

knobcone pine in California



Bishop pine

Pinaceae
Pinus muricata

- cones are distinctly arranged in whorls with prickly scales
- ▼ Bishop pine crowns (right) are wispy and airy compared to the beach pine (left) which are more dense



Bark: narrowly to deeply furrowed in long linear strips, grey in color, often thick in older trees **Needles:** 4"-6", bluish-green, twisted, growing in bundles of two **Cones:** 2"-3", serotinous, asymmetrical, scales thick and growing to a rounded prickly, clustered in whorls around the branches, closed and on tree for many years **Habitat:** 0-1000 feet, within 10 miles of the ocean, prefers shallow, acidic, and poorly drained soils **Range:** at northern limit in Humboldt County

knobcone pine

Pinaceae
Pinus attenuata

- ◀ on south-facing mountain slopes, gnarled knobcones thrive and cones wait to open in a fire
- ▼ pure stands are more common on serpentine, here in the Siskiyou Mountains



Bark: base of mature trees have shallow furrows with flattened ridges, often reddish inside, bark mildly flaky, light to dark gray; upper sections are smooth gray to brown **Needles:** 3 to a bundle, 3"-7", reddish-green and sparse looking; tips of branches upturned **Cones:** asymmetrical, 4"-6", scales with prickles, sealed very tightly until forced open by heat, growing both on branches and spirally around main trunk in noticeable clusters **Habitat:** Hot, dry, rocky slopes from 1000 to 6000 feet; associates with almost every mountain and even some coastal conifers.

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