



**Common Name: EASTERN TURKEYBEARD** 

Scientific Name: Xerophyllum asphodeloides (Linnaeus) Nuttall

**Other Commonly Used Names:** 

Previously Used Scientific Names: Helonias asphodeloides Linnaeus

**Family:** Melanthiaceae (bunchflower) or Liliaceae (lily)

**Rarity Ranks:** G4/S1

State Legal Status: Rare

Federal Legal Status: none

Federal Wetland Status: none

**Description:** Perennial **herb** forming large clumps of evergreen leaves. **Leaves** up to 20 inches (30 - 50 cm) long and less than 1/8 inch (2 - 3 mm) wide, grass-like and wiry with tiny saw-teeth on the edges. **Flower stalk** 20 - 60 inches (0.5 - 1.5 meters) tall, topped by a densely flowered cluster up to 12 inches (30 cm) long. **Flowers** about ½ inch (1 - 1.6 cm) across, with 6 white tepals (3 petals + 3 sepals), opening from the bottom of the cluster upward. **Fruit** a round or oval, 3-lobed capsule, less than ¼ inch (4 - 5.5 mm) long.

**Similar Species:** Fly-poison (*Amianthium muscaetoxicum*) has similar flowers and a flowering stalk 12 - 48 inches (0.3 - 1.2 meters) tall, but its leaves are wider, ¼ - 1 inch (0.5 - 2.8 cm) wide, and are not stiff, wiry, or toothed; it typically occurs in moister habitats than eastern turkeybeard. Death camas (*Zigadenus* spp.) and beargrass (*Nolina georgiana*), which have similar flowers and clumps of evergreen leaves, are found in Georgia mostly in the Coastal Plain.

**Related Rare Species:** Wild hyacinth (*Camassia scilloides*, Special Concern) occurs in 4 northwest Georgia counties in forested floodplains and moist hardwood forests over limestone. It has 3 - 8 basal leaves up to 2 feet (60 cm) long and about ¾ inch (0.5 - 2 cm) wide; flowers have 6 pale blue tepals and are in an elongated cluster that tops a leafless flowering stalk that is up to 2 feet (60 cm) tall.

**Habitat:** Dry woods with Virginia, shortleaf, or table mountain pine; dry bluffs with mountain laurel and rhododendron.

**Life History:** Eastern turkeybeard is a perennial, evergreen herb that reproduces sexually as well as vegetatively by sprouting from tuberous rhizomes. Plants live for several years before flowering then die after fruiting. Flower clusters mature from the bottom of the cluster toward the top. Little is known about reproduction in this species but research on the western turkeybeard (*Xerophyllum tenax*) found that the flowers do not produce nectar; attract only pollen-eating flies, beetles, and small bees (with flies being the most effective pollinators); and flowers require cross-pollination in order to set fruit.

**Survey Recommendations:** Surveys are best conducted during flowering (late May–June). Plants die after flowering but non-flowering leaf clumps are recognizable all year.

**Range:** Once widespread from Georgia and Alabama north to New Jersey, now rare or endangered throughout its range except in New Jersey and Virginia.

**Threats:** Logging and other mechanical clearing. Conversion of habitat to pine plantations and developments. Fire suppression, canopy closure, and shrub encroachment. Plant poaching.

**Georgia Conservation Status:** Ten populations are known, 2 on national forest land, 3 on state conservation lands.

**Conservation and Management Recommendations:** Apply prescribed fire to reduce needle duff, stimulate flowering, and eliminate encroaching shrubs. Avoid mechanical clearing but hand-clearing may be beneficial where fire is not practical. Prevent trampling by hikers and horses. Prosecute plant poachers.

## **Selected References:**

Bourg, N.A. and D.E. Gill. 2000. Ecological effects of fire on *Xerophyllum asphodeloides*, a rare Appalachian lily. In, Yaussy, D.A. Proceedings of a workshop on fire, people, and the central hardwoods landscape, March 12-14, 2000, Richmond, Kentucky. Gen. Tech. Rep. NE-274. Department of Agriculture, Forest Service, Northeastern Research Station, Newtown Square, Pennsylvania.

Bourg, N., D. Gill, and W. McShea, J. Kress. 2002. Fire and its role in metapopulation dynamics of turkeybeard (*Xerophyllum asphodeloides*), a rare forest herb. Abstract, Ecological Society of America Annual Meeting. http://abstracts.co.allenpress.com/pweb/esa2002/document/17064

Center for Plant Conservation. 2009. National collection plant profile. http://www.centerforplantconservation.org

Chafin, L.G. 2007. Field guide to the rare plants of Georgia. State Botanical Garden of Georgia and University of Georgia Press, Athens.

FNA. 2003. Flora of North America, Vol. 26, Magnoliophyta: Liliidae: Liliales and Orchidales. Oxford University Press, New York.

Horn, D., T. Cathcart, T.E. Hemmerly, and D. Duhl. 2005. Wildflowers of Tennessee, the Ohio Valley, and the southern Appalachians. Lone Pine Publishing, Auburn, Washington.

Lewis, L. 2002. Rare burst of blooms shows bright side of wildfires. National Geographic News. http://news.nationalgeographic.com/news/2002/06/0625\_020701\_fireecology.html

NatureServe. 2009. NatureServe Explorer. Arlington, Virginia. <a href="http://www.natureserve.org/explorer">http://www.natureserve.org/explorer</a>

Patrick, T.S., J.R. Allison, and G.A. Krakow. 1995. Protected plants of Georgia. Georgia Department of Natural Resources, Natural Heritage Program, Social Circle.

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.

Utech, F.H. 1978. Comparison of the vascular floral anatomy of *Xerophyllum asphodeloides* (L.) Nutt. and *X. tenax* (Pursh) Nutt. (Liliaceae-Melanthioideae). Annals of the Carnegie Museum of Natural History 47: 147-167.

Vance, N.C., P. Bernhardt, R.M. Edens. 2004. Pollination and seed production in *Xerophyllum tenax* (Melanthiaceae) in the Cascade Range of central Oregon. American Journal of Botany (91): 2060-2068.

Weakley, A.S. 2008. Flora of the Carolinas, Virginia, Georgia, northern Florida, and surrounding areas. University of North Carolina Herbarium, Chapel Hill. http://www.herbarium.unc.edu/flora.htm

**Author of Species Account:** Linda G. Chafin

## **Date Compiled or Updated:**

L.Chafin, Feb. 2009: original account D.Weiler, Jan. 2010: added pictures

## EASTERN TURKEYBEARD saw-tooth $X erophyllum\ asphodeloides$ leaf edges fruit tepal bract XJ.C. Putnam H.