

Terrestrial & Palustrine Plant Communities Of Pennsylvania

By Jean Fike

Red-cedar - pine serpentine shrubland

This community is part of the "Serpentine barren complex." It is restricted to areas underlain by serpentinite bedrock. It is this part of the serpentine barren complex that supports a dense, prairie-like graminoid cover with scattered trees and shrubs. Although the most typical aspect is that of a shrubland, some examples of this community type may have a woodland physiognomy. The dominant tree species, often less than 5 meters in height, are *Juniperus virginiana* (red-cedar), *Pinus rigida* (pitch pine), *Pinus virginiana* (Virginia pine), and *Robinia pseudoacacia* (black locust). Other trees include *Quercus marilandica* (blackjack oak), *Q. stellata* (post oak), and *Sassafras albidum* (sassafras). Shrubs include *Rhus copallina* (shining sumac), *Quercus prinoides* (chinquapin oak), *R. glabra* (smooth sumac), and *Gaylussacia baccata* (black huckleberry). Characteristic herbaceous species include graminoids like *Schizachyrium scoparium* (little bluestem), *Andropogon gerardii* (big bluestem), *Sporobolus heterolepis*^S (prairie dropseed), *Panicum depauperatum*^S (poverty panic-grass), *Sporobolus vaginiflorus* (poverty grass), *Aristida longispica* (slimspike three-awn), *A. purpurascens*^S (arrow-feather), *A. dichotoma* (churchmouse three-awn), *Muhlenbergia mexicana* (satin grass), *Setaria geniculata* (knotroot fox-tail), *Eragrostis spectabilis* (purple lovegrass), *Scleria pauciflora*^S (few-flowered nut-rush), *Sorghastrum nutans* (Indian grass), and *Bouteloua curtipendula*^S (side-oats gramma), and forbs like *Aster depauperatus*^S (serpentine aster), *Potentilla canadensis* (old-field cinquefoil), *Phlox subulata* ssp. *subulata* (creeping phlox), *Cerastium arvense* var. *uillosissimum*^S (barrens chickweed), *Achillea millefolium*^I (yarrow), *Eupatorium aromaticum* (small white snakeroot), *Oenothera fruticosa* (sundrops), *Senecio anonymus*^S (plain ragwort), *Solidago nemoralis* (gray goldenrod), and *Antennaria plantaginifolia* (plantain pussytoe).

Related types: This community may be said to end either where woody cover of at least 25% ends (here the "Serpentine barren grassland community" generally begins), or where trees exceed 5 meters in height and the tree canopy reaches about 60% total cover, becoming sufficiently continuous to prohibit dense graminoid cover (here the "Serpentine Virginia pine-oak" or "Serpentine pitch pine - oak forest" generally begins). This type often grades into the one of the serpentine forest types downslope on somewhat deeper soils. This community shares many dominants with both the "Pitch pine - scrub oak woodland" and "Pitch pine - mixed hardwood woodland." The distinction lies in the less common species present in the serpentine type (e.g. *Sporobolus heterolepis*, *Panicum depauperatum*, *Bouteloua curtipendula*^S) and the geology itself. This community is associated with several more distinctive community types that are found exclusively on areas of serpentine geology. For a list of those types, and a brief discussion of serpentine ecology, please see the description of the "Serpentine barren complex."

Range: Piedmont.

Selected references: Brooks 1987, Latham 1992, Miller 1977, Smith 1988.

[Crosswalk: Smith's "Eastern Serpentine Barren" (in part), TNC's *Pinus (virginiana, rigida)* / *Schizachyrium scoparium* Herbaceous Alliance, *Pinus virginiana* - *Pinus rigida* / *Schizachyrium scoparium* - *Scleria pauciflora* Community.]