

1963

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Recommended Citation

Wagener, Willis W. and Quick, C. R. (1963) "Cupressus Bakeri-An Extension of the Known Botanical Range," *Aliso: A Journal of Systematic and Evolutionary Botany*: Vol. 5: Iss. 3, Article 10.

Available at: <http://scholarship.claremont.edu/aliso/vol5/iss3/10>

CUPRESSUS BAKERI—AN EXTENSION OF THE KNOWN BOTANICAL RANGE

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Between 1927 and 1944 Carl B. Wolf (after 1930 as botanist for the Rancho Santa Ana Botanic Garden) and associates visited all locations in California where native groves of *Cupressus* reputedly occurred. The information obtained formed much of the basis for Part I of Wolf's comprehensive publication on New World cypresses (El Aliso 1:1-250, 1948).

During the period of field examinations, Wolf was unaware that other locations for *Cupressus* had been found in the Sierra Nevada by U. S. Forest Service personnel, particularly Ranger H. F. Wilcox of the Greenville District, Plumas National Forest. On July 28, 1924, Wilcox wrote to E. P. Meinecke, consulting pathologist at San Francisco to two western regional Districts of the Forest Service, enclosing a specimen from a grove of trees that he had found while marking timber for a power line right-of-way on his Ranger District. "I believe I have some kind of a cypress," Wilcox stated. "Will you kindly identify and let me know what it is?" Meinecke replied that the specimen undoubtedly represented a cypress, but showed several features distinguishing it from *Cupressus macnabiana*. He forwarded a portion of the specimen to G. B. Sudworth, then dendrologist for the Forest Service in Washington, D. C., for Sudworth's opinion on its identity. The specimen had no cones and suffered badly in transmission. On the basis of the limited development of glandular pits on the dorsal surfaces of the leaves, Sudworth advised that the tree was probably *Cupressus sargentii*, although admitting that the elevation at which it was found, approximately 6,500 feet, was exceptional for that species. Sudworth expressed a wish for better specimens, but at the time the location was remote from roads. Apparently no further specimens were supplied. Later Wilcox found a second cypress location in the next township north. The trees here were also discovered independently by a forest survey crew under the late O. M. Evans.

Knowledge of these finds remained with the few forest officers concerned with the discoveries and did not become known to botanists interested in the genus. A few years ago the senior author found the 1924 correspondence in old files. From the information on species of California *Cupressus* provided by Wolf's paper, it seemed highly unlikely that the groves represented new locations for *C. sargentii*, as suggested by Sudworth. Rather we assumed that the groves must represent new stations for *C. bakeri*.

Recently the authors and former Ranger Wilcox, who is retired, visited the two localities to check our assumption. Both areas are now within easy reach of roads. The most southerly is in the NW $\frac{1}{4}$, Sec. 23, T.26N., R.11E., M.D.M., on a flank ridge extending westward from Wheeler Peak, Plumas County, California. Cypresses are scattered over an area of about 3 acres along the north and east borders of a small lava cup shown as an uncolored "island" in Sec. 23 of the above township on the 1950 edition of the U.S.G.S. Kettle Rock quadrangle. The elevation is slightly over 6,500 feet. The trees are of various sizes, the

largest found by us measuring 55.3 inches in diameter breast high and 69.5 feet in height. Associated tree species are *Abies concolor* and *Pinus jeffreyi*. Present is a sparse shrub cover of *Arctostaphylos patula*, *Purshia tridentata*, *Artemisia* sp., *Ceanothus prostratus*, and *Eriogonum* sp.

The second locality, about 5.5 miles north of the first and also in Plumas County, lies from 0.6 to 1.3 miles northeast of Eisenheimer Peak. Elevation ranges from about 6,400 to 6,900 feet. The best development of the cypresses lies to the southeast of a shallow, water-filled depression known as Mud Lake in the NW $\frac{1}{4}$, Sec. 26, T.27N., R.11E., M.D.M. From here the species extends down slope northerly toward Wilcox Valley, associated in a rather dense stand of *Abies concolor*, *A. magnifica*, *Pinus jeffreyi*, and *P. contorta*. The limits of the cypress have not been fully scouted, but the species extends over a much larger area than at the other location.

Both locations are at higher elevations than for any other known groves of *Cupressus* in California. The Mud Lake cypresses are taller in proportion to their diameter than those near Wheeler Peak, probably because of competition and the greater forest density. The tallest tree measured stands 84 feet high and 18.9 inches d.b.h. The largest breast high diameter measured was 31.7 inches. In general form these trees resemble Wolf's subspecies *matthewsii* much more than that of the typical groves in Siskiyou and Shasta counties.

In most botanical characters the trees of these Plumas locations appear to agree quite well with the typical form of the species. One quite obvious difference, however, is that the foliage is green rather than gray-green. This variation is apparently associated in part with the reduced number and activity of dorsal glands on the backs of the leaves as compared to other members of the species. Possibly the Plumas groves introduce enough departures in characters from previous descriptions of the species to warrant its restudy and amended description. No detailed comparison of taxonomic characters was attempted by us. Specimens from the Plumas locations have been deposited in four California herbaria (UC, DS, CAS, RSA).

The cypresses over much of the Mud Lake area are rapidly losing out in competition with interspersed white and red firs. Hundreds, perhaps thousands, of sapling and pole-sized cypresses have died in recent years. There is no indication that insects or disease have been involved in the mortality. Competition of the crowns for light does not appear to be the sole factor leading to the dying. We get the impression that prolonged shading of the ground, which undoubtedly affects the soil temperature during the growing season, and the accumulation of a thick, blackish duff characteristic for dense stands of true firs may also contribute to an unfavorable environment for the cypresses. The dying threatens to eliminate the species from a part of the area where it is now present, but it should be able to persist around the more open areas southeast of Mud Lake.

Confirmation of the occurrence of these two groves extends the known botanical range of *Cupressus bakeri* for more than 60 miles to the southeast. It also emphasizes that the presently accepted common name of "Modoc cypress" for the species is unsuitable (Little, E. L., Jr., Forest Serv., U.S.D.A. Agr. Handb. 41, 1953). The species is not known to occur in Modoc County. "Baker cypress," a name employed by Jepson (Man. Fl. Pl. Calif., Berkeley, 1925), would appear to be a much more appropriate choice.