

Guide to *Solidago* (Goldenrods) of New York City



Solidago is a mostly North American genus in the Asteraceae (Sunflower) family with approximately 100 species worldwide. Nineteen species have been recorded in New York City since 1819. Five have not been documented in 30 or more years and are presumed to be locally extinct (historical); some species are infrequent (< 5 populations) or rare (1 population).

Grass-leaved Goldenrods have very narrow leaves with resin dots and flat-topped inflorescences. They are placed in the genus *Euthamia*.

Our Goldenrods are perennial herbs with short or long rhizomes, sometimes forming extensive colonies; rosettes or tufts of basal leaves are sometimes present and sometimes persistent through fall; stems usually simple, erect; leaves alternate, simple; inflorescences corymbs, racemes or panicles; flowers usually bright yellow; achenes with capillary bristles (pappus).

Goldenrods are important sources of pollen and nectar for a wide variety insects including bees, wasps and butterflies. The heavy pollen is insect dispersed and does not cause hay fever; that distinction belongs to the wind-dispersed pollen of Ragweed (genus *Ambrosia*). Fifty species of wasps, flies and moths are known to form distinctive galls on the roots, stems,

buds, leaves and flower heads of Goldenrods. The Goldenrod Gall Fly (*Eurosta solidaginis*) forms spherical stem galls on *Solidago altissima* (but not *Solidago canadensis*). The fly larvae are in turn food for Goldenrod Gall Beetles (*Mordellistena unicolor*). Some Goldenrods are pioneer species adapted to disturbed open sites such as old-fields and roadsides (*Solidago canadensis* and *Solidago rugosa*). Other Goldenrod species are very habitat specific, such as *Solidago aestivalis* which grows only in acidic coastal bogs and wet meadows from Nova Scotia to South Carolina; it is locally extinct in New York City.

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Dichotomous Key to *Solidago* of New York City

Stem pubescence (when present) is usually dense and distinct, but sometimes consists of minute hairs that are difficult to see without a hand lens, but can usually be felt with the fingers or inferred from the yellowish or grayish, matt surface of the stem. The key relies on full-grown stem leaves about midway up the stem. When in doubt, examine several leaves on several plants in the population to assess the range of variation, especially in leaf shape and margin. The basal leaves (when present) usually differ markedly from the mid and upper stem leaves and are often omitted from specimens and photographs.

1. Stems below the inflorescences pubescent, sometimes minutely so or only in faint lines.
 2. Leaf veins triplinerved, the two lateral veins paralleling the midrib to near the leaf apex.
 3. Leaf undersides pubescent between and on the veins; involucral bracts (phyllaries) 3–4 mm long*Solidago altissima*
 3. Leaf undersides pubescent on the veins, glabrous between them; phyllaries 2–3 mm long.....*Solidago canadensis*
 2. Leaf veins pinnate or the venation obscure.
 4. Inflorescences axillary and terminal in small, tight clusters; flowers white to pale yellow *Solidago bicolor*
 4. Inflorescences terminal, the branches spreading; flowers yellow.
 5. leaf blades leathery, sessile and strongly clasping; inflorescence flat-topped; flower heads 8–10 cm long *Solidago rigida*
 5. Leaf blades papery (chartaceous), subsessile and weakly clasping; inflorescence pyramidal; flower heads < 5 mm long.
 6. Upper stem leaves elliptic, margins toothed *Solidago rugosa*
 6. Upper stem leaves linear to narrow-elliptic, margins entire to subentire.
 7. Stems evenly gray-puberulent; leaf axils with reduced leafy shoots; blades not punctate nor anise-scented
.....*Solidago nemoralis*
 7. Stems pubescent in lines; leaf axils without reduced leafy shoots, blades punctate, anise-scented*Solidago odora*
 1. Stems below the inflorescences hairless (glabrous).
 8. Leaf veins triplinerved, the two lateral veins paralleling the midrib to near the leaf apex*Solidago gigantea*
 8. Leaf veins pinnate or the veins obscure.
 9. Inflorescences principally axillary, shorter than the subtending foliage leaves.
 10. Stem leaves narrow elliptic or rhombic, < 2 cm wide, essentially sessile *Solidago caesia*
 10. Stem leaves broadly-elliptic, > 2 cm wide, narrowed at the base to a winged petiole.....*Solidago flexicaulis*
 9. Inflorescences principally terminal, longer than the subtending bract-like leaves.
 11. Stems winged or strongly 4-angled; leaves scabrous above*Solidago patula*
 11. Stems round, sometimes strongly striate, but not 4-angled or winged; leaves smooth or rugose above, not scabrous.
 12. Leaf blades leathery; upper surface smooth and lustrous, the venation obscure.
 13. Leaves narrow-oblong, strongly keeled (folded upward), the margins entirely smooth, without teeth and not scabrous.....*Solidago sempervirens*
 13. Leaves rhombic, narrow-rhombic or elliptic, plane or weakly keeled, the margins crenate to coarsely toothed, scabrous.
 14. Leaf blades elliptic, abruptly narrowed to the base, the margins subentire to crenate.....*Solidago speciosa*
 14. Leaf blades rhombic or narrow-rhombic, gradually narrowed to the base (cuneate), the margins coarsely toothed.
 15. Upper leaf axils without reduced leafy shoots; inflorescences cylindrical, the branches erect, straight
.....*Solidago uliginosa*
 15. Upper leaf axils usually with reduced leafy shoots; inflorescences pyramidal, the branches spreading and arching*Solidago juncea*
 12. Leaf blades papery (chartaceous); upper surface textured, not lustrous, the venation usually distinct
 16. Leaves wide-elliptic, the base abruptly tapering to a long, winged pseudo-petiole, strongly clasping the stem (best seen on lowest stem leaves), the margins strongly serrate, the apex acuminate.....*Solidago arguta*
 16. Leaves elliptic, the base rounded to a short pseudo-petiole, not strongly clasping the stem, the margins crenate, the apex acute.
 17. Leaf blades hairless below; inflorescences cylindrical, the branches short, usually straight *Solidago latissimifolia*
 17. Leaves pubescent below; inflorescences pyramidal, the branches spreading and usually arching.
 18. Involucres 2–4.5 mm long; ray flowers 2–5; uplands..... *Solidago ulmifolia*
 18. Involucres 4–6 mm long; ray flowers 6–12; wetlands..... *Solidago aestivalis*

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Solidago species of New York City

Solidago aestivalis Bickn. – Swamp Wrinkle-Leaved Goldenrod

Indigenous; acidic bogs and wet meadows; historical in New York City, last seen Bronx, 1893 [*Solidago rugosa* Mill. var. *sphagnophila* C.B. Graves]. [description](#); [specimens](#); [observations](#); [interactions](#).

Solidago altissima L. subsp. *altissima* – Tall Goldenrod

Indigenous; fields and roadsides; frequent. [description](#); [specimens](#); [observations](#); [interactions](#).

Solidago arguta Aiton var. *arguta* – Cut-Leaved Goldenrod

Indigenous; moist forests; historical in New York City, last seen Bronx, 1936. [description](#); [specimens](#); [observations](#); [interactions](#).

Solidago bicolor L. – White Goldenrod

Indigenous; dry forests, fields and roadsides; frequent. [description](#); [specimens](#); [observations](#); [interactions](#).

Solidago caesia L. var. *caesia* – Bluestem Goldenrod

Indigenous; dry and moist forests; frequent. [description](#); [specimens](#); [observations](#); [interactions](#).

Solidago canadensis L. var. *canadensis* – Canada Goldenrod

Indigenous; old-fields and roadsides; frequent. [description](#); [specimens](#); [observations](#); [interactions](#) from GloBI.

Solidago flexicaulis L. – Zig-Zag Goldenrod

Indigenous; moist forests and stream banks; infrequent or rare, but sometimes planted. [Description](#); [specimens](#); [observations](#); [interactions](#).

Solidago gigantea Aiton – Swamp Goldenrod

Indigenous; moist forests, stream banks, wet fields; infrequent or rare, but sometimes planted. [description](#); [specimens](#); [observations](#); [interactions](#).

Solidago juncea Aiton – Early Goldenrod

Indigenous; moist forests, fields, roadsides; frequent. [Description](#); [specimens](#); [observations](#); [interactions](#).

Solidago latissimifolia Mill. – Elliott's Goldenrod

Indigenous, Endangered in New York state; swamps and wet meadows; historical in New York City, last seen Staten Island, 1895; [Description](#); [specimens](#); [observations](#); [interactions](#).

Solidago nemoralis Aiton subsp. *nemoralis* – Gray Goldenrod

Indigenous; dry fields, cliffs and roadsides; frequent or infrequent, but commonly planted. [Description](#); [specimens](#); [observations](#); [interactions](#).

Solidago odora Aiton – Sweet Goldenrod

Indigenous; dry forests, fields and roadsides; infrequent. [Description](#); [specimens](#); [observations](#); [interactions](#).

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Solidago patula Muhl. ex Willd. – Rough-Leaved Goldenrod

Indigenous; swamps and wet forests; historical in New York City, last seen Bronx, 1936. [Description](#); [specimens](#); [observations](#); [interactions](#).

Solidago rigida L. – Stiff Flat-Topped-Goldenrod

Indigenous, Threatened in New York state; dry forests, fields, barrens and roadsides; rare or infrequent, sometimes planted. [Description](#); [specimens](#); [observations](#); [interactions](#).

Solidago rugosa Mill. var. ***rugosa*** – Common Wrinkle-Leaved Goldenrod

Indigenous; fields, roadsides and forest edges; frequent. [Description](#); [specimens](#); [observations](#); [interactions](#).

Solidago sempervirens L. – Northern Seaside Goldenrod

Indigenous; maritime dunes, marshes and salted roadsides; frequent. [Description](#); [specimens](#); [observations](#); [interactions](#).

Solidago speciosa Nutt. – Showy Goldenrod

Indigenous; fields and roadsides; infrequent or rare, sometimes planted. [Description](#); [specimens](#); [observations](#); [interactions](#).

Solidago uliginosa Nutt. – Bog Goldenrod

Indigenous; wet meadows; rare. [Description](#); [specimens](#); [observations](#); [interactions](#).

Solidago ulmifolia Muhl. ex Willd. var. ***ulmifolia*** – Elm-Leaved Goldenrod

Indigenous; dry forests and fields; historical in New York City, last seen Manhattan, 1965. [Description](#); [specimens](#); [observations](#); [interactions](#).