NYBG

New York City EcoFlora

Ageratina altissima (L.) R.M. King & H. Rob.
White Snakeroot

Description: Perennial herb 0.2–1.5 m tall; stems from knotty crowns or rhizomes, erect or reclining, solitary or clustered, essentially glabrous. Leaves opposite, simple, the lower ones broadly ovate, the upper ovate to lanceolate, from 5–15 cm long and 3–10 cm wide, thin-textured and usually dark green, the margins coarsely toothed, the apices acuminate, the bases rounded to almost cordate; veins palmate with three distinct veins from the base; petioles spreading, about half as long as the leaf blades, slender. Inflorescences flat-topped panicles (corymbs), terminal and in the upper axils. Flowers all discoid (tubular and radially symmetrical), in heads of 15–30, bright white, fragrant, the styles also white, long exserted; phyllaries (bracts) in a single series, erect, linear with blunt apices. Fruit (achenes) oblong, black, 2–3 mm long with persistent pappus (calyx).

Where Found: Native throughout eastern North America from New Brunswick to Saskatchewan south to Florida and Texas; usually in partial sun to shade in rich, moist, neutral to basic soils. The species is found throughout New York City from pristine woodlands to walls, sidewalks and abandoned lots.

Conservation Status: There are no conservation threats to the species in New York state. It is ranked S5 (on a scale of 1–5, where 1 is the most rare) and has a coefficient of conservatism (CoC value) of 4 (on a scale of 1–10, where 1 has the least specific habitat preference).

Natural History: The persistent pappus (calyx) attached to the top of the tiny achene (fruit and seed) acts as a parachute, enabling the achene to float on wind currents. The species is very abundant and widespread throughout New York City. It persists in moderately degraded natural areas and colonizes new areas where there is some shade and competition is not too great. Several factors probably contribute to its abundance in the urban environment of New York City. It is shade tolerant; tolerates wet to moderately dry soils; prefers neutral to basic soil (higher pH), which characterizes urban soils in general with high inputs of concrete, masonry rubble, plaster, road salt, etc. (New York Soil Survey Staff, 2005); it is pollinated by a wide range of insects; and its seeds are wind-dispersed. Insects observed visiting, nectaring or collecting pollen on the plants in New York include Monarchs (*Danaus plexippus*), Blue-winged Scoliid Wasps (*Scolia dubia*) and Black-shouldered Drone Flies (*Eristalis dimidiata*).

Cultural History: As 19th Century immigrants stormed into the Midwest, the cows they brought with them foraged in woodlands and former Native American hunting grounds, settlements and farm lands—areas where White Snakeroot was abundant. Well-known to indigenous peoples as a powerful medicine, the plant

was used by them to treat snakebite and other serious conditions. When cows (but not sheep or goats) ate the plant, a toxin named tremetol caused vomiting, trembling and severe intestinal pain and it poisoned the milk. Humans who consumed the milk succumbed to the same symptoms and sometimes died. One of the most famous victims was Nancy Lincoln, mother of the sixteenth president of the United States who drank milk tainted with tremetol and died in 1818. A pioneer in more ways than one, the Illinois doctor, midwife and herbalist, Anna Pierce Hobbs Bixby (1808–1869) was the first to experimentally demonstrate the connection between the White Snakeroot plant and the illness known then as Milk Sickness, but neither she, nor the indigenous woman who taught her the plant received any professional recognition for their discovery during their lifetimes (Snively & Furbee, 1966).

Name Notes: Formerly known as *Eupatorium rugosum*, the species is now classified in the genus *Ageratina* which means *Ageratum*-like, because both genera are subshrubs with opposite leaves and conspicuous, dense corymbs of tubular flowers. But *Ageratina* are generally low-growing so Linnaeus originally named the species *Ageratum altissimum*, distinguishing this as the tall one, hence the epithet *altissimum* which means tallest. The common name, White Snakeroot, alludes to the Native American use of the plant to treat snakebite.

Species Notes: The genus *Ageratina* is endemic to the western Hemisphere and consists of about 250 species in the Eupatorieae subfamily (Nesom, 2006; Clewell & Wooten, 1971). They are distinguished from *Eupatorium* by the petiolate leaves, glabrous styles and non-glandular achenes. Within the species, there is variation in the pubescence, leaf shape and characters of the phyllaries (floral bracts) which have been used to distinguish varieties of the species. Today, only two varieties are recognized in North America (Nesom, 2006), the Common White Snakeroot, *Ageratina altissima* var. *altissima*; and the Appalachian White Snakeroot, *Ageratina altissima* var. *roanensis* (Small) Clewell & Wooten. The latter is distinguished by having phyllaries longer than 4 mm with sharp tips. It grows in the Appalachian mountains from Alabama to West Virginia. The Small-leaved White Snakeroot (*Ageratina aromatica* (L.) Spach) is a NY state endangered species. It grows in sandy woodlands, barrens and roadsides only on the coastal plain in the state. The stems are pubescent and the leaves are thicker and smaller on shorter petioles.

Links: iNaturalist observations from New York City. Specimens from the Mid-Atlantic Herbaria Consortium. Global biotic interactions from GloBI.

References: **Clewell, A.F.** and **J.W. Wooten**. 1971. A revision of *Ageratina* (Compositae: Eupatorieae) from eastern North America. Brittonia 23: 123–143. **Nesom G.L.**, 2006. *Ageratina*. In: Flora of North America Editorial Committee (eds.), Flora of North America, 21. Oxford University Press, New York-Oxford, pp. 547–553. **New York City Soil Survey Staff**. 2005. New York City Reconnaissance Soil Survey. United States Department of Agriculture, Natural Resources Conservation Service, Staten Island, NY. **Snively, W.D.** and **L. Furbee**. 1966. Discoverer of the Cause of Milk Sickness. Journal of the American Medical Association 196: 1055–1060.