

Terrestrial & Palustrine Plant Communities Of Pennsylvania

By Jean Fike

Serpentine pitch pine - oak forest

This community type is part of the "Serpentine barrens complex." It occurs in areas underlain by serpentine bedrock where soil development has proceeded far enough to support forest vegetation, but not so far as to override the influence of serpentine chemistry on species composition. Fire is an important factor in the establishment and persistence of pitch pine. In the absence of fire, pine is likely to decrease in favor of hardwood species. Characteristic overstory species include *Quercus stellata* (post oak), *Q. marilandica* (blackjack oak), *Pinus rigida* (pitch pine), *Sassafras albidum* (sassafras), *Juniperus virginiana* (red-cedar), *Nyssa sylvatica* (black-gum), *Populus grandidentata* (large-toothed aspen), and *Robinia pseudoacacia* (black locust)—which is generally invasive in these systems. The shrub layer is often dominated by an impenetrable tangle of *Smilax rotundifolia* (greenbrier) and *S. glauca* (catbrier). *Q. prinoides* (chinquapin oak) occurs in the understory and in openings; *Quercus ilicifolia* (scrub oak) is also present in openings. Low shrub species include *Vaccinium pallidum* (lowbush blueberry), *V. stamineum* (deerberry), and *Gaylussacia baccata* (black huckleberry). Herbaceous species include *Pteridium aquilinum* (bracken fern), *Aralia nudicaulis* (wild sarsaparilla), and a variety of graminoids.

Related types: The "Serpentine Virginia pine - oak forest" type also occurs on serpentinite-derived soils and shares many species with this type. The Virginia pine type is dominated by a mixture of *Pinus virginiana* and various oaks. *P. virginiana* produces denser shade and thicker litter than does *P. rigida*. Herbaceous and shrub growth under *P. virginiana* is generally sparse. The fire ecology of the two species is also vastly different. For a more detailed explanation of the ecology of serpentine barrens, see the description of the "Serpentine barrens complex."

Range: Piedmont.

Selected references: Latham 1992, Roger Latham-personal communication, PNDI field surveys.

[Crosswalk: Smith's "Eastern Serpentine Barren" (in part), TNC's *Quercus falcata* - *Quercus alba* Forest Alliance, SAF's Pitch pine (45).]