

# Guide to Pines of New York City

*Pinus* is a genus in the Pine family (Pinaceae) with approximately 120 species distributed throughout the Northern Hemisphere. Pines are evergreen, cone-bearing trees with needle-like leaves occurring in clusters (fascicles). Pine species are well adapted to cold temperatures and nutrient deficient soils, and are found in a wide range of environments, from sandy coastal plains to alpine forests. Pine trees are an integral part of temperate coniferous and boreal forests and provide food and shelter to a variety of animals, especially in the winter. There are 5 native and 3 introduced species of pine which are commonly found in New York City.

Pine needles occur in fascicles of 2, 3, or 5. This can be a quick diagnostic characteristic for *P. strobus* (white pine), which is our only species with 5 needles per fascicle. Additionally, *P. rigida* (pitch pine) is our only local species with 3 needles per fascicle (although *P. echinata* may also have some needles in 3s). The remaining 6 species of pine generally have 2 needles per fascicle, and must be distinguished based on needle and cone characteristics.

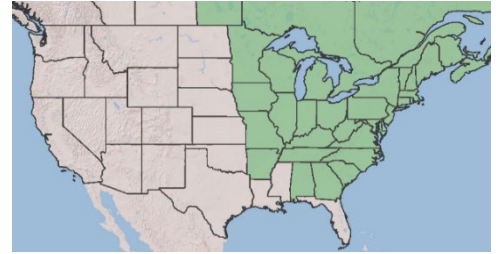
## KEY TO THE SPECIES OF PINUS

adapted from: Gleason & Cronquist Manual of Vascular Plants and the Flora of North America

- 1a. Leaves in fascicles of 5 ..... ***P. strobus***
- 1b. Leaves in fascicles of 2 or 3 ..... 2
  - 2a. Leaves generally in fascicles of 3 ..... ***P. rigida***
  - 2b. Leaves generally in fascicles of 2 ..... 3
    - 3a. Leaves 1-3 inches long ..... 4
      - 4a. Leaves bluish green, usually twisted; tips of cone scales not pointed . ***P. sylvestris***
      - 4b. Leaves dark green; tips of cone scales pointed ..... ***P. virginiana***
    - 3b. Leaves 3-6 inches long ..... 5
      - 5a. Leaves brittle, snapping when bent ..... ***P. resinosa***
      - 5b. Leaves pliable .....6
        - 6a. Tips of cone scales pointed; buds resinous ..... 7
          - 7a. Cone scales minutely armed; buds whitish..... ***P. nigra***
          - 7b. Bark reddish and cracking in square plates, with evident resin pockets; buds red-brown ..... ***P. echinata***
        - 6b. Tips of cone scales not pointed; large whitish terminal buds not resinous...  
..... ***P. thunbergii***

## *Pinus strobus* – white pine

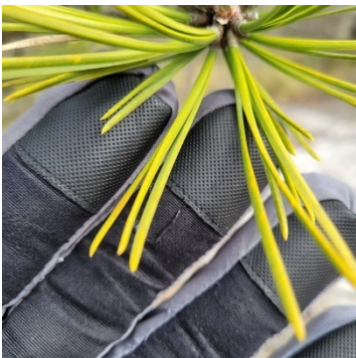
- Native – common – grows in a variety of soils
- 5 needles per fascicle – soft, 3-5 inches long
- Cone 5-10 inches long, drooping, often curved; cone scales without spines



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## *Pinus rigida* – pitch pine

- Native – grows in acidic, sandy, and low nutrient soils – moderately salt tolerant
- 3 needles per fascicle – thick and rigid, yellow-green, 2-5 inches long
- Cone 2-3 inches long, egg shaped, sessile; cone scales with sharp prickle

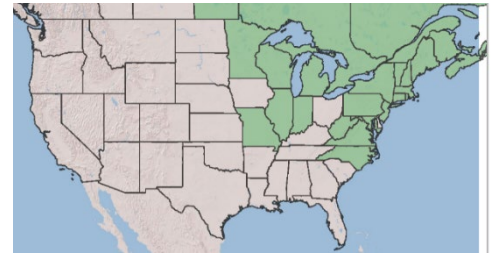


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## *Pinus resinosa* – red pine

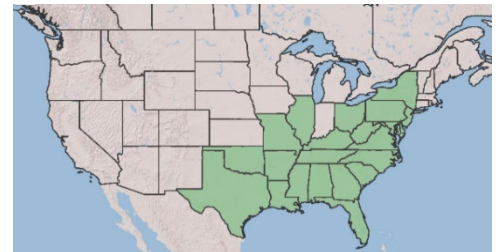
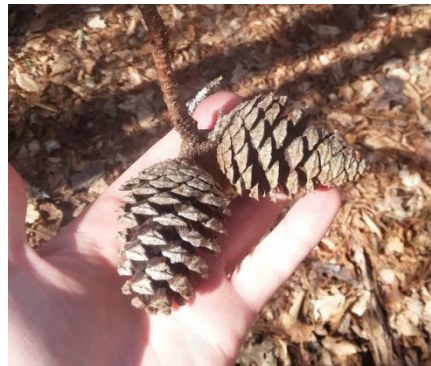
- Native – grows in sandy, dry soils
- 2 needles per fascicle – brittle (snap when bent), with blunt ends, 3-6 inches long
- Cone 1-2 inches long, egg shaped, sessile; cone scales without spines



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## *Pinus echinata* – shortleaf pine

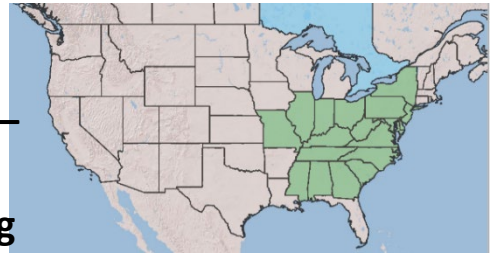
- Native – NYC is at northern limit of range
- 2 or 3 needles per fascicle – gray-green, slightly twisted, 3-4.5 inches long
- Cones 1-3 inches long, egg shaped, nearly sessile; cone scales with sharp prickle



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## *Pinus virginiana* – scrub pine

- Native – grows in well drained, but nutrient poor soils – NYC at northern limit of range
- 2 needles per fascicle – stiff, gray-green, 1-3 inches long
- Cones 1.5-2.5 inches long, narrowly egg shaped, on short stalks; cone scales with sharp prickle



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## *Pinus nigra* – black pine

- Introduced – native to central and southern Europe and western Asia
- 2 needles per fascicle – dark green, 3-6 inches long
- Cones 2-4 inches long, egg shaped, on short stalks; cone scales with small, deciduous prickle



<https://www.inaturalist.org/observations/99370310>



<https://www.inaturalist.org/observations/59558508>



*P. nigra* in Europe – several recognized subspecies

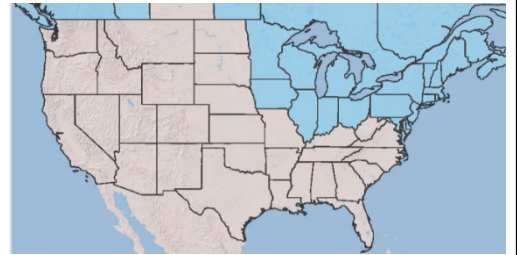
[https://commons.wikimedia.org/wiki/File:Pinus\\_nigra\\_range.svg](https://commons.wikimedia.org/wiki/File:Pinus_nigra_range.svg)

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## *Pinus sylvestris* – Scots pine

- Introduced – native to north and western Europe
- 2 needles per fascicle – blue-green, twisted needles, 1.5-2.5 inches long
- Cones 1-2.5 inches long, on a short stalk; cone scales without a spine



*P. sylvestris* in Europe – native (green) and naturalized (tan) boundaries

[https://commons.wikimedia.org/wiki/File:Pinus\\_sylvestris\\_range\\_in\\_EU.svg](https://commons.wikimedia.org/wiki/File:Pinus_sylvestris_range_in_EU.svg)

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## *Pinus thunbergii* – Japanese black pine

- Introduced - native to Japan, South Korea, and China
- 2 needles per fascicle – dark green, 2.5-4 inches long; conspicuous whitish terminal buds
- Cones 1.5-3 inches long, egg shaped, on a short stalk; cone scales with short mucronate spine



<https://www.inaturalist.org/observations/98049540>



<https://www.inaturalist.org/observations/19558176>



*P. thunbergii* native range in eastern Asia  
(source: GBIF)

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**More Information:**

[Flora of North America - \*Pinus\*](#)

[The Gymnosperm Database - \*Pinus\*](#)

[New York Flora Atlas](#)

maps from USDA Plants [[plants.usda.gov](http://plants.usda.gov)] – green denotes native occurrences, blue denotes introduced occurrences.