



Common Name: SMOOTH CONEFLOWER

Scientific Name: *Echinacea laevigata* (C. L. Boynton & Beadle) Blake

Other Commonly Used Names: none

Previously Used Scientific Names: *Echinacea purpurea* (Linnaeus) Moench var. *laevigata* (C. L. Boynton & Beadle) Cronquist

Family: Asteraceae/Compositae (aster)

Rarity Ranks: G2/S2

State Legal Status: Endangered

Federal Legal Status: Endangered

Federal Wetland Status: none

Description: Perennial **herb** with smooth, usually unbranched stems up to 14 - 43 inches (35 - 110 cm) tall. **Basal leaf blades** 4 - 20 inches (10 - 50 cm) inches long and 1 - 2½ inches (3 - 6.5 cm) wide, with slightly winged, purplish **leaf stalks** up to 10 inches (26 cm) long; lower leaf surface smooth, upper surface smooth or slightly rough; leaf margins with small teeth, especially near the tip. **Stem leaves** similar in shape to basal leaves, alternate, widely spaced, and gradually reduced in size up the stem. **Flower head** solitary at the top of the stem, with a central, rounded or cone-shaped disk about 1 inch (3 cm) wide and 1 ½ inches (4 cm) high. **Ray flowers** 1⅜ - 3 inches (3.5 - 8 cm) long, pink to pale purple, drooping. **Disk flowers** purple, with yellow pollen and sharp **bristles** (chaff) with purple, incurving tips. **Fruit** about $\frac{3}{16}$ inch (0.5 cm) long, dry, seedlike, 4-sided.

Similar Species: Pale purple coneflower (*Echinacea pallida*) basal leaves are up to 13 inches (33 cm) long and only 1½ inches (4 cm) wide; its pollen grains are white. It is not native to Georgia but has escaped from gardens into natural areas.

Related Rare Species: Purple coneflower (*Echinacea purpurea*, Special Concern) is widely planted in gardens but, because it requires basic soils, is rare in the wild in Georgia; it occurs in open woodlands in several north Georgia counties. Its leaves are oval, rough or hairy on both surfaces, with toothed edges and long leaf stalks; its stems are hairy; the purple ray flowers are 1 - 3 inches (3 - 8 cm) long, only slightly drooping; the chaff bristles are orange with straight tips. Also see prairie purple coneflower (*Echinacea simulata*), Special Concern, which is included on this website.

Habitat: Grassy openings and rocky glades with shallow soil over mafic bedrock; sunny roadsides and rights-of-way through these habitats. Often with rattlesnake-master (*Eryngium yuccifolium*), sunflowers (*Helianthus* spp.), shortleaf pine (*Pinus echinata*), post oak (*Quercus stellata*), and blackjack oak (*Quercus marilandica*). Historically, smooth coneflower probably occurred in prairies and savannas maintained by Native American burning, large animal grazing, and lightning-set fires.

Life History: Smooth coneflower is a perennial herb that reproduces primarily by sexual means via outcrossing and, to a lesser degree, vegetatively by the spread of rhizomes. There are no known specialized pollinators; butterflies, moths, beetles, grasshoppers, bees, wasps, true bugs, and sucking insects (such as cicadas, hoppers, and aphids) have all been seen visiting its flowers. The fruit is an achene which is gravity-dispersed and also possibly eaten by birds and small mammals. Seeds will germinate in most soil types but seedlings require full sun and open habitat to thrive. Young plants are not strong competitors and are quickly overwhelmed by other more aggressive plants.

Survey Recommendations: Surveys are best conducted during flowering (mid-May–July) and fruiting (July–October).

Range: Currently known from Georgia, South Carolina, North Carolina, and Virginia, this species was once found in Pennsylvania and Maryland.

Threats: Destruction of habitat by conversion to pine plantations, residential and commercial developments, and utility and highway rights-of-way; fire suppression in prairie habitats; use of herbicides in rights-of-way; and poaching.

Georgia Conservation Status: Approximately 25 sites comprising 3 populations are known, most in the Chattahoochee National Forest.

Conservation and Management Recommendations: Use hand-clearing or prescribed fire to restore open habitats. Avoid mechanical clearing and logging. Protect roadside and right-of-way populations from herbicides and poorly timed mowing.

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Author of species account: Linda G. Chafin

Date Compiled or Updated:

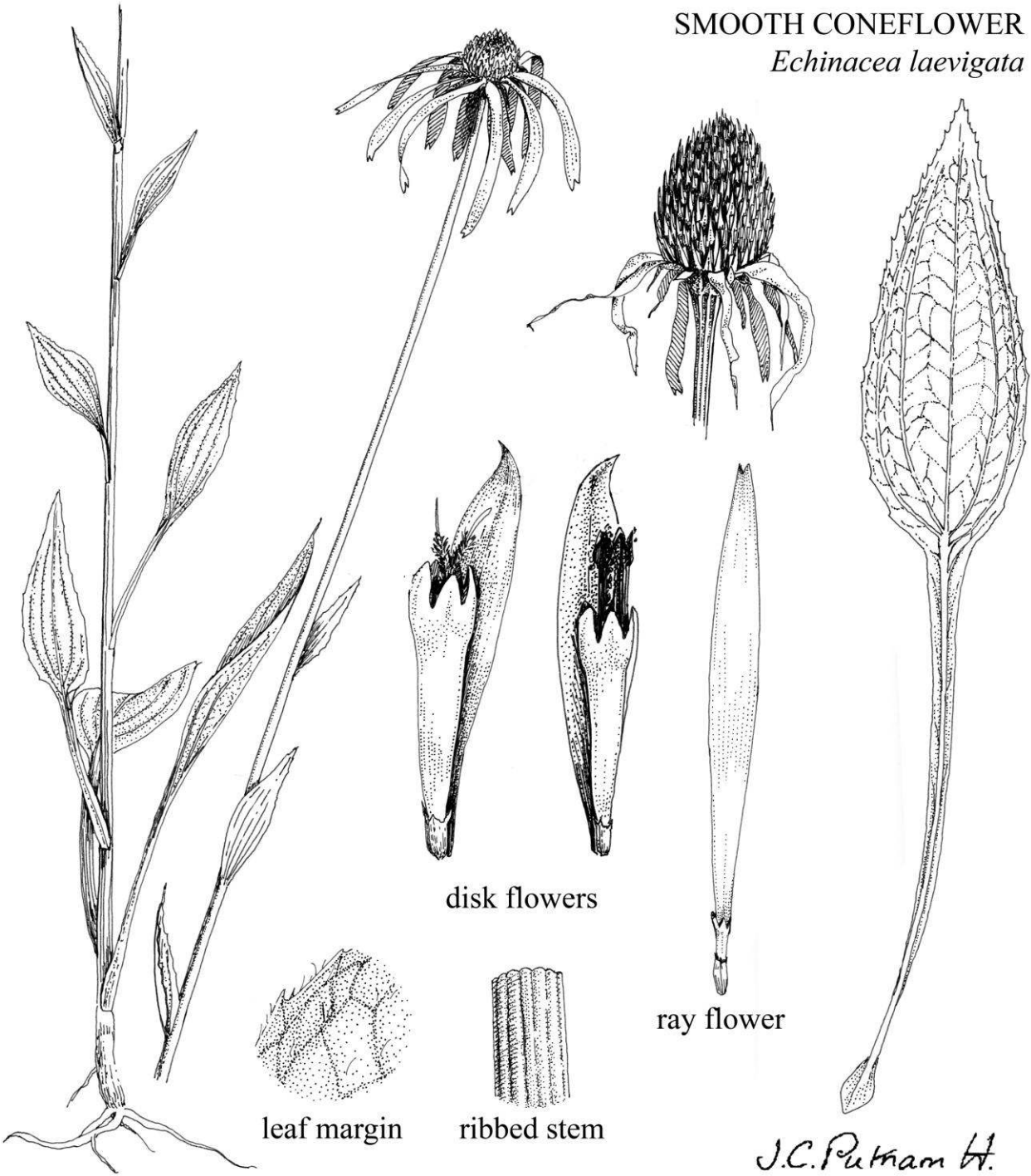
L. Chafin, Feb. 2007: original account

K. Owers, Jan. 2010: added pictures

G. Krakow, Apr. 2016: updated links under Gadd, L.E. 2006 and NCNHP 2001

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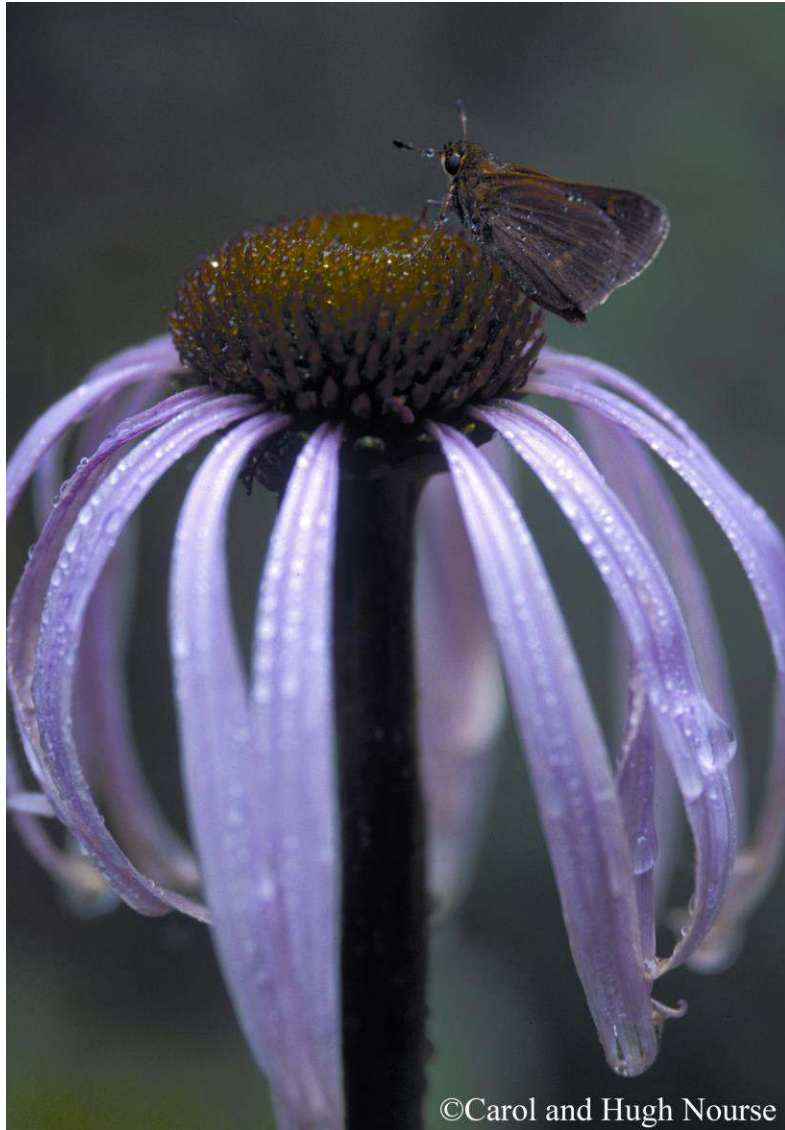
disk flowers

ray flower

leaf margin

ribbed stem

J.C. Putnam H.



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Inflorescence