

1-3 feet in diameter, with slender spreading, or drooping branches: leaves 6-12 lines long, acuminate, and cuspidate, the margins somewhat revolute, bright green above, glaucous beneath, abruptly narrowed at the base into a short slender petiole: staminate aments  $1\frac{1}{2}$  lines broad: fruit amber-red 3-6 lines in diameter, much flattened: seeds broadly ovate and somewhat flattened, acute: ovary 2 lines long. Common from western Brit. Columbia to California.

ORDER 111 PINACEÆ Lindl. Nat. Syst. ed. 2, 313.

Resinous trees or shrubs, mostly with evergreen narrow or scale like entire leaves and monoecious or rarely dioecious flowers. Staminate flowers reduced to the stamens only which are indefinite in number and often numerous, the filaments upon a central axis with the 2 or more anthers either adnate to the back of the connective or suspended from the under side of its scale-like or peltate summit, the cells dehiscing variously. Pistillate aments consisting of few to many scales, becoming a dry cone in fruit or fleshy and berry-like. Ovules naked, two or more at or on the base of each scale, adnate or free, erect or inverted. Seeds naked or winged, with chartaceous or crustaceous or sometimes bony testa. Embryo straight, axile, in fleshy oily albumen. Cotyledons two to several in a whorl.

TRIBE I CUPRESSINEÆ Scales of the fertile aments few, decussately opposite, apparently single, becoming a small cone or connate into a drupe-like globulus.

\* Leaves opposite or in three's, never 2-ranked: flowers dioecious: fruit drupe-like, with bony ovate seeds.

- 1 *Juniperus* Ovules in pairs or solitary at the base of the fleshy scales: seeds 1-5 or more: fruit globose, ripening the second season.

\* \* Leaves opposite: flowers monoecious: fruit a dry cone.

+ Cone subglobose, of spreading, peltate or cuneate scales: seeds one or more to each scale, angled or narrowly winged.

- 2 *Chamaecyparis* Leaves and branches more or less 2-ranked: seeds one or two to each scale.

+ + Leaves 2-ranked: cone oblong, of imbricated or valvate oblong scales: seeds 2 or more to each scale, maturing the first year.

- 3 *Thuja* Scales 8-12, rather thin, imbricated: seeds equally 2-winged.

- 4 *Libocedrus* Scales thick-coriaceous, valvate, only the middle pair fertile: seeds unequally 2-winged.

TRIBE II, TAXODINEÆ Scales of the fertile aments more numerous and spirally arranged, in fruit forming a woody cone.

- 5 *Sequoia* Large trees with short-linear to ovate-lanceolate acute carinate leaves and ovate cones with cuneate spreading scales.

TRIBE III, ABIETINEÆ Scales of the fertile aments numerous, spirally imbricated, campellary, each in the axil of a thin distinct persistent bract, in fruit becoming coriaceous or ligneous and forming a strobile or cone.