:** August to October. **Best search time:** during flowering (prior to leaf emergence) or during peak of fall foliage coloration (late October), since leaves turn a mixture of orange, yellow and scarlet in the fall.

HABITAT: Found in low, flat, swampy areas, especially the shrub-dominated margins of upland swamps (pocosins), Carolina bays, pitcherplant bogs, wet savannas, and Atlantic white-cedar (*Chamaecyparis thyoides*) swamps.

SPECIAL IDENTIFICATION FEATURES: Dwarf witch-alder occurs in damp habitats, usually wetlands, produces numerous, white, bottlebrush-like blooms in early spring, has flowers without petals, is normally a colonial shrub less than 1 m tall, and has small leaves (only 3-4 cm wide), with wavy (sinuate or undulate) margins having a few rounded teeth near the apex. In contrast, its near relative, witch hazel (*Hamamelis virginiana*), occurs in dryish to moist woods, produces a few, yellowish-red blooms in autumn, has flowers with 4, strap-shaped petals, is a large, non-colonial shrub or small tree, and has larger leaves (commonly 5-8 cm wide) with wavy (sinuate or undulate) margins without teeth.

MANAGEMENT RECOMMENDATIONS: Avoid drainage of site. Limit encroachment of woody vegetation by controlled burning.

REMARKS: Johann Murray named the genus *Fothergilla* in honor of John Fothergill (1712-1780), a London medical doctor, botanist, and patron of some early American botanists. He named the present species for its discoverer, Alexander Garden (1730-1791), a Scottish-born doctor and plant collector who lived in Charleston, South Carolina from 1752 to 1783. This species and the more common *F. major* are the only members of the genus, which is restricted to the Southeast. The most closely related plant is probably *Parrotiopsis*, a monotypic genus of Kashmir and Afghanistan. Charles Sargent made the first Georgia collection of *F. gardenii* in 1900, near Augusta. It has since been found in about ten other locations in the state. It is rare throughout its range.

SELECTED REFERENCES

Bailey, L. H. 1929. The Standard Cyclopedia of Horticulture. Macmillan Company, New York. 3639 pp.

Dean, B. E. 1988. Trees and Shrubs of the Southeast. Third Edition, Revised and Expanded. Birmingham Audubon Society Press, Alabama. 264 pp.

Dirr, M. A. 1990. Manual of Woody Landscape Plants. Fourth Edition. Stipes Publishing Company, Champaign, Illinois. 1007 pp.

Kral, R. 1983. A report on some rare, threatened, or endangered forest-related vascular plants of the South. Technical Publication R8-TP2. United States Forest Service, Atlanta, Georgia. 1305 pp.

Radford, A. E., H. E. Ahles, and C. R. Bell. 1968. Manual of the Vascular Flora of the Carolinas. University of North Carolina Press, Chapel Hill. 1183 pp.

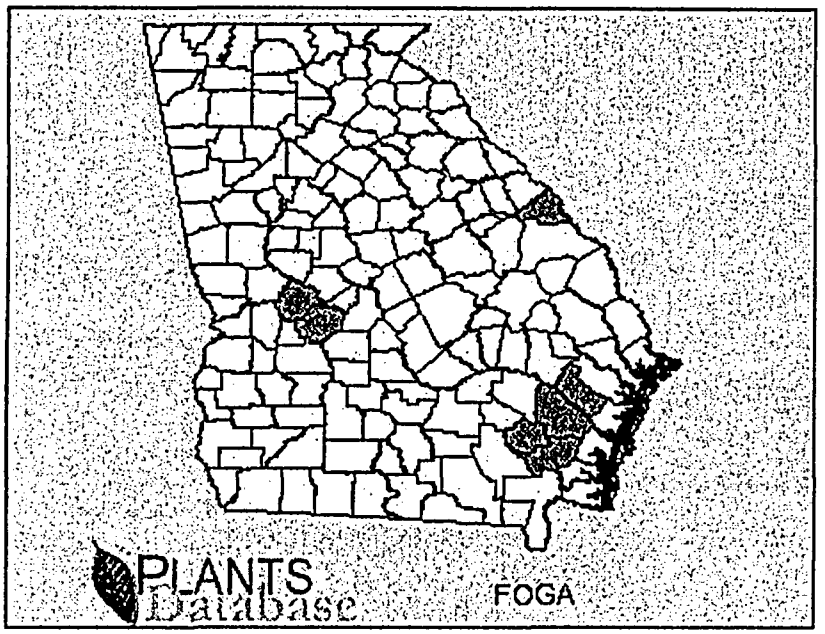
Weaver, R. E. 1969. Studies in the North American genus *Fothergilla*. Journal of the Arnold Arboretum 50:599-619.

890

900

980

990



County Distribution of
FOGA in Georgia

Fothergilla gardenii L.
dwarf witchalder

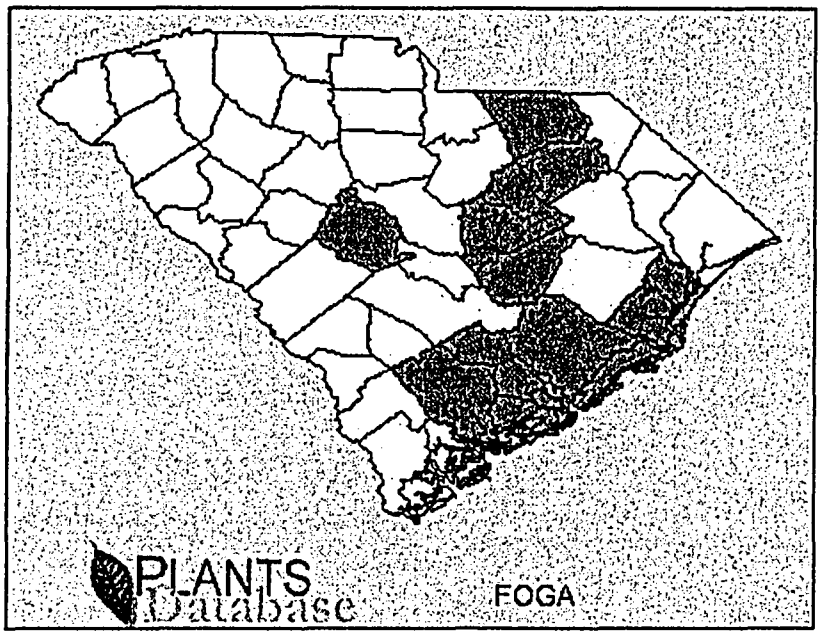
Return to the
FOGA Plant Profile Page

Our county data are based primarily on the literature, herbarium specimens, and confirmed observations. Not all populations have been documented, however, and significant gaps in the distribution shown above may not be real. Please use the Distribution Update module to improve the data by adding your new distribution information to PLANTS. Remember that only native and naturalized populations are mapped!

Intellectual Property Statement / How to Cite the PLANTS Database

Disclaimers

Time Generated: Fri 9:43 AM - 02/11/2005



County Distribution of
FOGA In South Carolina

Fothergilla gardenii L.
dwarf witchalder

Return to the
FOGA Plant Profile Page

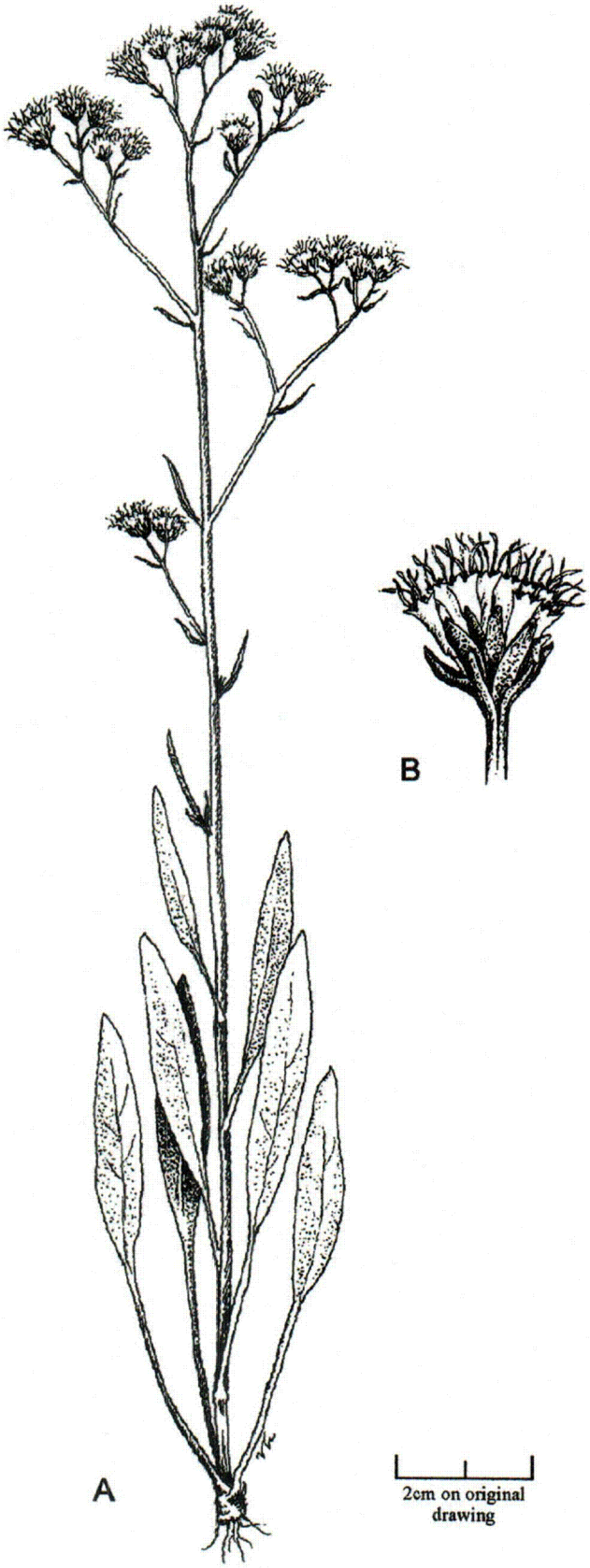
Our county data are based primarily on the literature, herbarium specimens, and confirmed observations. Not all populations have been documented, however, and significant gaps in the distribution shown above may not be real. Please use the Distribution Update module to improve the data by adding your new distribution information to PLANTS. Remember that only native and naturalized populations are mapped!

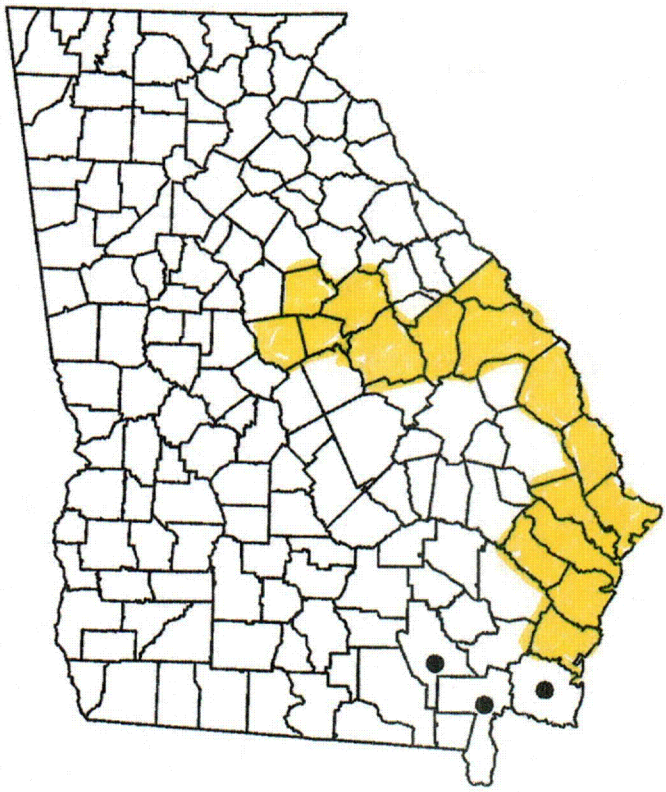
Time Generated: Fri 9:43 AM - 02/11/2005

Hartwrightia floridana Gray ex S. Watson

Hartwrightia

Aster Family, ASTERACEAE





LEGAL STATUS:
State: THREATENED
Federal: CANDIDATE

SYNONYMY: None in current usage.

RANGE: Northcentral peninsular Florida to southeastern Georgia. Recorded from three counties in Georgia (see map).

ILLUSTRATION: (A) plant habit, with leaves mostly near base of stem, 0.4x; (B) flower head, composed only of disk flowers, 2x. Source: original drawing by Vicky Holifield.

DESCRIPTION: Perennial herb. *Hartwrightia floridana* is a slender plant up to 1.5 m tall with the general appearance of sea lavender and garden statice (*Limonium* spp.). The basal leaves are narrowly elliptic, the expanded portion (blade) up to 15 cm long, and with long, slender leafstalks (petioles). The stem leaves are alternate, lanceolate, and considerably reduced in size up the stem. The leaves and stems are dotted with tiny, resinous pits or depressions. The numerous flower heads are produced in highly branched, flat-topped clusters, with bracts and flower stalks also covered with resinous pits. The flower heads have only disk flowers. The flowers are white to lavender, 3.0-3.5 mm long, and few (less than ten) per head. The fruit is an achene, 5-angled, broadest near the

apex, and sparsely covered with knob-tipped hairs. **Flowering period**: late September to November; **fruiting period**: October to December. **Best search time**: during flowering, since the flower color makes the plants conspicuous.

HABITAT: Found in peaty muck of pine flatwoods, sedge meadows, and wettest parts of poorly drained ditches and sloughs; often with water-spider orchid (*Habenaria repens*).

SPECIAL IDENTIFICATION FEATURES: Hartwrightia has most leaves on the lower portion of the stem, and a diffuse flower head arrangement with each major cluster of rayless flower heads distinctively flat-topped. The flash of lavender of the flowers during peak of bloom, and the entire plant dotted with resinous pits are useful field characters.

MANAGEMENT RECOMMENDATIONS: Avoid drainage of site. Control encroachment of woody vegetation through prescribed burning. Timber removal, if desired, may be beneficial to this light-loving plant.

REMARKS: Samuel Hart Wright (1825-1905), a physician, astronomer, and botanist, discovered this species in 1886, in Volusia County, Florida. Sereno Watson named the genus *Hartwrightia* in his honor two years later. *Hartwrightia floridana* is a monotypic genus. Collectors of the Biltmore Herbarium made the first Georgia collection in 1900, from near Folkston (Charlton County). It has been collected in Georgia from roughly a half dozen sites. *Hartwrightia floridana* is rare throughout its range.

~~980~~
990

620

SELECTED REFERENCES

Cronquist, A. 1980. Vascular Flora of the Southeastern United States. Volume 1. Asteraceae. University of North Carolina Press, Chapel Hill. 261 pp.

King, R. M. and H. Robinson. 1987. The Genera of Eupatorieae (Asteraceae). Monographs in Systematic Botany, Missouri Botanical Garden. Volume 22. 581 pp.

Kral, R. 1983. A report on some rare, threatened, or endangered forest-related vascular plants of the South. Technical Publication R8-TP2. United States Forest Service, Atlanta, Georgia. 1305 pp.

Rickett, H. W. 1966. Wild Flowers of the United States. Volume 2. The Southeastern States. McGraw-Hill, New York. 688 pp.

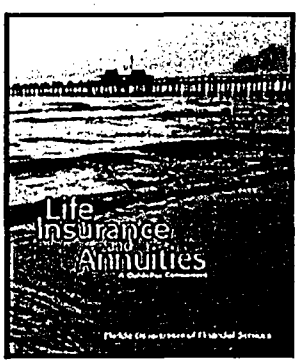
Small, J. K. 1933. Manual of the Southeastern Flora. 1972 Reprint Edition. Hafner Publishing Company, New York. 1554 pp.

Wunderlin, R. P. 1982. Guide to the Vascular Plants of Central Florida. University Presses of Florida, Gainesville. 472 pp.

75, from Lake County, told us he purchased an annuity which contained surrender charges for 10 years. He originally intended to make a short-term investment, and because of poor health, he does not believe he will survive the 10 years.

I encourage you to contact your local legislators to offer your support for these important initiatives.

Tom Gallagher



A Consumer Guide is available from the Florida Department of Financial Services. Click above for more information.

GALLAGHER ANNOUNCES LEGISLATION TO STOP ABUSIVE SALES PRACTICES OF ANNUITIES SOLD TO SENIORS

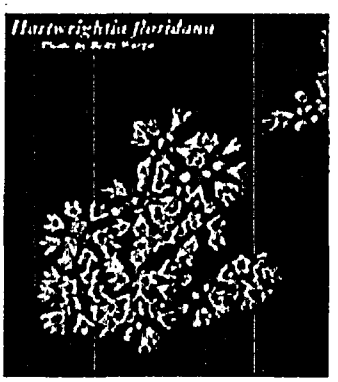
Florida's Chief Financial Officer Tom Gallagher announced that he is pursuing a bill to prevent abusive sales practices of annuities sold to seniors. An annuity is an insurance contract that offers a guaranteed series of payments over a period of time.

"Annuities can be an effective investment tool for many Floridians wanting a steady stream of income for retirement," said Gallagher. "But some of our state's seniors are being preyed upon by agents who are motivated by commission payments, not consideration of a senior's financial circumstances. We need to hold companies and agents accountable for the products they sell and the investment advice they give." **CONTINUED**

Florida Black Bear

Eastern Indigo Snake

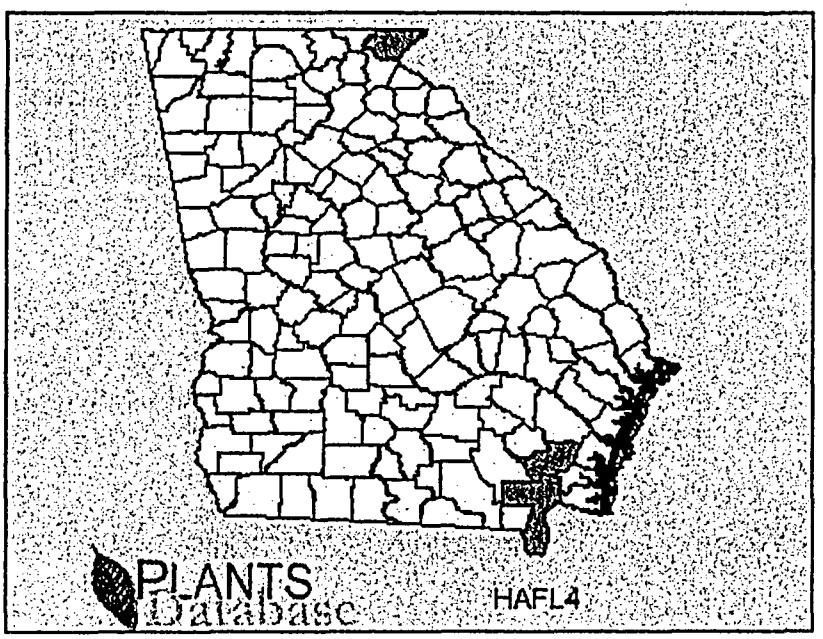
Black-Eyed Susan



Hartwrightia floridana

GOVERNOR, CABINET AND NATIONAL GUARD - PARTNERS IN PRESERVATION

The Governor and Cabinet, sitting as the Board of Trustees of the Internal Improvement Trust Fund, have joined forces with the National Guard to provide necessary buffering for Camp Blanding. In addition to serving as the primary training area for the Florida Army National Guard, Camp Blanding is also used to train the U.S. Navy



County Distribution of
HAFL4 in Georgia

Hartwrightia floridana Gray
ex S. Wats.
Florida hartwrightia

Return to the
HAFL4 Plant Profile Page

Our county data are based primarily on the literature, herbarium specimens, and confirmed observations. Not all populations have been documented, however, and significant gaps in the distribution shown above may not be real. Please use the Distribution Update module to improve the data by adding your new distribution information to PLANTS. Remember that only native and naturalized populations are mapped!

Intellectual Property Statement / How to Cite the PLANTS Database

Disclaimers

Time Generated: Fri 9:46 AM - 02/11/2005

Hexastylis shuttleworthii var. harperi Gaddy

Harper Wild Ginger, Bog Heartleaf, Callaway Ginger

Birthwort Family, ARISTOLOCHIACEAE

LEGAL STATUS:
State: UNUSUAL
Federal: None

SYNONYMY: None in current usage, although the genus *Hexastylis* is often placed within the genus *Asarum*.

RANGE: Coastal Plain of Alabama and Georgia, and Piedmont Plateau of Georgia nearly to South Carolina. Recorded from 20 counties in Georgia (see map), including one unauthenticated record based on an inadequate (sterile) specimen from Wilkinson County.

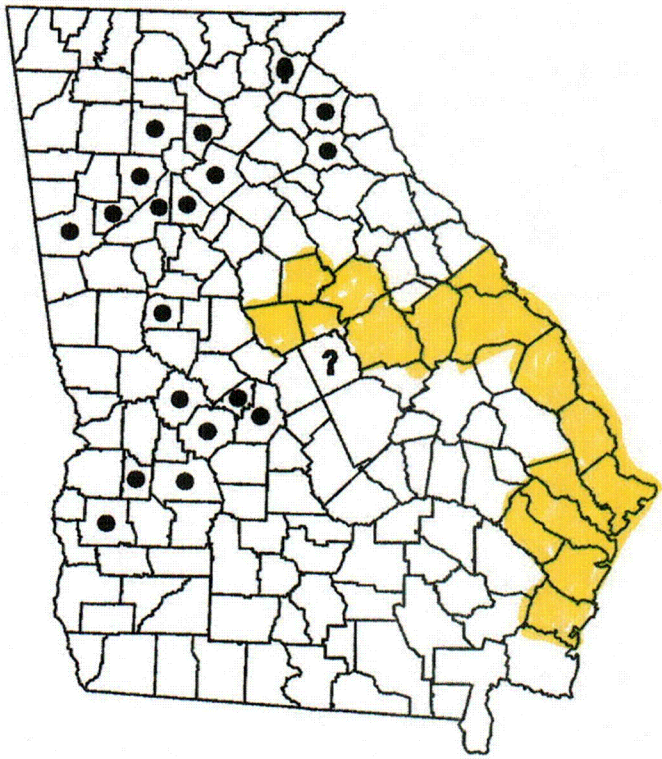
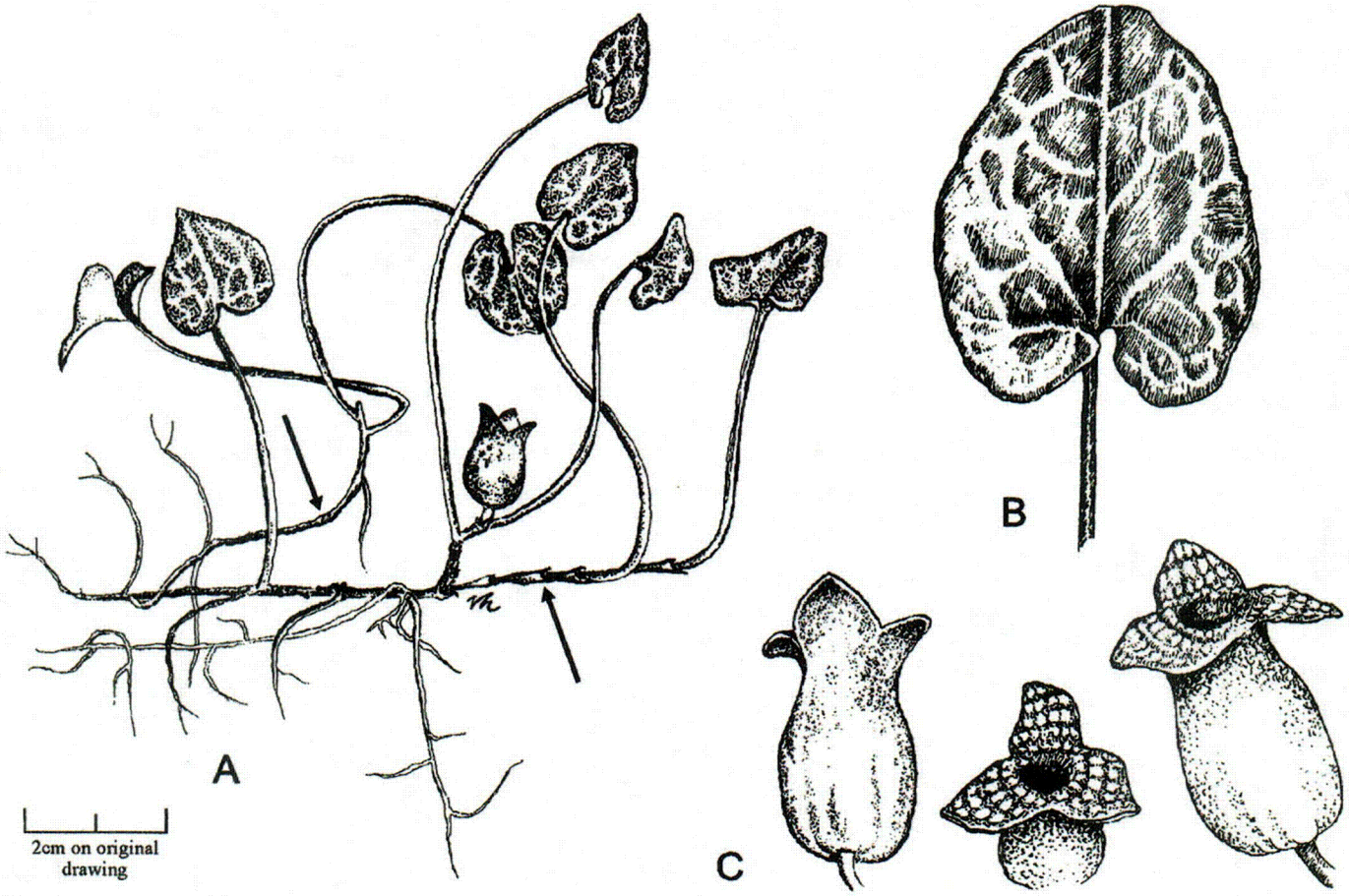


ILLUSTRATION: (A) plant habit, with leaves scattered along cord-like rhizomes, 0.5x; (B) mottled leaf, with the base heart-shaped (cordate), 1.3x; (C) flower, side view, 2x; (D) flowers, top view, showing network pattern on inner surface of sepals, 2x. Source: original drawing by Vicky Holifield.

DESCRIPTION: Perennial herb forming a patchy, evergreen groundcover, and producing a strong ginger scent when crushed. The stems are shallowly buried, whitish, cord-like rhizomes, which produce leaves and additional branches so profusely that small (1-3 m²) mats



From: Patrick, Allison and Krakow (1995). *Protected Plants of Georgia*. Georgia Department of Natural Resources

of groundcover are produced. The leaves are evergreen, leathery, strongly variegated (usually along the veins on the upper surface of the leaves), heart-shaped (cordate) to rounded, 2.5-7.0 cm long and nearly as wide. The flowers are produced near the ground, usually beneath the litter layer, and are solitary in leaf axils. The shape and size of the flower are crucial for identification. The flowers are urn-shaped (urceolate) to somewhat bell-shaped (campanulate) with three conspicuously patterned, spreading calyx lobes (see illustration). There is only a slight flare to the calyx, which is 15-25 mm long, and half to nearly as wide. The lobes are triangular, 6-13 mm long, 10-22 mm wide at the base, and display a regularly ridged network (reticulation) on the inner surface (see illustration). Petals are lacking, and the 12 stamens are fused to the side of the single, 6-chambered ovary. The tissue between the pollen sacs, the connective, extends beyond them, forming a short beak. The fruit is a capsule-like berry that splits irregularly, exposing up to 15 seeds that are 1.5-2.0 mm long, with white, oily appendages. **Flowering period:** March to early June; **fruiting period:** May to July. **Best search time:** all year, since the leaves are evergreen, but shape and size of the flowers are sometimes required for conclusive identification.

HABITAT: Found on peaty soils at edges of forested bogs on the Piedmont, and on moist hammocks and bases of bluff forest slopes along and within floodplain forests of the Coastal Plain.

SPECIAL IDENTIFICATION FEATURES: In Georgia, few heartleaf species occur on the Piedmont or Coastal Plain. *Hexastylis arifolia* is frequent throughout and has triangular to arrowhead-shaped leaves. *Hexastylis heterophylla* occurs in the northern Piedmont and mountains, and has flowers in which the tubular portion of the flower is cylindrical; the calyx tube therefore is unflared. *Hexastylis shuttleworthii* var. *shuttleworthii* is found mostly north of the range of var. *harperi* in thickets of mountain laurel (*Kalmia latifolia*) or rosebay rhododendron (*Rhododendron maximum*), and its larger (6-10 cm long) leaves persist mostly at the growing tips of the rhizomes. The var. *shuttleworthii* mostly appears as scattered clumps. In contrast, the var. *harperi* occurs in moister habitats than any other wild ginger, and its typically smaller (2.5-7.0 cm long) leaves are scattered along more branched rhizomes. The rhizomes of var. *harperi* tend to be closely intertwined, often forming an extensive groundcover.

MANAGEMENT RECOMMENDATIONS: Avoid disturbance. This species will tolerate only hand thinning of trees in its immediate vicinity, at most. Avoid drainage of site.

REMARKS: Roland Harper made the earliest known collection of this plant in 1927, in Autauga County, Alabama. However, it was not described as a distinct variety until 1987. Plants of unknown geographic origin have been in cultivation at Callaway Gardens since 1965, under the name *Hexastylis shuttleworthii* 'Callaway' (Galle, 1984). *Hexastylis shuttleworthii* var. *harperi* is rare throughout its range and has sustained significant habitat loss due to draining or filling of its habitat.

SELECTED REFERENCES

Armitage, A. M. 1989. Herbaceous Perennial Plants. Varsity Press, Athens, Georgia. 646 pp.

Gaddy, L. L. 1987. *Hexastylis shuttleworthii* var. *harperi* (Aristolochiaceae), a new variety of heartleaf from Alabama and Georgia. Sida 12:51-56.

Gaddy, L. L. 1987. A review of the taxonomy and biogeography of *Hexastylis* (Aristolochiaceae). Castanea 52:186-196.

Galle, F. C. 1984. "Callaway Ginger": *Hexastylis shuttleworthii*. Bulletin of the American Rock Garden Society 42:36-38.

Harper, R. M. 1936. *Asarum* and *Hexastylis* in Alabama and neighboring states. Castanea 1:69-76.

890

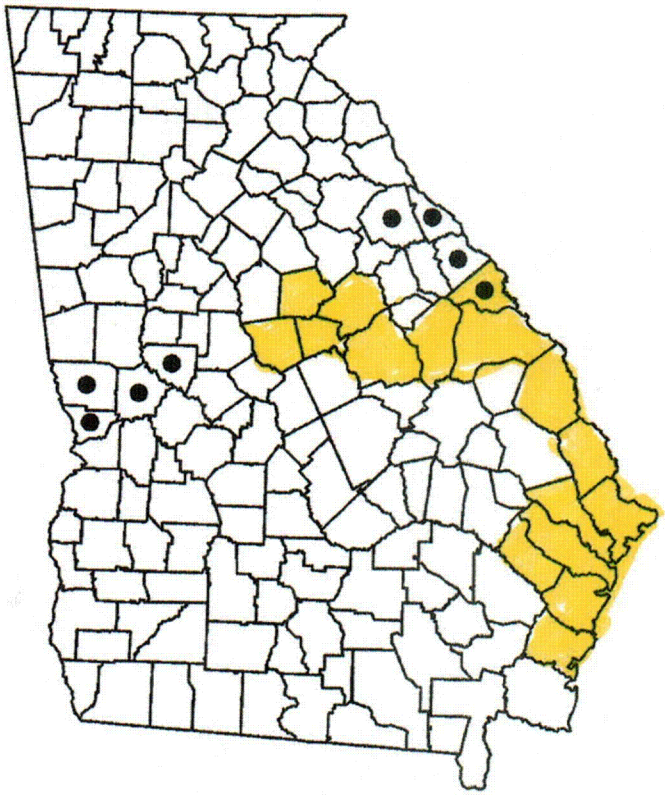
990

900

Hymenocallis coronaria (LeConte) Kunth

Shoals Spiderlily, Cahaba Lily

Lily Family, LILIACEAE



LEGAL STATUS:
State: ENDANGERED
Federal: CANDIDATE

SYNONYMY: None in current usage.

RANGE: Mostly near the Fall Line in central Alabama, Georgia, and South Carolina. Recorded from eight counties in Georgia (see map).

ILLUSTRATION: Plant, in water, 0.2x. Source: original drawing by Vicky Holifield.

DESCRIPTION: Perennial, rooted in soil, standing out of water (emergent). Plants arise from a large bulb and may become 1 m tall. The leaves are basal, spongy near the base, strap-shaped, 3-4 cm wide, and up to 80 cm long. Each flowering plant has 1-3 flower stalks, which equal or exceed the leaves; each stalk is terminated by an umbel of 6-9 (rarely fewer) flowers. The flowers are about 15 cm across, opening in late afternoon and withering the next day, emitting a delightful fragrance late in the day and into the night. Usually only one flower opens per day, but this feature may vary according to light intensity and vigor. The flowers are quite showy, white with a yellowish center. From a slender, greenish floral tube arise six white, petal-like parts (tepals) that are 10-12 cm long, and a central cup or crown (corona) 6-7 cm high, to which the stamens are attached. The fruit is a capsule, with few (1-3),

olive-shaped, dark green seeds that are 2-4 cm long, and 1 cm wide. The seeds are ripe as soon as they force the capsule to split, and often germinate before falling to the water, where they sink to the bottom quickly (Davenport, 1990). **Flowering period:** mid-May to early June; **fruiting period:** July to August. **Best search time:** during flowering, since the white blooms are showy.

HABITAT: Found in major streams and rivers in rocky shoals and in cracks of exposed bedrock; usually with riverweed (*Podostemon ceratophyllum*) and water-willow (*Justicia americana*). Plants can be completely submerged during flooding, the bulbs anchored among the rocks.

SPECIAL IDENTIFICATION FEATURES: The shoals spiderlily is found only in the rocky beds of larger streams, its blooming peaks in late May, and its leaves and stems are more robust than other spiderlilies. The taxonomy of the spiderlilies (*Hymenocallis* spp.) is difficult and controversial. The narrowly defined habitat of the shoals spiderlily is a reliable field character. All other native spiderlilies inhabit swamps, floodplains, or moist hardwood forest slopes. Their flowering periods vary (some are summer bloomers), and their stature is shorter (usually less than 0.8 m tall).

MANAGEMENT RECOMMENDATIONS: Avoid permanent alteration of stream flow or degradation of water quality, especially any activity that increases the amount of sediment.

REMARKS: The famed naturalist-explorer William Bartram made the first recorded observation of this species in 1773, when he noted it growing in the Savannah River at the "cataracts of Augusta." This species was formally described in 1836. It has since been found in about 18 streams, including five in Georgia. Opinions vary as to what botanical family includes the spiderlilies. Although placed in the lily family (Liliaceae) by Arthur Cronquist, both Armen Takhtajan and Robert Thorne place *Hymenocallis* in the amaryllis family (Amaryllidaceae). The ongoing Flora of North America Project follows Cronquist, as do the authors of *Protected Plants of Georgia*. For a review of these systems of family classification, see Flora of North America Editorial Committee (1993). *Hymenocallis coronaria* has sustained significant habitat loss: some populations have been submerged by impoundments and others have declined due to degraded water quality, especially due to the deposition of silt. It is rare throughout its range.

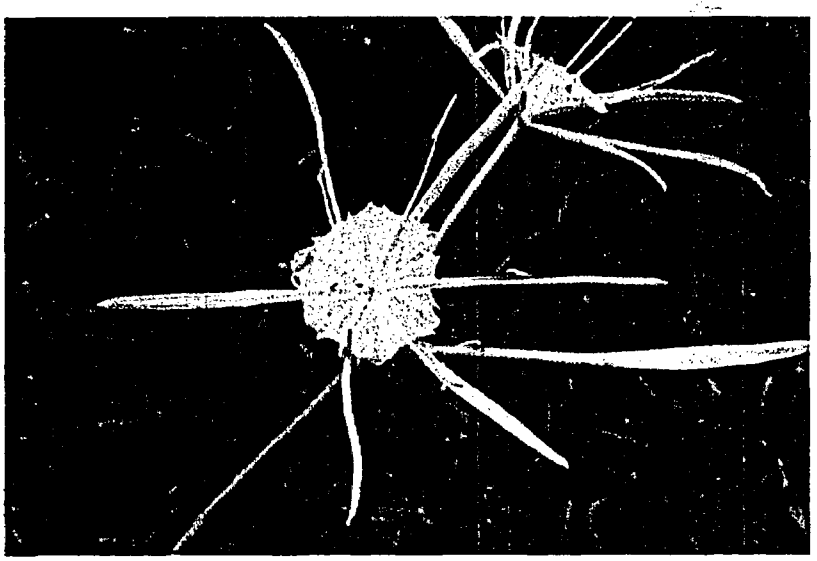
SELECTED REFERENCES

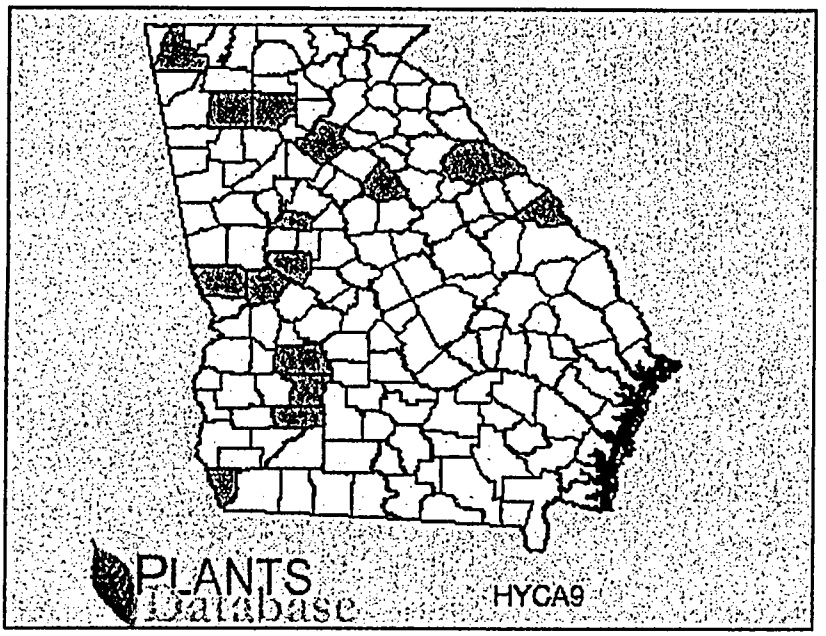
Davenport, L. J. 1990. The Cahaba Lily. Alabama Heritage Magazine. Number 16, pp. 24-31, plus full color frontispiece. University of Alabama Press, Tuscaloosa.

Flora of North America Editorial Committee. 1993. Flora of North America. Volume 1. Introduction. Oxford University Press, New York. 372 pp.

Rickett, H. W. 1966. Wild Flowers of the United States. Volume 2. The Southeastern States. McGraw-Hill, New York. 688 pp.

Small, J. K. 1933. Manual of the Southeastern Flora. 1972 Reprint Edition. Hafner Publishing Company, New York. 1554 pp.





County Distribution of
HYCA9 in Georgia

Hymenocallis caroliniana
(L.) Herbert
Carolina spiderlily

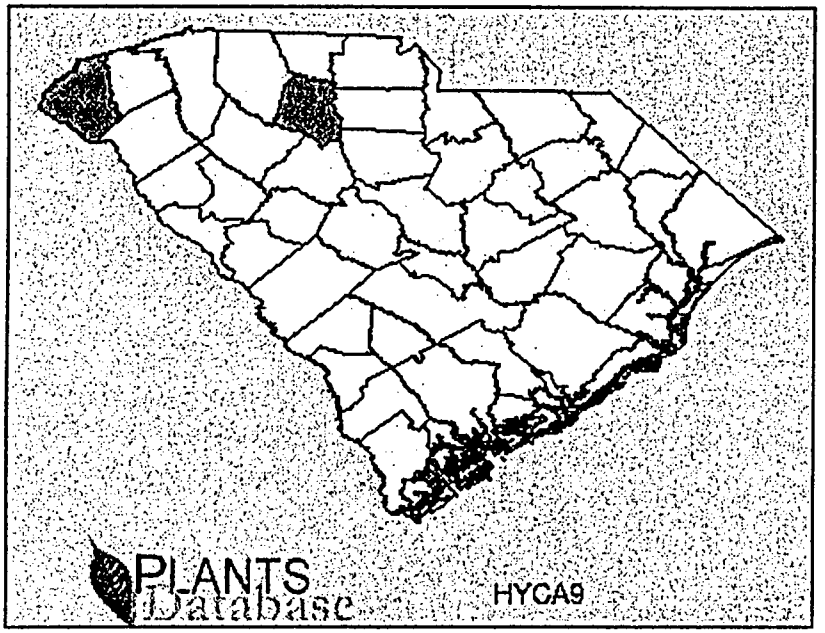
Return to the
HYCA9 Plant Profile Page

Our county data are based primarily on the literature, herbarium specimens, and confirmed observations. Not all populations have been documented, however, and significant gaps in the distribution shown above may not be real. Please use the Distribution Update module to improve the data by adding your new distribution information to PLANTS. Remember that only native and naturalized populations are mapped!

Intellectual Property Statement / How to Cite the PLANTS Database

Disclaimers

Time Generated: Fri 11:22 AM - 02/11/2005



County Distribution of
HYCA9 **in** South Carolina

Hymenocallis caroliniana
(L.) Herbert
Carolina spiderlily

Return to the
HYCA9 Plant Profile Page

Our county data are based primarily on the literature, herbarium specimens, and confirmed observations. Not all populations have been documented, however, and significant gaps in the distribution shown above may not be real. Please use the Distribution Update module to improve the data by adding your new distribution information to PLANTS. Remember that only native and naturalized populations are mapped!

Intellectual Property Statement / How to Cite the PLANTS Database

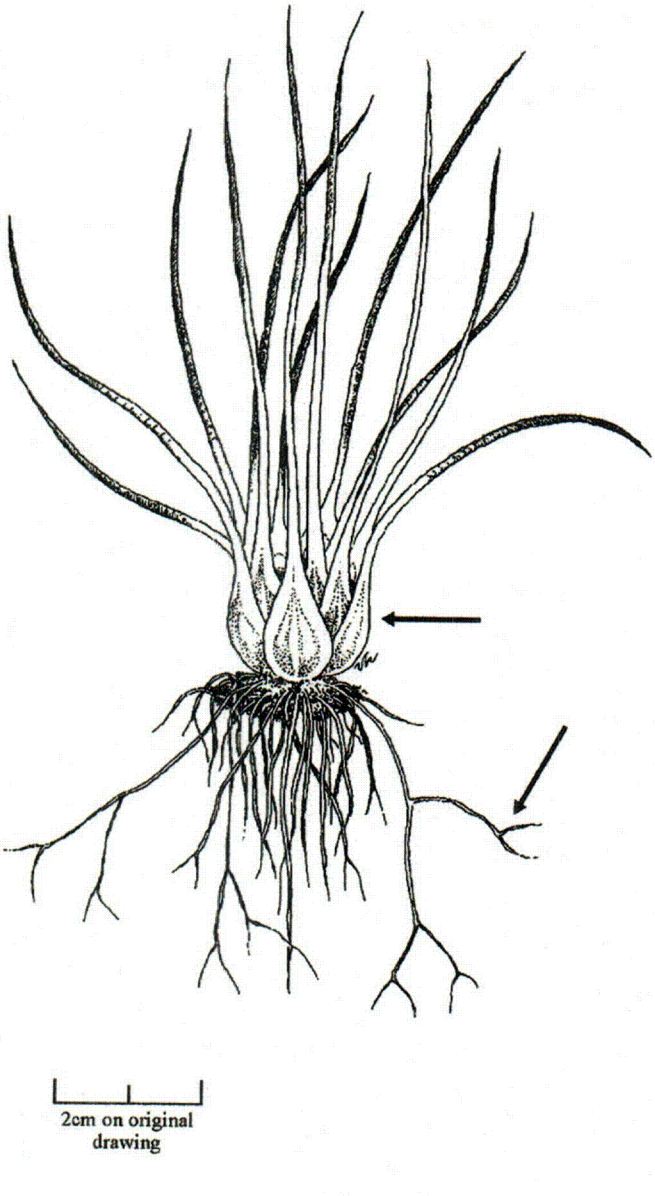
Disclaimers

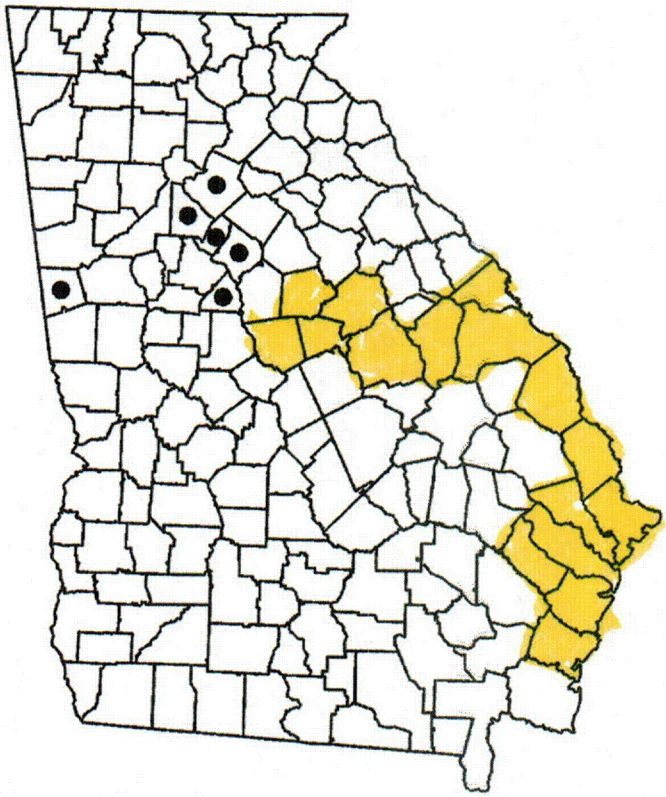
Time Generated: Fri 11:22 AM - 02/11/2005

Isoetes melanospora Engelmann

Black-spored Quillwort

Quillwort Family, ISOETACEAE





LEGAL STATUS:
State: ENDANGERED
Federal: ENDANGERED

SYNONYMY: None in current usage.

RANGE: Piedmont of Georgia; perhaps formerly in South Carolina. Recorded from six counties in Georgia (see map).

ILLUSTRATION: Plant habit, with cross walls visible on some of the quill-like leaves, 2x; note forked roots and swollen leaf bases. Source: original drawing by Vicky Holifield.

DESCRIPTION: Perennial fern ally. This is an inconspicuous plant, generally under 8 cm tall. The roots are of a single form and evenly forked. The leaves, which arise spirally from a bulbous base, are bunched, linear, slender-tipped, resembling quills, 2.5-7.0 cm (rarely to 15 cm) long, 1-2 mm wide, pale below the soil surface, and green above. A cross-section of a leaf shows four rows of longitudinal air chambers, reinforced by transverse partitions (septa), which can be seen without magnification (see illustration). The spores are produced within the flared leaf base in a cavity (sporangium) that is about 2 mm long. The sporangium wall is unpigmented and completely covered by a transparent membrane (velum). Each leaf cavity (sporangium) produces either dozens of larger

female spores (megaspores) or hundreds of smaller male spores (microspores). The megaspores are 0.3-0.4 mm in diameter, black when wet and gray when dry, unlike other Georgia quillworts (except *Isoetes tegetiformans*), which have whitish spores. Further details on the architecture of spores are available among the selected references. **Spore-producing period:** sporadically, mostly early May to June. **Best search time:** during spore production.

HABITAT: Restricted to shallow, flat-bottomed depressions on granitic outcrops, where water collects after a rain. These depressions are less than one foot in depth, are entirely rock-rimmed, and usually contain soil at least 2 cm deep. They may be dry much of the summer, except during rainy periods. The depressions, sometimes called vernal pools, solution pits or weather pits, are formed naturally by erosion over millions of years. Plants rarely occur in shallow pools formed by quarrying activities.

SPECIAL IDENTIFICATION FEATURES: The identification of this species by specialists depends on several technical characters, such as spore wall sculpturing, requiring 30x magnification or greater. Nevertheless, features observed by hand lens (8-10x) or the naked eye, as discussed here, are diagnostic with a little practice. Quillworts produce leaves distinguished from those of other plants by their quill-like shape, spore-producing basal cavities, and conspicuous cross walls dividing the air chambers. When fresh, the leaves tend to be spongy and fleshy. The dark color of the mature spores, the precise habitat requirements, and the tendency for the plants to produce new leaves during the summer after sufficient rain, separate this species from our other quillworts, except *Isoetes tegetiformans*. The latter is unique with its mat-forming habit and unbranched roots.

MANAGEMENT RECOMMENDATIONS: Because its microhabitat is naturally quite stable—very slow to undergo change—*Isoetes melanospora* is not adapted to withstand any habitat modification. Therefore avoid disturbance of any kind, such as from grazing animals or vehicular traffic.

REMARKS: William Canby (see *Oxypolis canbyi*) made the first collection of this species in 1869, in DeKalb County. Once known from 14 sites, all in Georgia, *Isoetes melanospora* is now known from only nine. With one exception, all populations are very small and several are in a precarious condition. Most of the local extinctions were caused by quarrying of the granite outcrops to which this species is restricted. A few locations contain intermediate forms between this species and the more common Piedmont quillwort, *I. piedmontana*. Those populations (in Butts and DeKalb Counties, Georgia, plus Lancaster County, South Carolina) have been interpreted as consisting of hybrids (Matthews & Murdy, 1969).

SELECTED REFERENCES

Allison, J. R. 1993. Recovery plan for three granite outcrop plant species. United States Fish and Wildlife Service, Jackson, Mississippi. 41 pp.

Boom, B. M. 1982. Synopsis of *Isoetes* in the southeastern United States. Castanea 47:38-59.

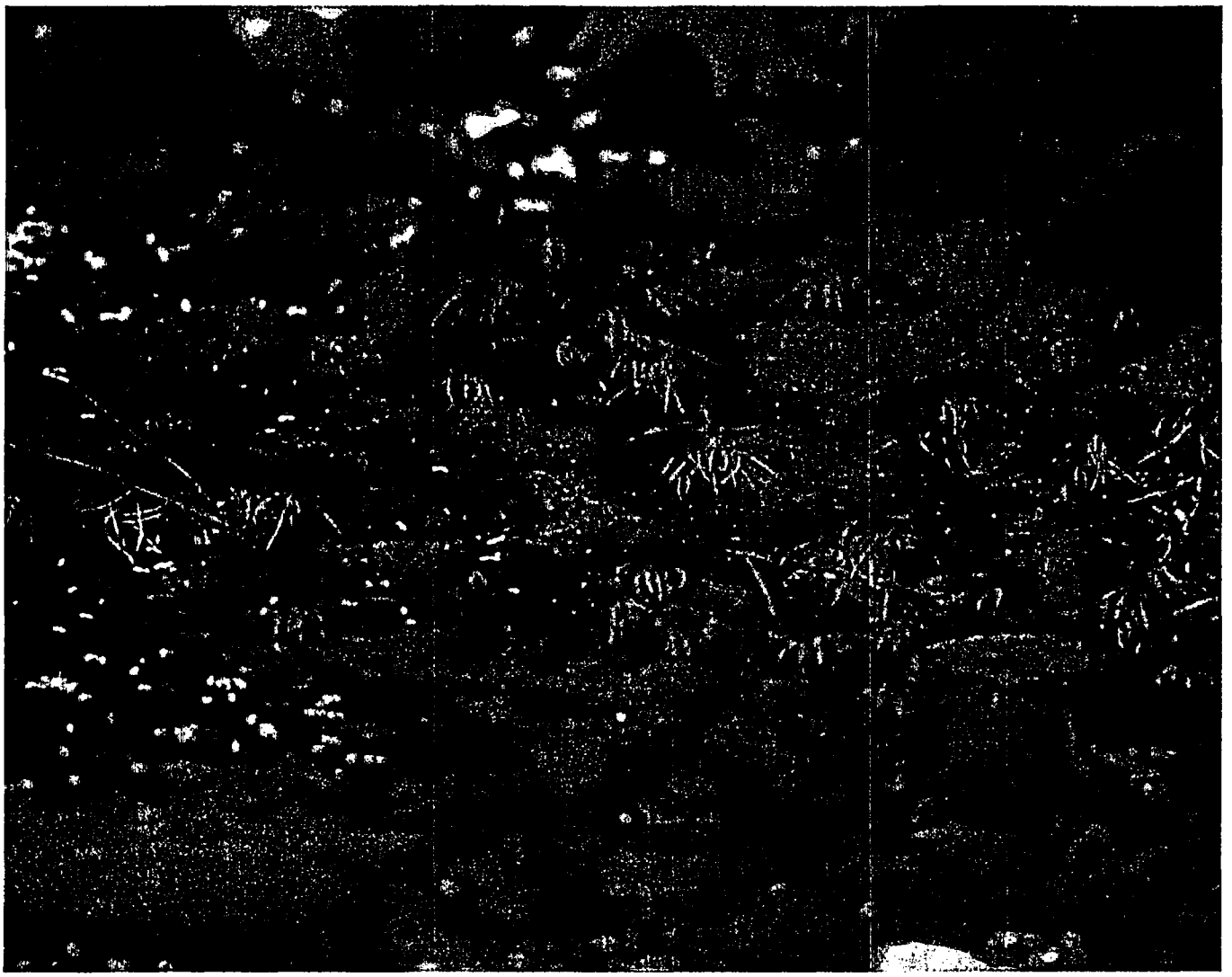
Flora of North America Editorial Committee. 1993. Flora of North America. Volume 2. Pteridophytes and Gymnosperms. Oxford University Press, New York. 475 pp.

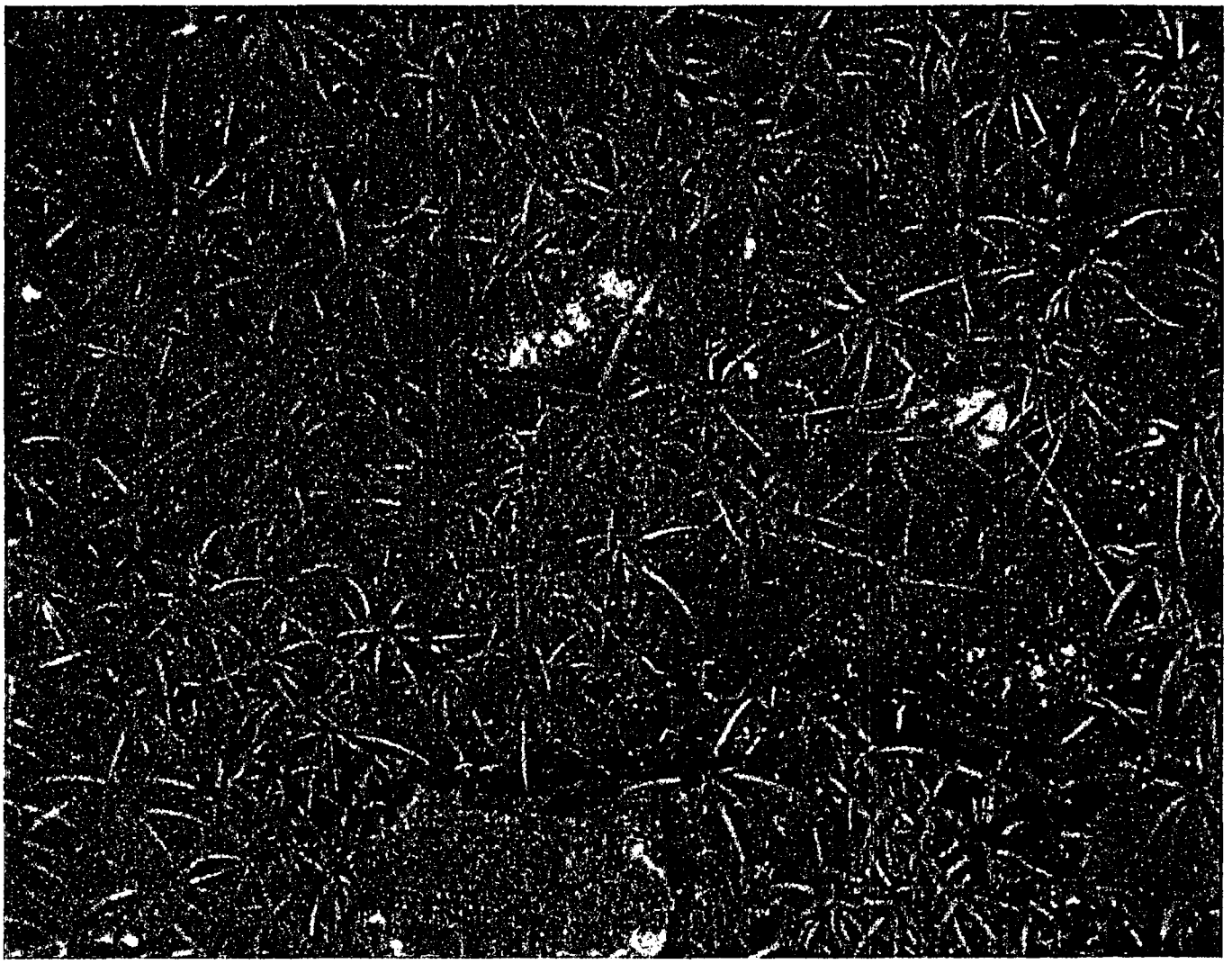
Lellinger, D. B. 1985. A Field Manual of the Ferns & Fern-Allies of the United States & Canada. Smithsonian Institution Press, Washington, D.C. 389 pp.

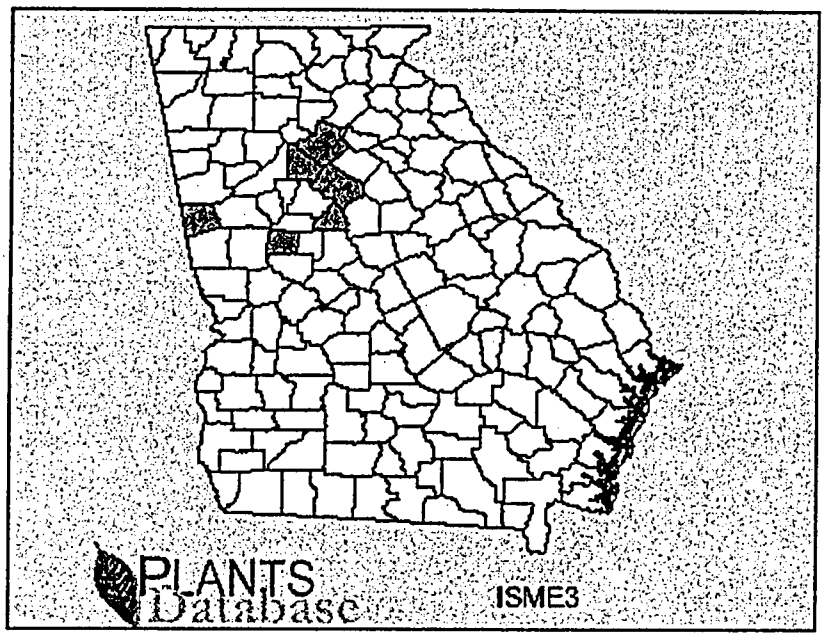
Matthews, J. F. and W. H. Murdy. 1969. A study of *Isoetes* common to the granite outcrops of the southeastern Piedmont, United States. Botanical Gazette 130:53-61.

Radford, A. E., H. E. Ahles, and C. R. Bell. 1968. Manual of the Vascular Flora of the Carolinas. University of North Carolina Press, Chapel Hill. 1183 pp.

Snyder, L. H., Jr. and J. G. Bruce. 1986. Field Guide to the Ferns and Other Pteridophytes of Georgia. University of Georgia Press, Athens. 270 pp.







County Distribution of ISME3 **in** Georgia

Isoetes melanospora
Engelm.
blackspore quillwort

Return to the
ISME3 Plant Profile Page

Our county data are based primarily on the literature, herbarium specimens, and confirmed observations. Not all populations have been documented, however, and significant gaps in the distribution shown above may not be real. Please use the Distribution Update module to improve the data by adding your new distribution information to PLANTS. Remember that only native and naturalized populations are mapped!

Intellectual Property Statement / How to Cite the PLANTS Database

Disclaimers

Time Generated: Fri 11:27 AM - 02/11/2005

Isoetes tegetiformans Rury

Mat-forming Quillwort

Quillwort Family, ISOETACEAE

LEGAL STATUS:
State: ENDANGERED
Federal: ENDANGERED

SYNONYMY: None in current usage.

RANGE: Piedmont of eastern Georgia. Recorded from four counties in Georgia (see map).

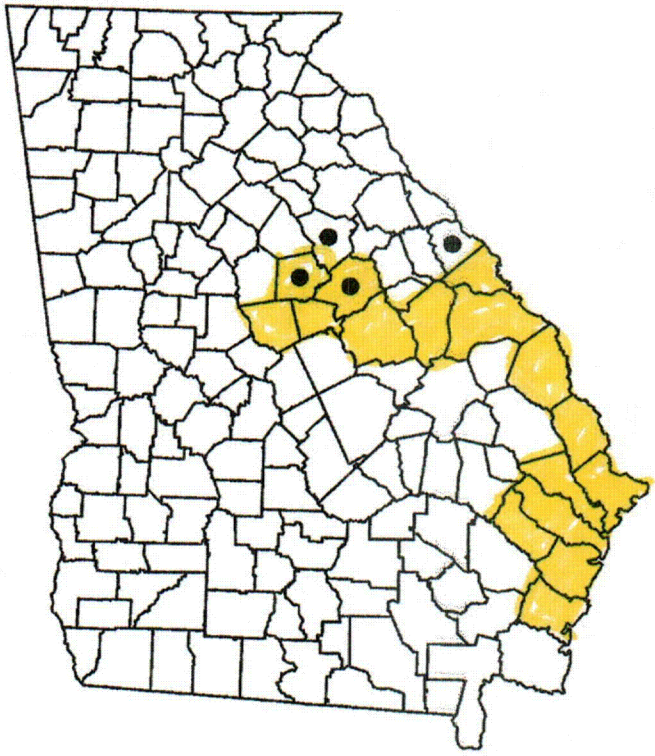
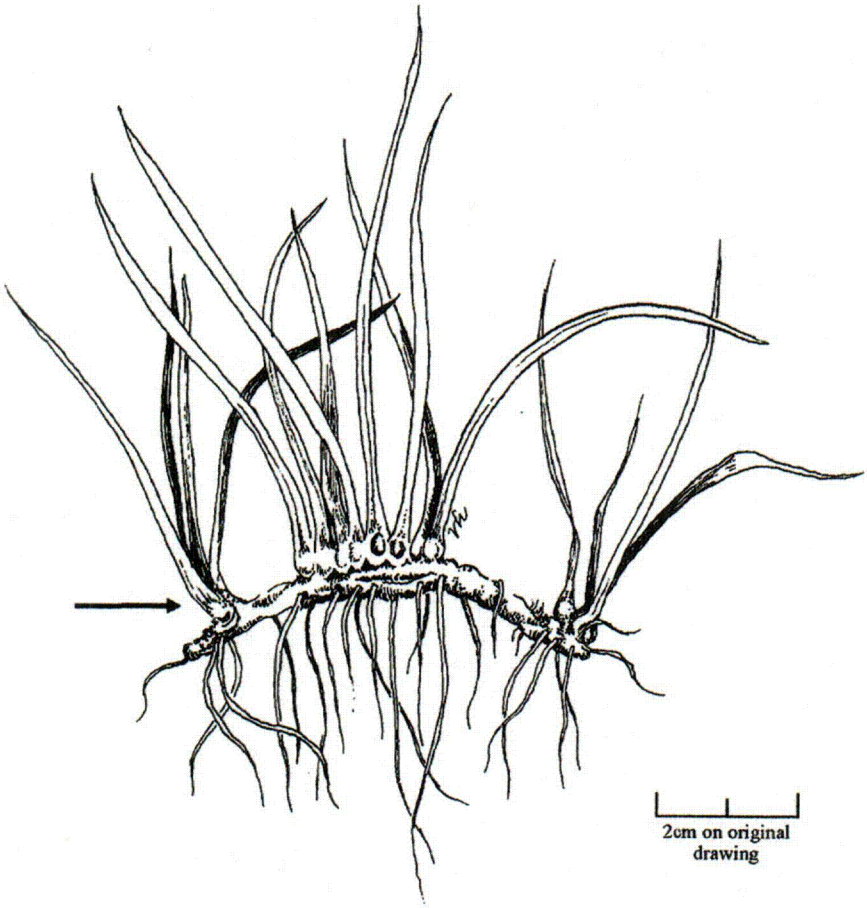


ILLUSTRATION: Plant habit, 2x; note arching stem and swollen leaf bases. Source: original drawing by Vicky Holifield.

DESCRIPTION: Perennial fern ally. This is an obscure plant generally under 5 cm tall, and evident only when en masse as a greenish mat of quill-like leaves. Both roots and leaves arise from a rhizome-like structure that is 0.5-3.5 cm long, 0.5-1.5 mm wide, and produced on or near the soil surface. As the "rhizome" elongates, plantlets develop along its length. The leafy "rhizomes" become arching and intertwine to form dense mats. The roots are unbranched and of two shapes (dimorphic); one form is stout, coiled, and emerges near the leaf bases; the other is more slender, not coiled, and emerges at the base of the elongated stem. The leaves arise in two rows (not in



From: Patrick, Allison and Krakow (1995), *Protected Plants of Georgia*, Georgia Department of Natural Resources

spirals), are linear, narrowly pointed, 3-7 cm (rarely to 15 cm) long, barely 1 mm wide, and in groups of about 4-8. The spores are produced on the inner surface of the flared leaf base in a cavity (sporangium) that is about 2 mm long, has unpigmented walls, and is completely covered by a transparent membrane (velum). Each leaf cavity (sporangium) produces either dozens of larger female spores (megaspores) or hundreds of smaller male spores (microspores). The megaspores are 0.3-0.4 mm in diameter, dark brown when wet and gray-brown when dry, unlike other Georgia quillworts (except *Isoetes melanospora*), which have whitish spores. Further details on the architecture of spores are available among the selected references. **Spore-producing period:** sporadically, mostly from early May to October. **Best search time:** during spore production, reliably two to three weeks following rains adequate enough to fill the depressions pools.

HABITAT: Restricted to shallow, flat-bottomed depressions on granitic outcrops, where water collects after a rain. These depressions are less than one foot in depth, are entirely rock-rimmed, and contain a gravelly soil usually at least 2 cm deep. They may be dry much of the summer, except during rainy periods. The depressions, sometimes called vernal pools, solution pits or weather pits, are formed naturally by erosion over millions of years.

SPECIAL IDENTIFICATION FEATURES: The identification of this species by specialists depends on several technical characters, such as spore wall sculpturing, requiring 30x magnification or greater. Nevertheless, features observed by a hand lens (8-10x) or naked eye as discussed herein are diagnostic with a little practice. Quillworts produce leaves distinguished from those of other plants by their quill-like shape, spore-producing basal cavities, and conspicuous cross walls dividing the air chambers. When fresh, the leaves tend to be spongy and fleshy. *Isoetes tegetiformans* is distinguished by its unbranched roots and its mat-forming habit with elongated "rhizomes" on or near the soil surface and leaves in small clusters along two rows. Both *I. tegetiformans* and *I. melanospora* have a tendency to produce new leaves during the summer, winter, spring or anytime when depressions contain water for two weeks or more, allowing enough time for new leaves to develop following drought. Also both taxa share the dark color of the mature spores and similar habitat requirements. In contrast, *Isoetes melanospora* typically has spiral leaves, forked roots, and a subterranean, bulbous base.

MANAGEMENT RECOMMENDATIONS: Because its microhabitat is naturally quite stable—very slow to undergo change—*Isoetes tegetiformans* is not adapted to withstand any habitat modification. Therefore avoid disturbance of any kind, such as from grazing animals or vehicular traffic.

REMARKS: Phillip Rury, then a graduate student at the University of North Carolina, discovered this remarkable species in 1976, in Columbia County. Because most species of *Isoetes* exhibit a relative uniformity of general appearance, they are usually identified (if at all!) by the ornamentation of the megaspores and other details requiring considerable magnification. Not so with *I. tegetiformans*, the most distinctive quillwort in North America (see Special Identification Features). Since its description in 1978, *I. tegetiformans* has been found at nine additional sites. Sadly, three of these populations have already been lost (and most of the rest imperiled) because the granite outcrops to which this species is restricted are convenient quarry sites.

SELECTED REFERENCES

Allison, J. R. 1993. Recovery plan for three granite outcrop plant species. United States Fish and Wildlife Service, Jackson, Mississippi. 41 pp.

Boom, B. M. 1982. Synopsis of *Isoetes* in the southeastern United States. Castanea 47:38-59.

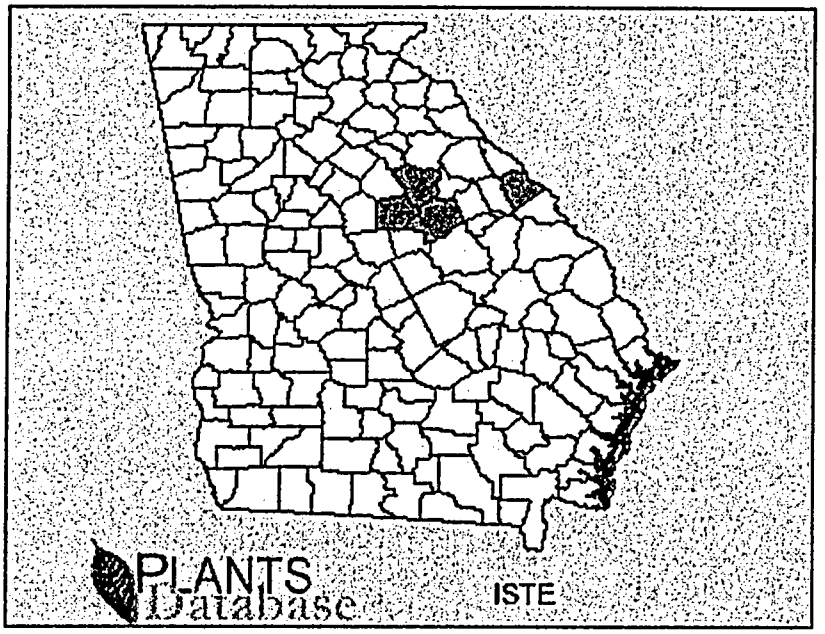
Flora of North America Editorial Committee. 1993. Flora of North America. Volume 2. Pteridophytes and Gymnosperms. Oxford University Press, New York. 475 pp.

Lellinger, D. B. 1985. A Field Manual of the Ferns & Fern-Allies of the United States & Canada. Smithsonian Institution Press, Washington, D.C. 389 pp.

Rury, P. M. 1978. A new and unique, mat-forming Merlin's grass (*Isoetes*) from Georgia. American Fern Journal 68:99-108.

Rury, P. M. 1985. New locations for *Isoetes tegetiformans* in Georgia. American Fern Journal 75:102-104.

Snyder, L. H., Jr. and J. G. Bruce. 1986. Field Guide to the Ferns and Other Pteridophytes of Georgia. University of Georgia Press, Athens. 270 pp.



County Distribution of ISTE
In Georgia

Isoetes tegetiformans Rury
Merlin's grass

Return to the
ISTE Plant Profile Page

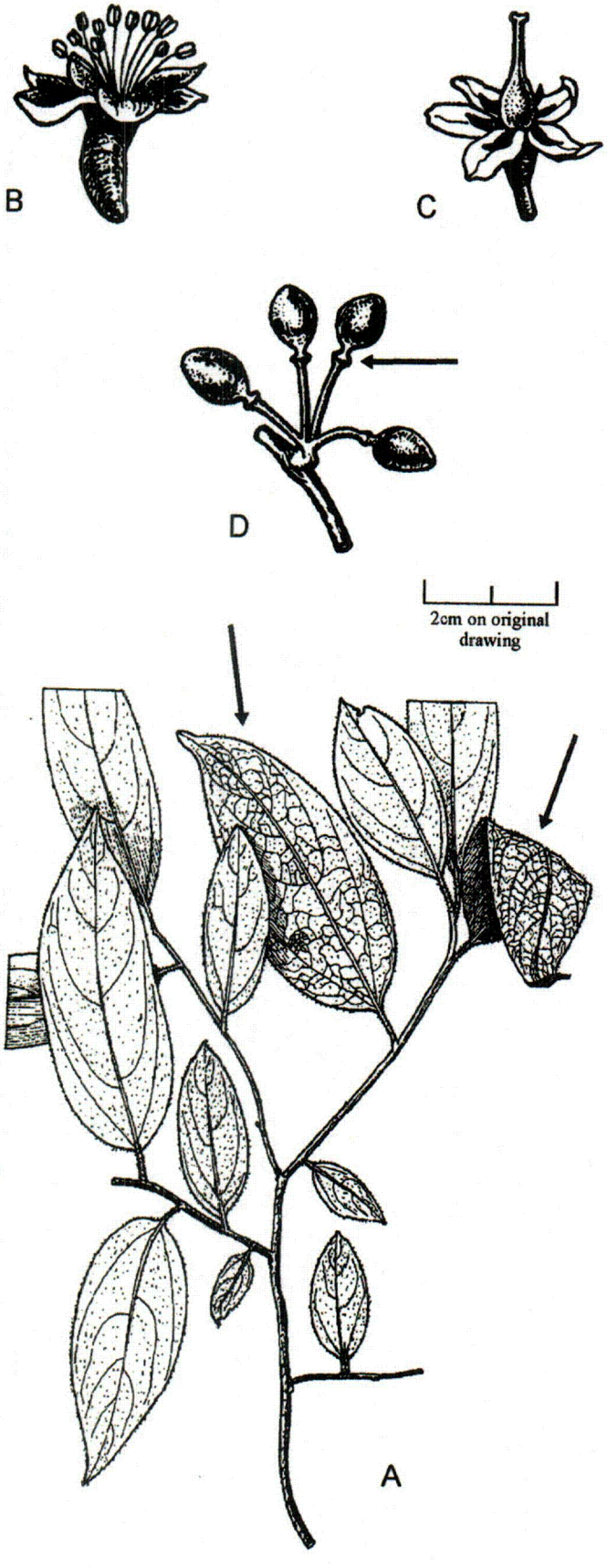
Our county data are based primarily on the literature, herbarium specimens, and confirmed observations. Not all populations have been documented, however, and significant gaps in the distribution shown above may not be real. Please use the Distribution Update module to improve the data by adding your new distribution information to PLANTS. Remember that only native and naturalized populations are mapped!

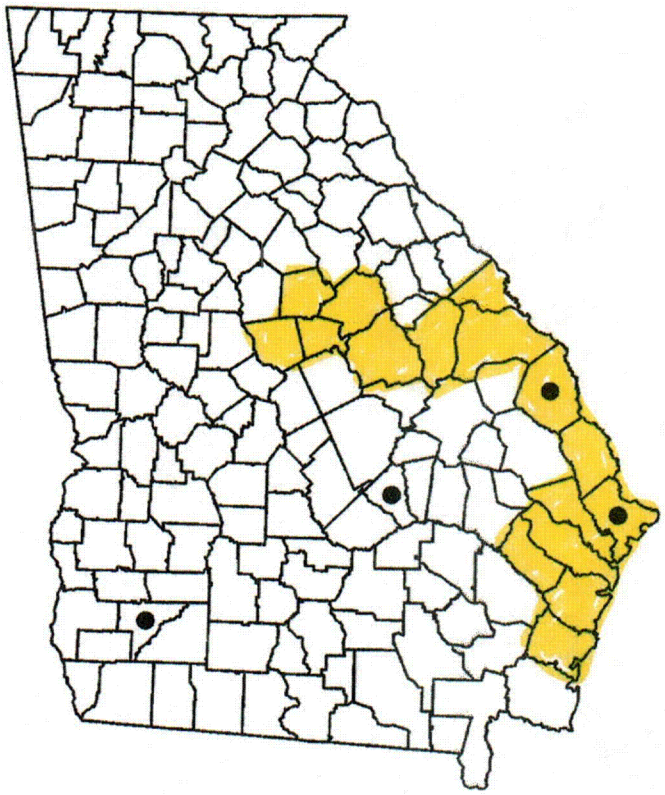
Time Generated: Fri 11:34 AM - 02/11/2005

Lindera melissifolia (Walter) Blume

Pondberry, Pond Spicebush, Jove's Fruit

Laurel Family, LAURACEAE





LEGAL STATUS:
State: ENDANGERED
Federal: ENDANGERED

SYNONYMY: The archaic spelling "*melissaefolium*" is often used in references (such as Radford et al., 1968), but today's nomenclature demands that the connecting "*ae*" be replaced with "*i*" and considers the genus name *Lindera* a latinized feminine noun, thus the specific epithet must have a feminine ending with an "*a*."

Benzoin melissifolium (Walter) Nees

RANGE: Southeastern Coastal Plain from North Carolina to Louisiana, and north to southeastern Missouri in the Mississippi Embayment; apparently extirpated in the Florida Panhandle. Recorded from four counties in Georgia (see map).

ILLUSTRATION: (A) branch, 0.5x; note the two leaves conspicuously net-veined beneath; (B) male flower, on thick stalk, 7x; (C) female flower, with single pistil, 7x; (D) fruit cluster, 1x; note jointed stalks that are swollen near point of fruit attachment. Source: Tucker (1984), drawn by Jane Barnes and used with permission.

DESCRIPTION: Deciduous shrub. The stems are 1-2 m tall and tend to form thickets. The leaves are oblong-elliptic to narrowly ovate, drooping, 5-16 cm long, 2-6 cm wide, tend to be strongly tapered to a point at the

tip, and have undersides strongly net-veined and covered with short, soft hairs. The leaves, when crushed, strongly resemble sassafras in fragrance. Male and female flowers, each 5-6 mm across, are produced on different plants (dioecious) and appear before the leaves in tight, stalkless clusters. The petal-like flower parts (tepals) are bright yellow, oblong, and 2 mm long. The male flowers are in denser clusters, with 9-12 stamens surrounded by two whorls of tepals. In contrast, the female flowers are less conspicuous, with fewer flowers per cluster and a single pistil surrounded by two whorls of tepals, the outer whorl petal-like and the inner whorl reduced to nectar-producing scales (see illustration). The fruit is a bright red drupe, ellipsoid, 10-12 mm long; the individual fruit stalks are 9-12 mm long, 2.5-3.0 mm thick, appear swollen at the apex, and persist beyond fruit fall. **Flowering period:** late February to mid-March; **fruiting period:** August to early October. **Best search time:** during entire growing season, since masses of yellowish flowers are produced prior to leafing out, making the thicket-forming shrubs conspicuous, and leaves are diagnostic when combined with growth habit and/or fruit.

HABITAT: Found in shallow depression ponds of sandhills, along margins of cypress ponds, and in seasonally wet, low areas among bottomland hardwoods.

SPECIAL IDENTIFICATION FEATURES: *Lindera melissifolia* may occur in the same seasonal pond with *Litsea aestivalis*; they are both deciduous shrubs with bright red fruits commonly called "pondberries." *Lindera melissifolia* is colonial, produces cane-like clusters of short-lived stems, has large (over 5 cm long, over 1.5 cm wide) leaves, and bears ellipsoid fruits, 10-12 mm long. In contrast, *Litsea aestivalis* is a bushy shrub or small tree that may form thickets or occur singly, has tiny (under 3 cm long, under 1 cm wide), oblong leaves, and globose fruits, 4-6 mm in diameter. Common spicebush (*Lindera benzoin*) is a taller, more upright shrub with leaves generally widest above the middle (obovate) and, when crushed, emitting a strong, lemony aroma.

MANAGEMENT RECOMMENDATIONS: Avoid drainage of site.

REMARKS: This species was first collected in the latter 18th century, in Berkeley County, South Carolina. Stephen Elliott (1771-1830), author of *A Sketch of the Botany of South Carolina and Georgia* (1816-24), made the first collection from Georgia at the start of the 19th century. By the mid-1800s any knowledge of locations for it in the state was lost to science. Roland Harper rediscovered the plant in Wheeler County in 1903. It is now known in Georgia from only four small populations. Most remaining populations consist only of male plants, often apparently sprouts of a single individual. Dioecious species (with separate male and female plants) such as this one are probably even more severely affected than most by habitat fragmentation. Because of habitat loss, plants become ever more isolated, lessening the likelihood that a pollinator will travel from one individual to another of the opposite sex. *Lindera melissifolia* is rare throughout its range, and has sustained significant habitat loss due to draining of its habitat for conversion to agriculture or pine plantation.

SELECTED REFERENCES

DeLay, L., R. O'Conner, J. Ryan, and R. R. Currie. 1993. Recovery plan for pondberry (*Lindera melissifolia* [Walt.] Blume). United States Fish and Wildlife Service, Atlanta, Georgia. 56 pp.

Godfrey, R. K. 1988. Trees, Shrubs, and Woody Vines of Northern Florida and Adjacent Georgia and Alabama. University of Georgia Press, Athens. 734 pp.

Radford, A. E., H. E. Ahles, and C. R. Bell. 1968. Manual of the Vascular Flora of the Carolinas. University of North Carolina Press, Chapel Hill. 1183 pp.

Small, J. K. 1933. Manual of the Southeastern Flora. 1972 Reprint Edition. Hafner Publishing Company, New York. 1554 pp.

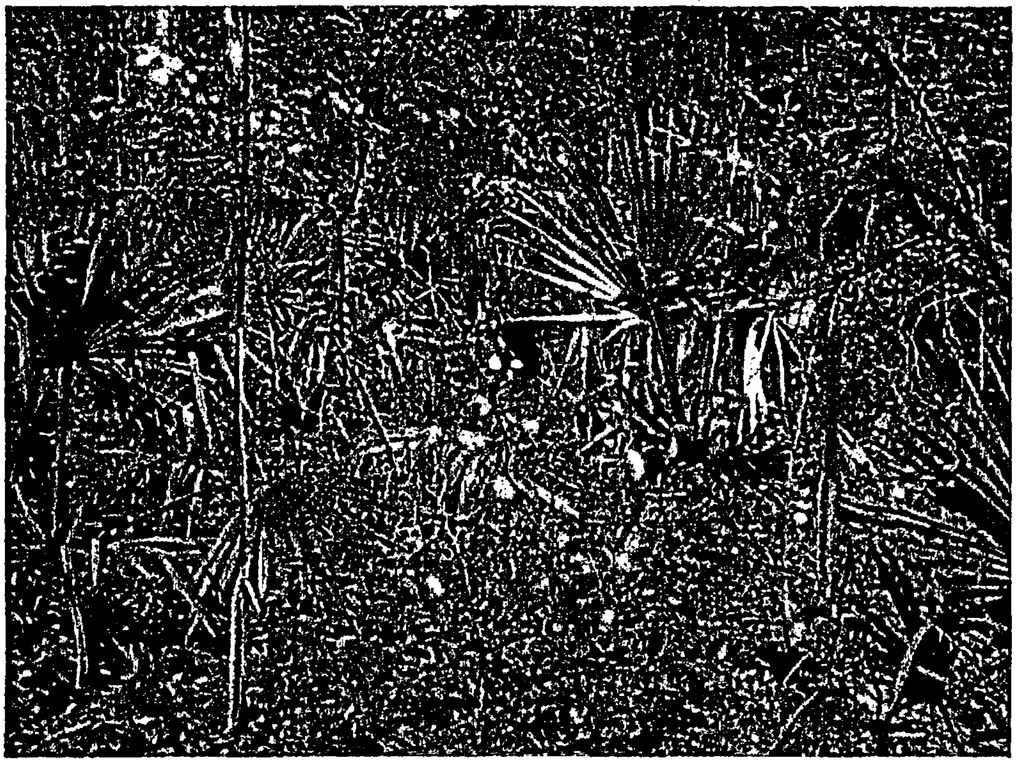
Tucker, G. E. 1984. Status report on *Lindera melissifolia* (Walter) Blume. United States Fish and Wildlife Service, Region Office, Atlanta, Georgia. 45 pp.

Wood, C. E. 1958. The genera of woody Ranales in the southeastern United States. Journal of the Arnold Arboretum 39:296-346.

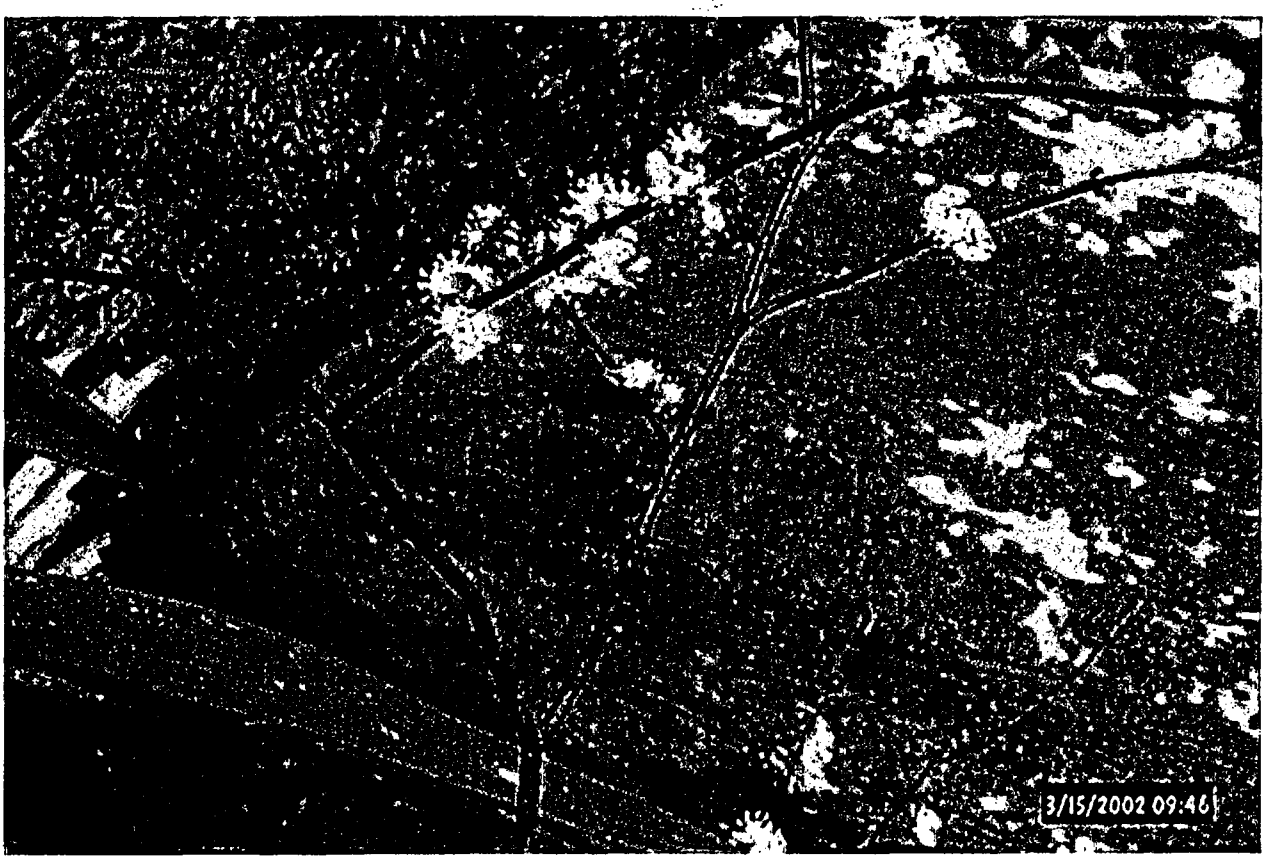
Wright, R. D. 1990. Species biology of *Lindera melissifolia* (Walt.) Blume in Northeast Arkansas. *In:* Mitchell, R. S., C. J. Sheviak, and D. J. Leopold (editors), Ecosystem Management: Rare Species and Significant Habitats. Bulletin Number 471. New York State Museum, Albany. 314 pp.

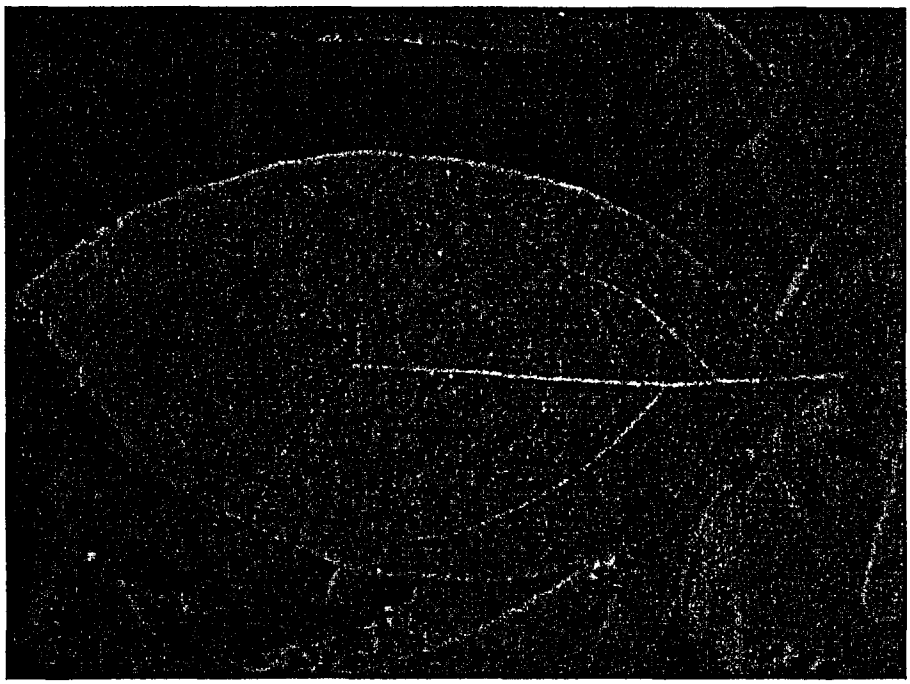
Wurdack, K. J. 1989. *Lindera melissifolia* in Georgia: a historical review and the rediscovery of Harper's station in Wheeler Co. Euosmus, Newsletter on Native Lauraceae. Numbers 2 and 3. Published by the author. 6 pp.

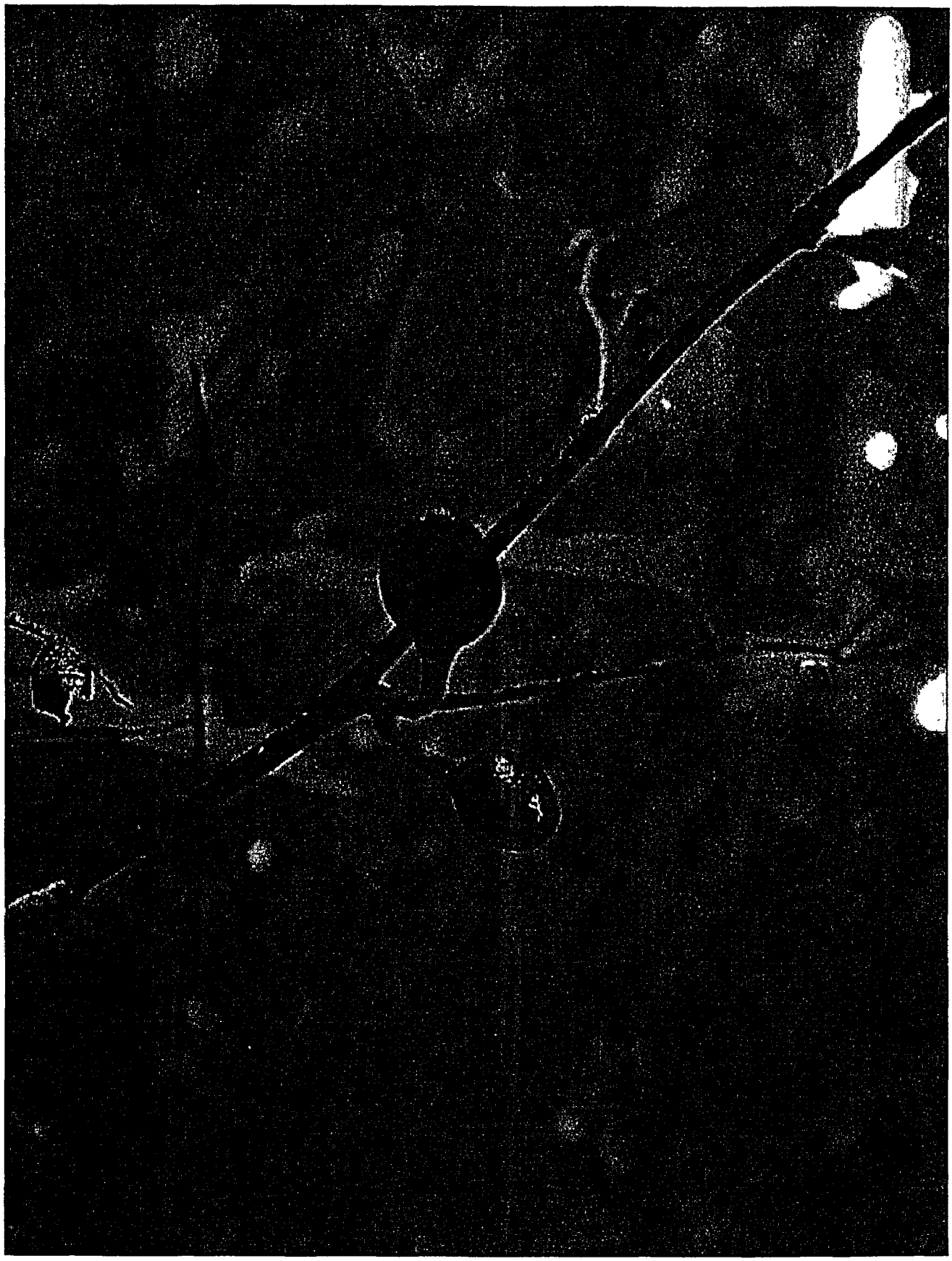
512 Sand hill
890 Cypress-Gum Hardwood
900 Bottomland Hardwood
980 Shrub Wetland
990 Emergent Forest Wetland

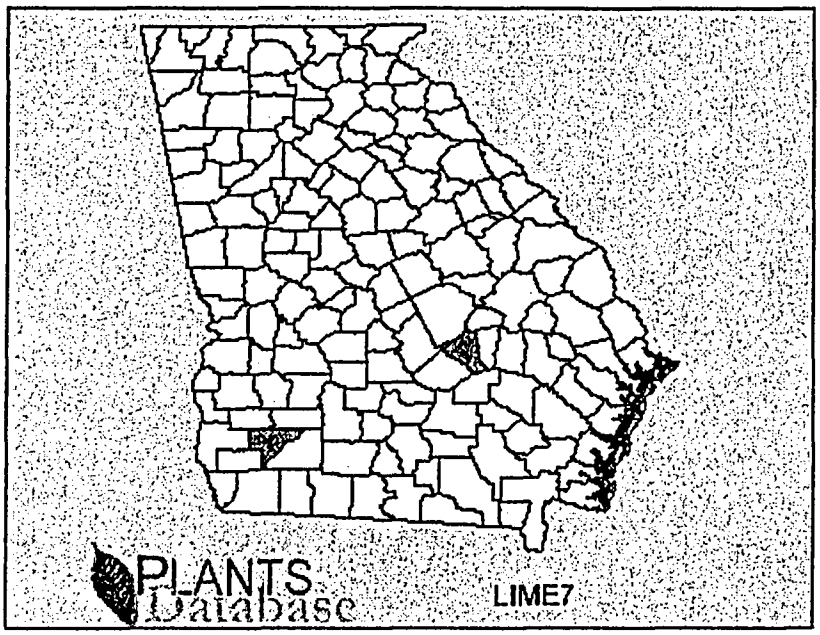


Habitat picture


3/15/2002 09:46







County Distribution of
LIME7 in Georgia

Lindera melissifolia (Walt.)
Blume
southern spicebush

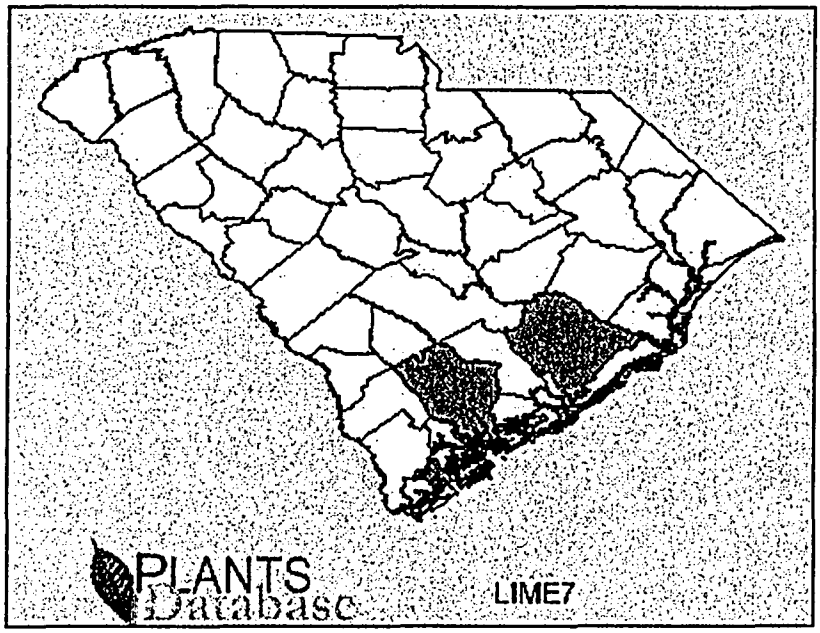
Return to the
LIME7 Plant Profile Page

Our county data are based primarily on the literature, herbarium specimens, and confirmed observations. Not all populations have been documented, however, and significant gaps in the distribution shown above may not be real. Please use the Distribution Update module to improve the data by adding your new distribution information to PLANTS. Remember that only native and naturalized populations are mapped!

Intellectual Property Statement / How to Cite the PLANTS Database

Disclaimers

Time Generated: Fri 11:35 AM - 02/11/2005



County Distribution of
LIME7 in South Carolina

Lindera melissifolia (Walt.)
Blume
southern spicebush

Return to the
LIME7 Plant Profile Page

Our county data are based primarily on the literature, herbarium specimens, and confirmed observations. Not all populations have been documented, however, and significant gaps in the distribution shown above may not be real. Please use the Distribution Update module to improve the data by adding your new distribution information to PLANTS. Remember that only native and naturalized populations are mapped!

Time Generated: Fri 11:35 AM - 02/11/2005

Litsea aestivalis (Linnaeus) Fernald

Pond Spice

Laurel Family, LAURACEAE

LEGAL STATUS:
State: THREATENED
Federal: CANDIDATE

SYNONYMY:
Glabraria geniculata (Walter) Britton
Malapoenna geniculata (Walter) Coulter

RANGE: Southeastern Coastal Plain from Louisiana through northern Florida to North Carolina; extirpated in southeastern Virginia. Recorded from 13 counties in Georgia (see map).

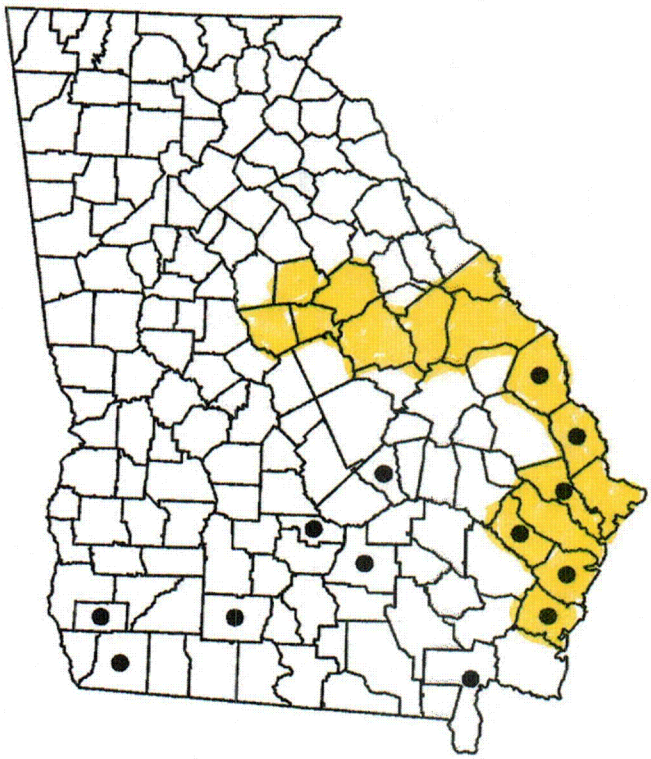
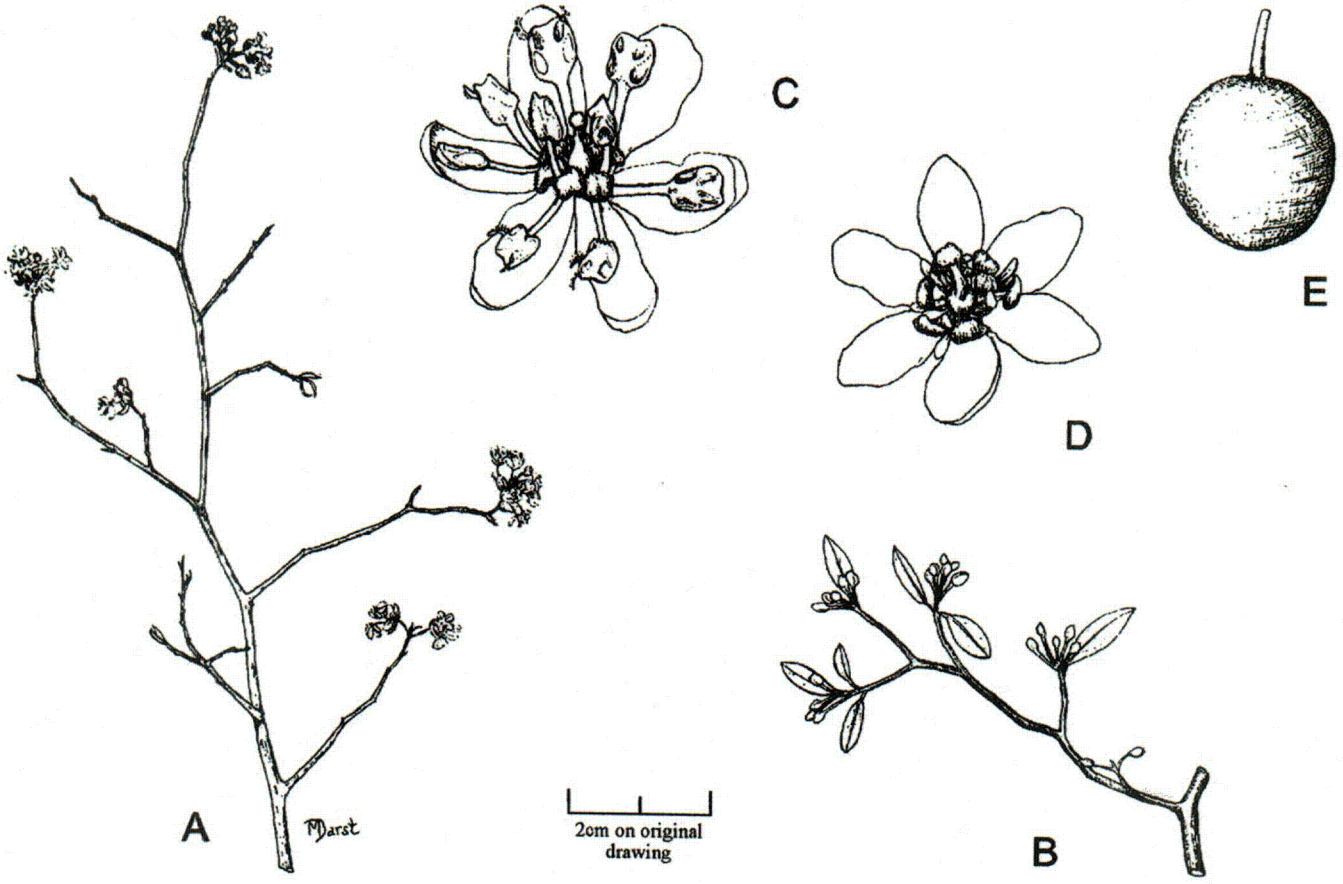


ILLUSTRATION: (A) flowering branch, early spring (March) bloom prior to leaf emergence, 1x; (B) branch, with flower buds, in late fall (November) just prior to leaf fall, 0.8x; (C) male flower, 10x; (D) female flower, 10x; (E) fruit (drupe), 4x. Source: Godfrey (1988), drawn by Melanie Darst and used with permission.

DESCRIPTION: Deciduous shrub. Pond spice is up to 3 m tall (usually smaller, 1-2 m tall), with zigzag branches, the twigs bent frequently. The leaves are alternate, oblong to narrowly elliptic, 1.5-4.0 cm long, 0.5-1.0 cm wide, and attached by slender, short (under 5 mm long), purplish



From: Patrick, Allison and Krakow (1995), *Protected Plants of Georgia*, Georgia Department of Natural Resources

leafstalks (petioles). Male and female flowers are produced on different plants (dioecious), appearing before the leaves in umbellate clusters at the ends of branchlets. The six outer parts of both male and female flowers are petal-like (tepals), yellow, and 3.0-3.5 mm long. The male flowers are in denser clusters, with 9-12 stamens surrounded by a circle of scale-like sterile stamens. In contrast, the female flowers are less conspicuous, with fewer flowers per cluster and a single pistil surrounded by a ring of nectar-producing glands and scale-like sterile stamens (see illustration). The fruit is a globose, red drupe, 4-6 mm in diameter. **Flowering period**: March to April; **fruiting period**: May to June. **Best search time**: during entire growing season, since the tiny leaves and zigzag twigs are distinctive.

HABITAT: Found on margins of swamps, cypress ponds, sandhill depression ponds, and in hardwood swamps.

SPECIAL IDENTIFICATION FEATURES: Leaves of pond spice are among the smallest (usually about 3 cm long and 1 cm wide) of any native, wetland shrub and resemble myrtle-leaved holly or dahoon (*Ilex myrtifolia*). The holly has shiny, evergreen leaves tipped by a bristle, and red to yellow berry-like fruits, 5-8 mm in diameter, each with 4-9 seeds. In contrast, the pond spice has dull, deciduous leaves rounded at both ends, and red fruits (drupes), 4-6 mm in diameter, each with a single seed.

MANAGEMENT RECOMMENDATIONS: Avoid drainage of site.

REMARKS: *Litsea* is a genus of around 400 species, growing mostly in the warmer regions of the Old World. The name is said to be of Chinese origin. This is the only species of the genus that is native to the continental United States. *Litsea aestivalis* is rare throughout its range, and has sustained significant habitat loss due to draining of its habitat.

512 Sandhill
890 Cypress - Gum Swamp
500 Bottomland Hardwood
980 Shrub Wetland
990 Evergreen Forested Wetland

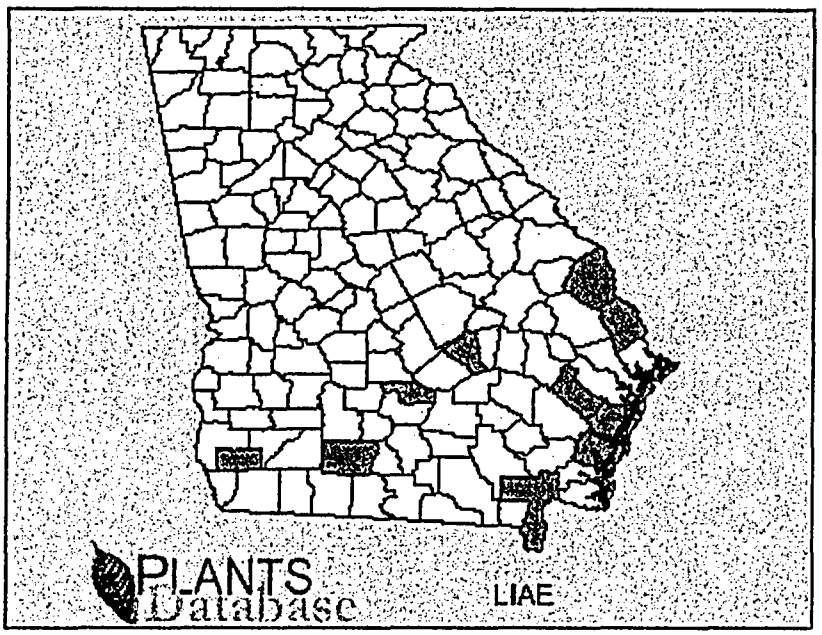
SELECTED REFERENCES

Godfrey, R. K. 1988. Trees Shrubs, and Woody Vines of Northern Florida and Adjacent Georgia and Alabama. University of Georgia Press, Athens. 734 pp.

Radford, A. E., H. E. Ahles, and C. R. Bell. 1968. Manual of the Vascular Flora of the Carolinas. University of North Carolina Press, Chapel Hill. 1183 pp.

Small, J. K. 1933. Manual of the Southeastern Flora. 1972 Reprint Edition. Hafner Publishing Company, New York. 1554 pp.

Wood, C. E. 1958. The genera of woody Ranales in the southeastern United States. Journal of the Arnold Arboretum 39:296-346.



County Distribution of LIAE
in Georgia

Litsea aestivalis (L.) Fern.
pondspice

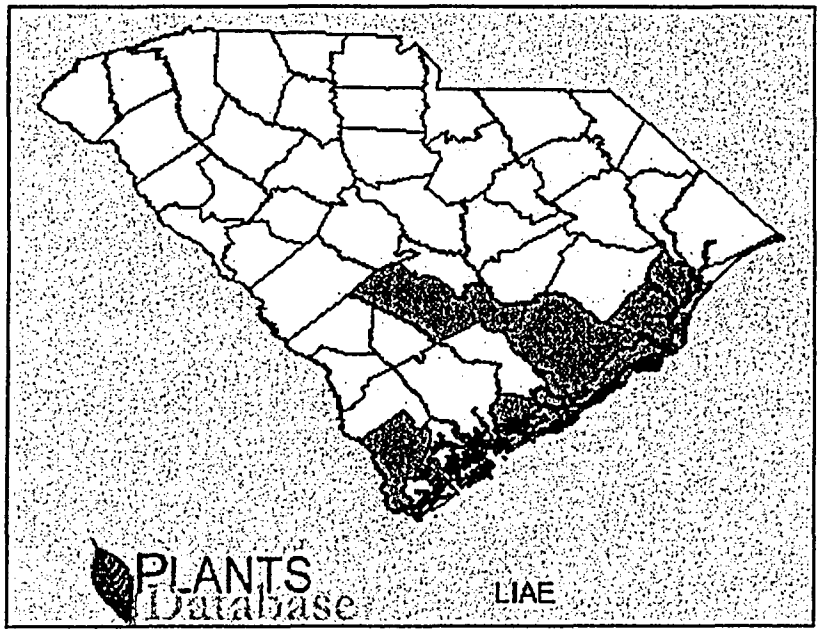
Return to the
LIAE Plant Profile Page

Our county data are based primarily on the literature, herbarium specimens, and confirmed observations. Not all populations have been documented, however, and significant gaps in the distribution shown above may not be real. Please use the Distribution Update module to improve the data by adding your new distribution information to PLANTS. Remember that only native and naturalized populations are mapped!

Intellectual Property Statement / How to Cite the PLANTS Database

Disclaimers

Time Generated: Fri 11:41 AM - 02/11/2005



County Distribution of LIAE
in South Carolina

Litsea aestivalis (L.) Fern.
pondspice

Return to the
LIAE Plant Profile Page

Our county data are based primarily on the literature, herbarium specimens, and confirmed observations. Not all populations have been documented, however, and significant gaps in the distribution shown above may not be real. Please use the Distribution Update module to improve the data by adding your new distribution information to PLANTS. Remember that only native and naturalized populations are mapped!

Intellectual Property Statement / How to Cite the PLANTS Database

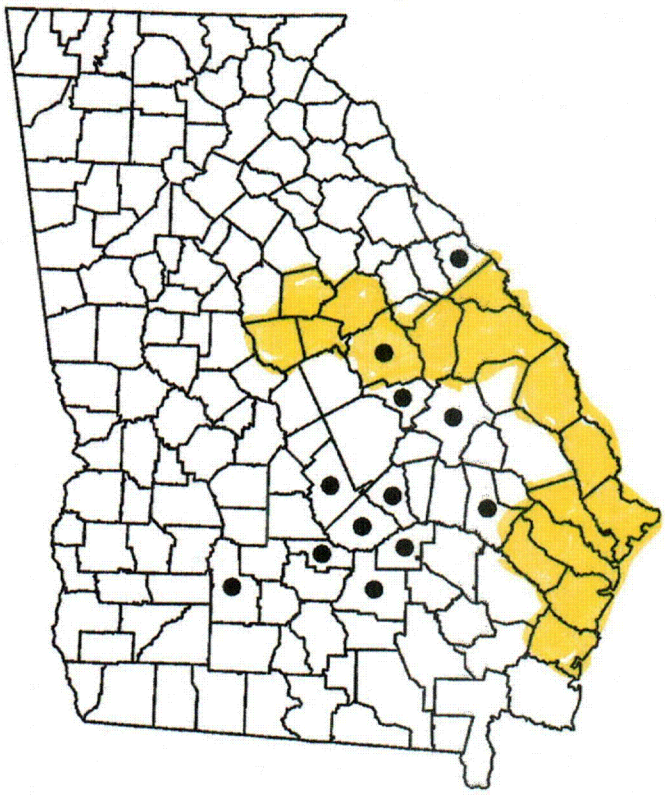
Disclaimers

Time Generated: Fri 11:41 AM - 02/11/2005

Marshallia ramosa Beadle & F. E. Boynton

Pineland Barbara Buttons, Pine Barrens Barbara Buttons

Aster Family, ASTERACEAE



LEGAL STATUS:
State: RARE
Federal: CANDIDATE

SYNONYMY: None in current usage.

RANGE: Mostly on the Coastal Plain of Georgia; disjunct at one site on the Florida Panhandle, and on Burks Mountain on the Piedmont in Columbia County, Georgia. Recorded from 12 counties in Georgia (see map).

ILLUSTRATION: Plant habit; note basally disposed leaves and multiple flower heads, 0.5x. Source: original drawing by Vicky Holifield.

DESCRIPTION: Perennial herb. The stems are usually clumped, branched and 4-6 dm tall. The leaves are either linear, narrowly elliptic or oblanceolate, 8-20 cm long, up to 1.5 cm wide, and 3-nerved. The larger and longer-stalked leaves are near the stem base. The leafstalks tend to be purplish. The flowers are in terminal, flat-topped clusters of usually 4-12 heads, each 1.5-2.0 cm wide, subtended by numerous, rounded to minutely pointed bracts, and composed only of tubular flowers (disk flowers). The disk flowers are pale rose to white, each subtended by a single, persistent, rounded to minutely pointed, scale-like bract (chaff). The fruit is a 5-angled, 10-ribbed achene, about 2 mm long, with a hairy surface. The fruits are topped by a crown (pappus) of five,

From: Patrick, Allison and Krakow (1995), *Protected Plants of Georgia*, Georgia Department of Natural Resources

narrowly triangular, sharply pointed scales, which are 1.0-1.5 mm long. The fruits are found among the many bracts (chaff), which persist on the flower head. **Flowering period:** mid-May to June, sporadically into July during wet summers; **fruiting period:** July to September. **Best search time:** during flowering, since the plants are less conspicuous during fruiting.

HABITAT: Found in open, mixed oak-longleaf pine forests in thin soils on and near rock outcrops, particularly of the Altamaha Formation found on the Inner Coastal Plain. The Altamaha Grit, as this rock type is often called, is a coarse, gritty sandstone-like, indurated (hardened) clay. Plants are also found on serpentine-like rock outcrops, which are rich in magnesium, as on Burks Mountain in Columbia Co.

SPECIAL IDENTIFICATION FEATURES: *Marshallia ramosa* has a small stature (usually under 6 dm tall) with usually 4-12 heads per plant, and has flowers in relatively small heads (under 2 cm broad). In contrast, the more common species, *Marshallia tenuifolia* (*M. graminifolia* subsp. *tenuifolia*), has a taller stature (nearly 1 m tall) with numerous, long-tapered (grasslike) leaves, and flowers in larger (2-3 cm broad) heads. In addition, *M. tenuifolia* blooms from midsummer into fall, while *M. ramosa* typically blooms from late spring to early summer. A third species that occurs within the range of *M. ramosa* is *M. obovata*. It is easily distinguished by its unbranched stems that are leafless in the upper half, and a broader leaf shape (oblanceolate to elliptic).

MANAGEMENT RECOMMENDATIONS: Prevent encroachment of woody vegetation through controlled burning. Hand thinning of shading trees in its vicinity, if done carefully, may be beneficial to this species.

REMARKS: Charles Lawrence Boynton (1864-?) made the first collection of this species in 1900, near Eastman, in Dodge County. Along with *Marshallia mohrii*, Chauncey Delos Beadle and Frank Ellis Boynton described it the following year. It has since been found at about 20 locations, including a single site in Washington County, Florida. Although once described as abundant in Dodge County, it has not been reported from there since 1903. *Marshallia ramosa* is rare throughout its limited range.

SELECTED REFERENCES

Channell, R. B. 1957. A revisional study of the genus Marshallia (Compositae). Contributions of the Gray Herbarium 181:41-132.

Clewell, A. F. 1985. Guide to the Vascular Plants of the Florida Panhandle. Florida State University Press, Tallahassee. 605 pp.

Cronquist, A. 1980. Vascular Flora of the Southeastern United States. Volume 1. Asteraceae. University of North Carolina Press, Chapel Hill. 261 pp.

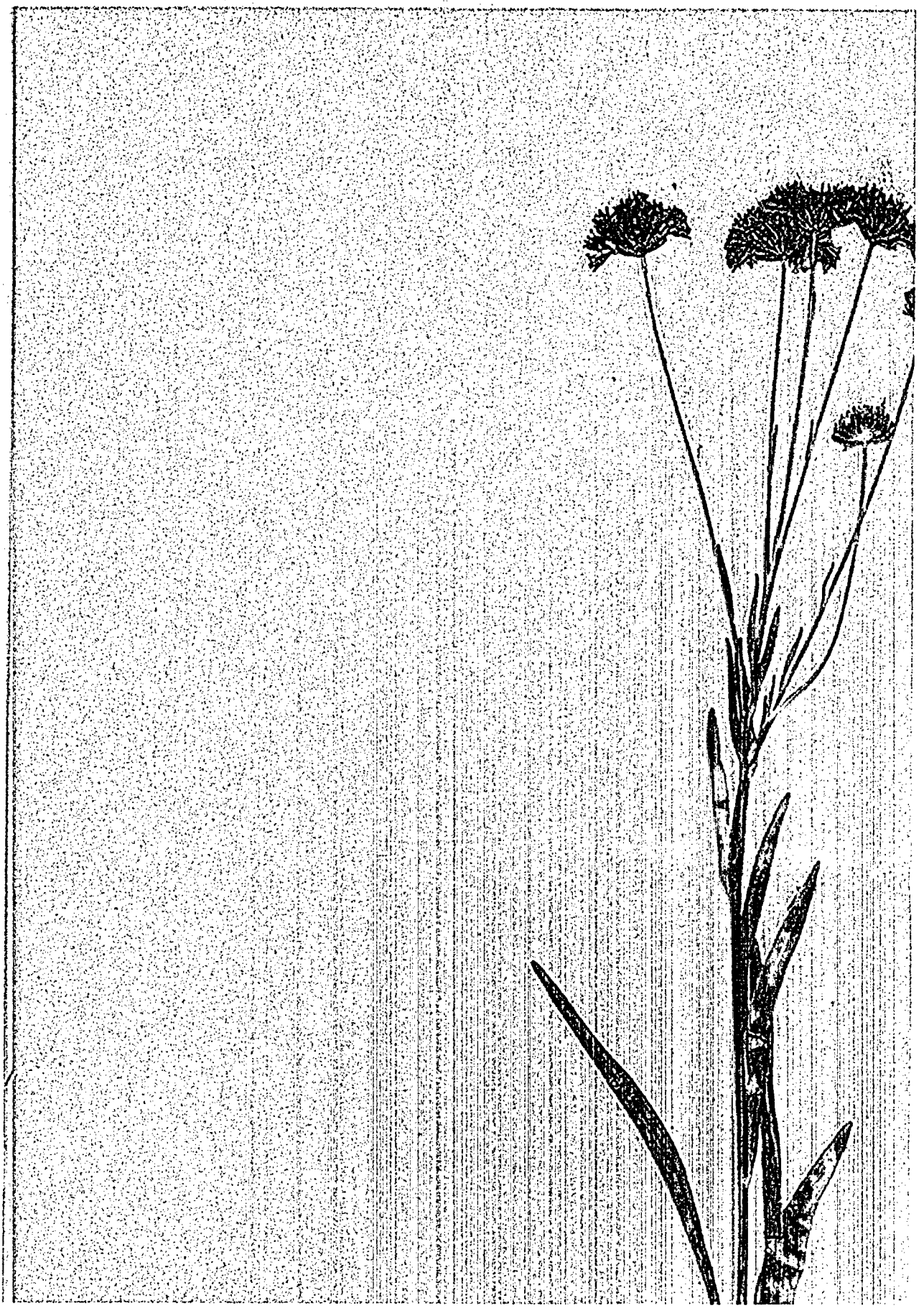
Duncan, W. H. and L. E. Foote. 1975. Wildflowers of the Southeastern United States. University of Georgia Press, Athens. 296 pp.

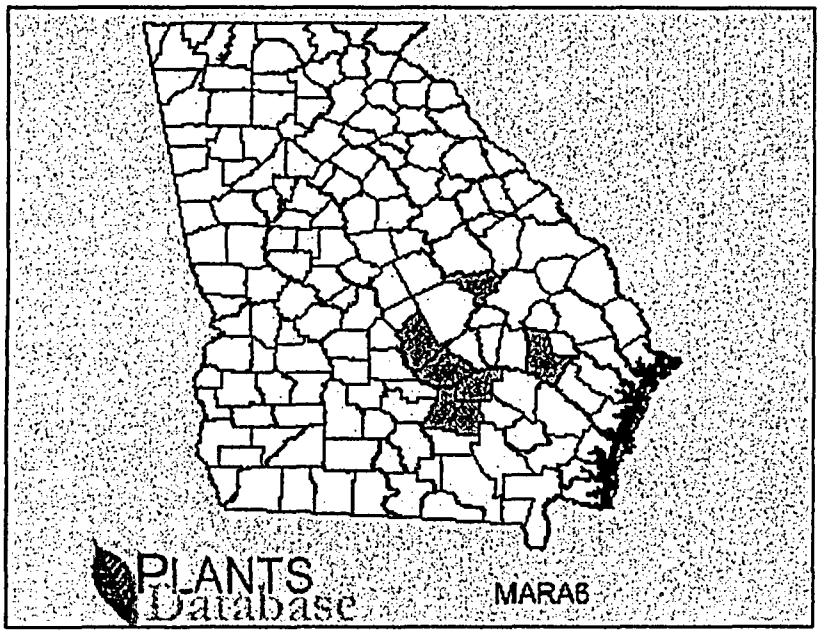
Kral, R. 1983. A report on some rare, threatened, or endangered forest-related vascular plants of the South. Technical Publication R8-TP2. United States Forest Service, Atlanta, Georgia. 1305 pp.

Rickett, H. W. 1966. Wild Flowers of the United States. Volume 2. The Southeastern States. McGraw-Hill, New York. 688 pp.

Watson, L. E. and J. R. Estes. 1990. A biosystematic and phenetic analysis of morphological variation in *Marshallia* (Asteraceae). Systematic Botany 15:403-414.

412 Hardwood Sars
422 Open hobbolly-Shortleaf Pine
620 Longleaf Pine
434 Mixed Pine-Hardwood





County Distribution of
MARA6 **in** Georgia

Marshallia ramosa Beadle &
F.E. Boynt.
southern Barbara's buttons

Return to the
MARA6 Plant Profile Page

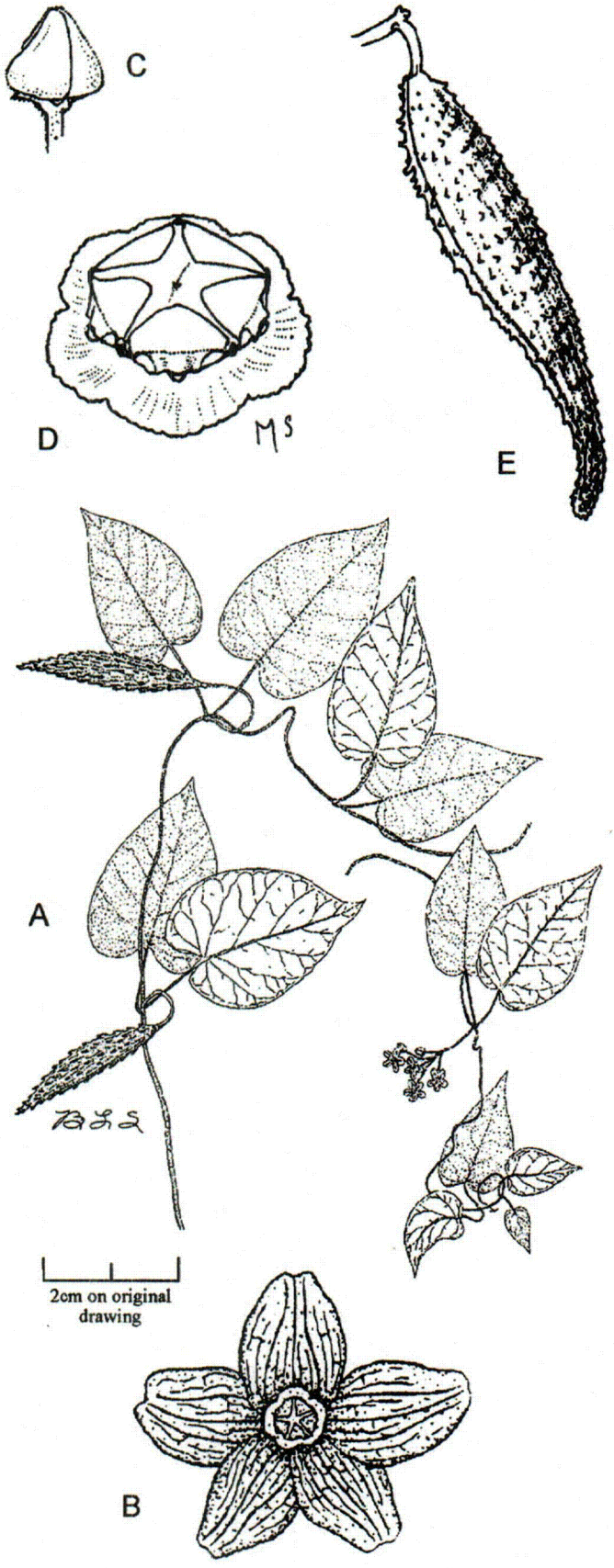
Our county data are based primarily on the literature, herbarium specimens, and confirmed observations. Not all populations have been documented, however, and significant gaps in the distribution shown above may not be real. Please use the Distribution Update module to improve the data by adding your new distribution information to PLANTS. Remember that only native and naturalized populations are mapped!

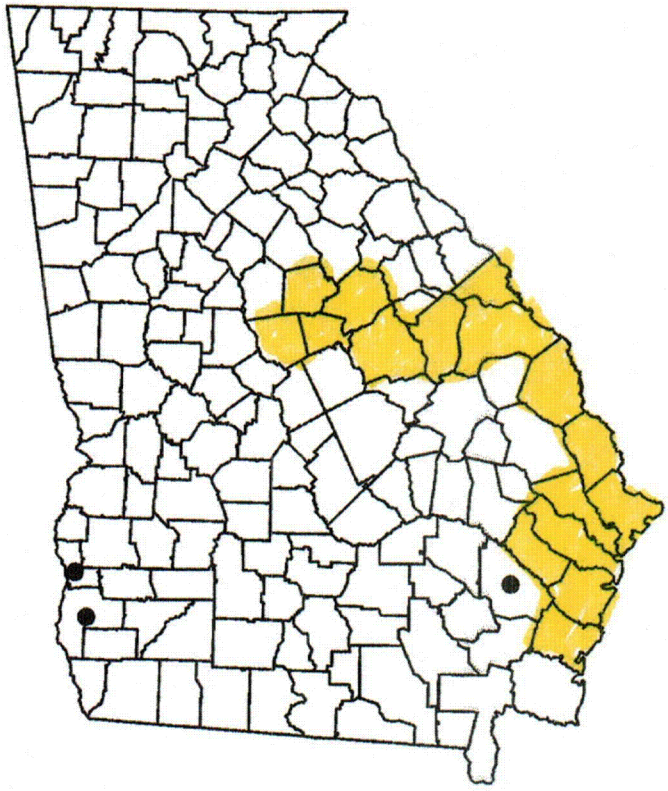
Time Generated: Fri 11:46 AM - 02/11/2005

Matelea alabamensis (Vail) Woodson

Alabama Spiny-pod, Alabama Milkvine

Milkweed Family, ASCLEPIADACEAE





LEGAL STATUS:
State: THREATENED
Federal: CANDIDATE

SYNONYMY:
Cyclodon alabamensis (Vail) Small
Vincetoxicum alabamense Vail

RANGE: Coastal Plain of southeastern and southwestern Georgia to the Florida Panhandle and adjacent Alabama. Recorded from three counties in Georgia (see map).

ILLUSTRATION: (A) two vines, terminal portions, showing opposite leaves, fruits, and a flower cluster, 0.4x; (B) flower, showing strong veins in petals, 2.5x; (C) flower bud, lateral view, with equilateral-triangle shape, 2x; (D) detail of 5-sided center of flower (gynostegium) on the cushion-like disk (corona), 10x; (E) fruit, 0.8x. Source: (A, B) McDaniel (1982), drawn by Barry L. Snow; (C, D, E) Drapalik (1970), drawn by Marion Seiller and used with permission.

DESCRIPTION: This is an herbaceous vine, climbing by twining rather than by tendrils, to about 2 m tall, with milky sap. Leaves opposite, widely ovate or ovate-oblong, up to 15 cm long and 12 cm wide, the apex acute to abruptly tapered, and the base heart-shaped (cordate). The inflorescence consists of one or more axillary clusters of 1-12 flowers that are 5-parted. The fruit is a pod about 6-9

cm long, covered with small, pointy projections. The above description can apply to several species in this genus; identification to species in this group relies heavily on characteristics of the fresh flowers, which are highly modified for pollination by flies. In this species the petals are green and up to 1 cm long, with a network of darker green veins. In the center of the flower is a rounded-pentagonal, green and white structure, 2.3-2.6 mm wide, called the gynostegium. It is mounted on top of a low, cushion-like, yellow- to orange-colored disk, about 3-4 mm wide, called the corona. In most species, the corona ("crown") has a number of pointy appendages, but in this species they fail to project above the gynostegium due to their weak development. **Flowering period:** April to June; **fruiting period:** August to October. **Best search time:** during flowering, since fresh flowers, color photos of the flowers, or flowers preserved in fluid are needed for positive identification.

HABITAT: Found on upper areas of slopes and bluffs and in open or dense oak-hickory-mixed hardwood forests, in sandy, acidic to near neutral soils.

SPECIAL IDENTIFICATION FEATURES: Most milkvines need to be in flower for positive identification. They can be distinguished by the coloration and size of the flower parts as seen with the naked eye. *Matelea alabamensis* has light green petals, each about 1 cm long with a network of darker green veins, and a column (gynostegium) in the flower center that is mostly white to yellow-green, more than 2 mm in diameter, and surrounded by a shiny yellow band at its base. It can be confused with Florida milkvine (*Matelea flavidula*), which may have similar coloration and petal characters. However, *Matelea flavidula* has petals that are either green, yellow or olive-maroon, and a column in the flower center that is mostly green to pinkish-maroon, only about 1.5 mm in diameter, and surrounded both by a crown-like yellow structure (corona) at the height of the column *and* by a lighter-colored (usually cream-colored or white) band at its base.

MANAGEMENT RECOMMENDATIONS: Hand thinning of shading trees in its vicinity, if done carefully, may be beneficial to this species. Control exotic weeds, especially Japanese honeysuckle.

REMARKS: Anna Murray Vail (1863-1955) described *Matelea alabamensis* in 1903, based on two collections made the previous year by Thomas Grant Harbison (1862-1936), in Dale County, Alabama. Robert Thorne made the first collection from Georgia in 1947, from Clay or Early County. It has since been found at about four other locations in Georgia and at a few places in the Florida Panhandle. No localities are known to persist in Alabama. *Matelea alabamensis* is rare throughout its range. It has sustained significant habitat loss, chiefly due to clearing of hardwood forest for conversion to agricultural land or pine plantation.

SELECTED REFERENCES

Clewell, A. F. 1985. Guide to the Vascular Plants of the Florida Panhandle. Florida State University Press, Tallahassee. 605 pp.

Drapalik, D. J. 1970. A biosystematic study of the genus *Matelea* in the southeastern United States. Unpublished Ph.D. dissertation, University of North Carolina, Chapel Hill. 220 pp.

Duncan, W. H. and L. E. Foote. 1975. Wildflowers of the Southeastern United States. University of Georgia Press, Athens. 296 pp.

McDaniel, S. 1982. Status report on *Matelea alabamensis*. United States Fish and Wildlife Service, Region Office, Atlanta, Georgia. 6 pp., 4 appendices.

Rickett, H. W. 1966. Wild Flowers of the United States. Volume 2. The Southeastern States. McGraw-Hill, New York. 688 pp.

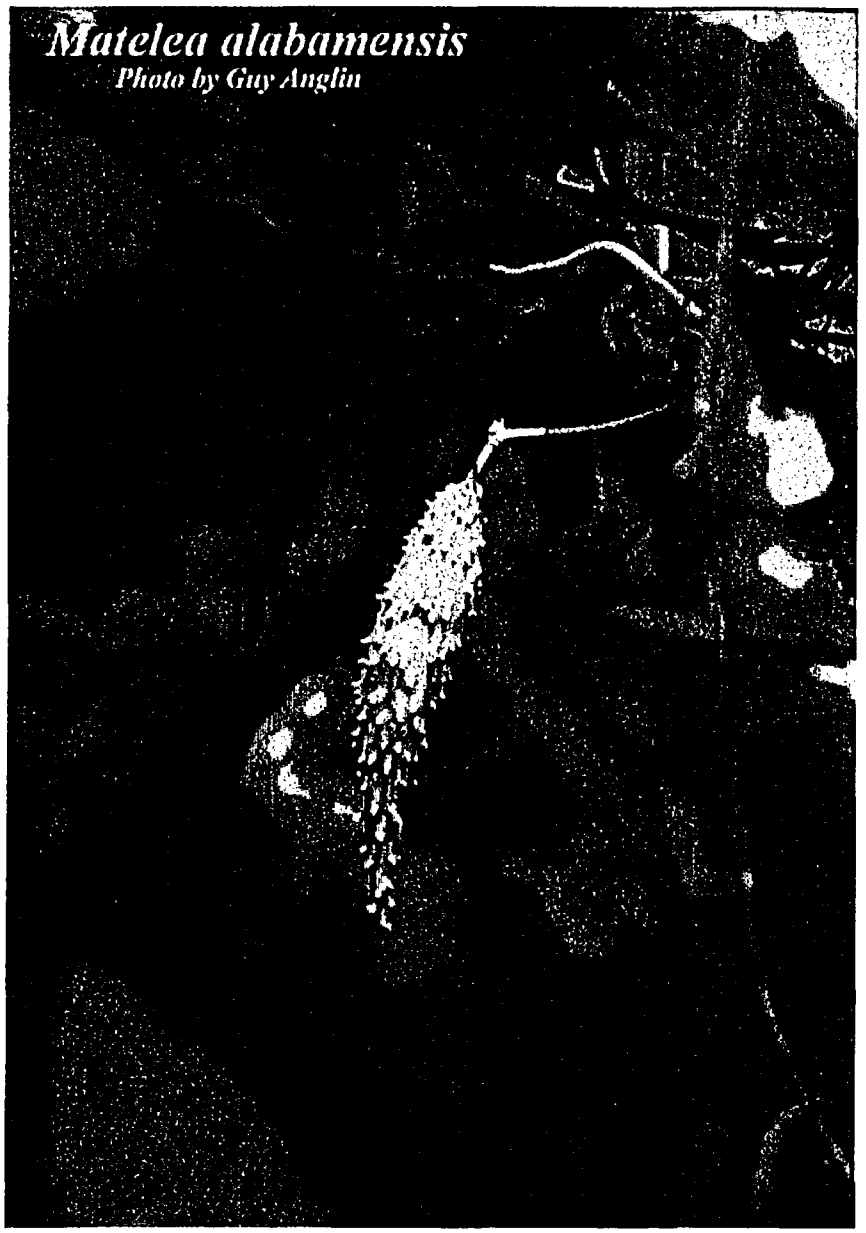
Rosatti, T. J. 1989. The genera of suborder Apocyninеae (Apocynaceae and Asclepiadaceae) in the southeastern United States. Journal of the Arnold Arboretum 70:443-514.

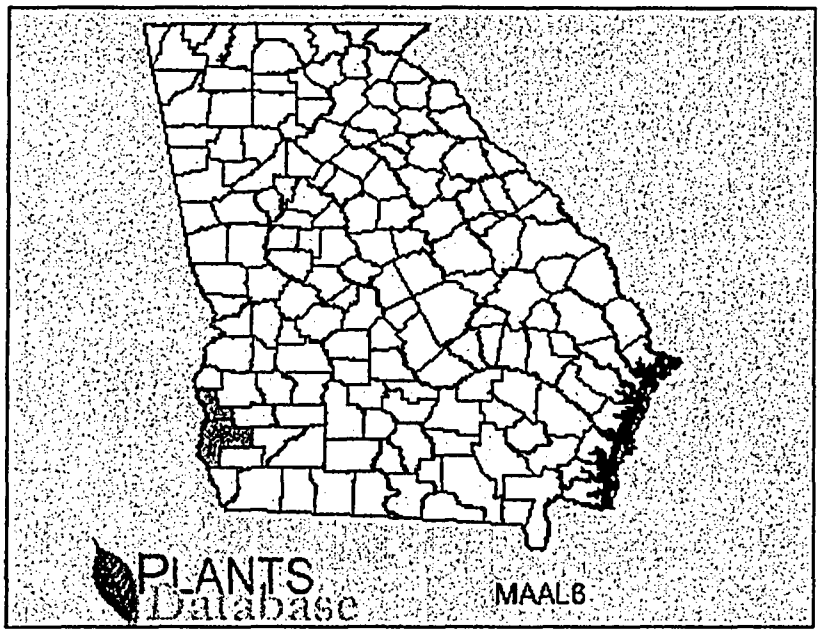
Vail, A. M. 1903. Studies in the Asclepiadaceae. VII. A new species of *Vincetoxicum* from Alabama. Bulletin of the Torrey Botanical Club 30:178-179, pl. 9.

Ward, D. B. (editor). 1978. Rare and endangered biota of Florida. Volume 5. Plants. University Presses of Florida, Gainesville. 175 pp.

412 Hardwood Forest
434 Mixed Pine-Hardwood
413 Xeric Hardwood


Matelea alabamensis
Photo by Fred Nation


Matelea alabamensis
Photo by Guy Anglin



County Distribution of
MAAL6 in Georgia

Matelea alabamensis (Vail)
Woods.
Alabama milkvine

Return to the
MAAL6 Plant Profile Page

Our county data are based primarily on the literature, herbarium specimens, and confirmed observations. Not all populations have been documented, however, and significant gaps in the distribution shown above may not be real. Please use the Distribution Update module to improve the data by adding your new distribution information to PLANTS. Remember that only native and naturalized populations are mapped!

Intellectual Property Statement / How to Cite the PLANTS Database

Disclaimers

Time Generated: Fri 11:55 AM - 02/11/2005