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1-2 inches long, deciduous: cones oblong, $1\frac{1}{2}$ -2 inches long, promptly deciduous. In the Cascade Mountains of Washington.

7 ABIES Juss. Gen. 414. (1789.)

Evergreen trees with linear flat scattered leaves and monoecious flowers. Leaves sessile, often spreading so as to appear 2-ranked, but in reality spirally arranged, not jointed to a persistent base but leaving circular flat scars on the naked twigs. Staminate aments from the axils of the previous years leaves. Anthers 2-celled, the cells transversely dehiscent; the connective prolonged into a short knob or point. Pollen grains compound. Fertile aments lateral, erect. Ovules 2 to each scale. Cones erect, cylindric to ovoid, their broad obtuse scales deciduous from the persistent central axis.

A. grandis Lindl. Penny Cyc. 130. A tall straight tree 100-300 feet high and 2-6 feet in diameter, with smooth brownish blotched with white bark and spreading branches: leaves flat, dark glossy green and channelled above, glossy with two pale or white stripes beneath, 1-2 inches long: cones cylindric, retuse, 2-6 inches long, $1\frac{1}{4}$ inch thick, with scales nearly twice as broad as long: the quite short obcordate or 2-lobed bracts with or without a short point: wing of the seed very oblique, 2-4 lines long. Common in moist places in forests, Brit. Columbia to California and Idaho.

A. Lowiana Murr. Syn. Var. Conif. 27. A tall graceful tree 100-200 feet high and 2-3 feet in diameter, with, when mature, dark-colored fissured bark and spreading branches: leaves 2-ranked, 1-2 inches long, green above, green with two white stripes beneath: cones cylindric, 2-4 inches long, with scales nearly twice as broad as long; bracts not exerted: wing of the seed oblique. In the Siskiyou Mountains and southward.

A. concolor Lindl. Journ. Hort. Soc. v. 210. A large tree 100-200 feet high and 2-4 feet in diameter, with rough grayish bark and spreading branches: leaves mostly obtuse, pale green, those of younger trees and lower branches elongated, 2-3 inches long, 2-ranked, often slightly channelled, those of old trees and of upper branches shorter broader and thicker, convex above and often falcate, covering the upper side of the branchlets: cones oblong cylindric, 3-5 inches long $1\frac{1}{4}$ - $1\frac{1}{2}$ inch in diameter, pale green to dull purplish: scales 12-15 lines wide, nearly twice as wide as long: bracts truncate, not exerted: wing of the seed oblique, as long as wide. In the mountains at 3000-4000 feet elevation, southern Oregon to California.

A. lasiocarpa Nutt. Sylva, iii, 138. A small tree 50-75 feet high and 7-12 inches in diameter, with smooth whitish bark and drooping branches: leaves of the main branches $1\frac{1}{2}$ inches long, erect, acute and pungently pointed, those of the branchlets more or less spreading or curved upward, rigid and more or less pungent: cones cylindric, usually purple, 2-3 inches long, $\frac{3}{5}$ -1 inch thick: scales broader than long: bracts not exerted. On the highest peaks of the Cascade Mountains.

A. amabilis Forbes Pinetum Wob. 125, t. 44. A slender tree 10-150 feet high and 1-3 feet in diameter, with smooth whitish bark and spreading branches: leaves rigid, acute or obtuse, 1-2 inches long, on the lower branches and on young trees 2-ranked, on the upper parts of mature trees shorter and curved upward: cones dark purple, 2-4 inches long, 2-3 inches