

1 BETULA L. Sp. 982.

Trees or shrubs with smooth or laminated outer bark, toothed simple leaves and small flowers appearing with or before the leaves. Staminate aments long and drooping, solitary or in pairs, from lateral or terminal leafless buds the flowers about 3 together in the axil of each shield-shaped bract, consisting of a membranaceous usually 4-toothed calyx and 2 stamens, subtended by 2 bractlets: filament short, deeply 2-cleft, each fork bearing an anther-cell. Pistillate aments oblong to cylindrical, solitary or racemose, from lateral 3-5-leaved buds, the flowers 1-3 in the axil of each bract, without calyx. Bracts usually 3-lobed and falling with the seed. Ovary sessile: styles 2, stigmatic at the apex, mostly persistent. Nuts small, lenticular, surrounded by a wing.

B. occidentalis Hook. Fl. ii, 155. A small or middlesized tree 20-60 feet high and 6-18 inches in diameter, with smooth dark brown bark and greenish-brown warty twigs: leaves broadly ovate to nearly orbicular, acute to rounded at the apex, sharply serrate, the teeth glandular tipped, rounded or obtuse at base, short-petioled glabrous, or sparingly pubescent on one or both sides, 1-2 inches long: staminate aments usually 3 together at the ends of slender branchlets, 2-3 inches long: pistillate aments manifestly peduncled, cylindrical, spreading or pendent, 12-18 lines long, 4-6 lines in diameter when mature: fruiting bracts ciliate, 2-3 lines long, their lateral lobes ascending, usually shorter than the middle one: nutlets much narrower than the wings. Along streams in the interior, Brit. Columbia to California and Nebraska. As here defined perhaps includes more than one species.

B. Hallii. *B. glandulosa* of authors as to the Oregon plant. An erect shrub 4-10 feet high, the twigs ashy-gray, glandular and somewhat pubescent, very leafy: leaves obovate, rounded at the apex, cuneately narrowed at base into short petioles, green and glabrous both sides, finely serrate, 10-12 lines long: pistillate aments cylindric, erect or barely spreading, 10-14 lines long, 2-3 lines thick, dark green, on slender peduncles 4-6 lines long: fruiting bracts a line long, glabrous, the lateral lobes usually broader than the middle one which is spreading and hyaline-margined: nutlets as broad or broader than long, narrowly winged. Lake Labish, Marion Co. Oregon: specimens collected by Mr. Gorman at Ft. Selkirk, Yukon Ter. appear to be of this species.

2 ALNUS Gært. Fr. & Sem. ii, 54, t. 90. (1791.)

Shrubs or trees with alternate serrate or dentate leaves and small flowers in aments, opening with or before the leaves, making their first appearance during the previous season. Staminate aments fascicled, drooping. Bracts shield-shaped, stipitate, including the 5 bractlets and usually 3 flowers with regular 4-lobed calyx. Stamens 4, inserted opposite the lobes of the calyx, with very short filaments and contiguous anther-cells. Pistillate aments panicle, short and usually erect, their bracts fleshy and imbricated, including 4 bractlets and 2 flowers, connate and slightly 4-lobed, in fruit woody and persistent, thickened and truncate at the apex, at length divergent. Nutlets compressed, mostly wingless or nearly so.

A. Oregona Nutt. Sylva, i, 28. *A. rubra* Bong. A large tree 50-100