

Was This A Prize Bitterbrush?

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California claims distinction for the largest, tallest, and oldest trees of record with its General Sherman giant sequoia, towering redwoods, and ancient bristlecone pines (Dixson 1961). Does it also harbor classic shrubs

which should be given recognition?

The probability that it does was suggested during a life-history study of bitterbrush, when an unusually massive antelope bitterbrush (*Purshia tridentata*

a stem circumference of 36 inches (Figure 1). It was at least Pursh) was found in northeastern California. This plant was 12 feet tall and had a foliar crown spread almost 20 feet across and

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128 years old at the time it was measured.

This plant was found about 6 miles south of Janesville, Lassen County, California (40° 14' N; 120° 27' W) at an elevation of about 4,200 feet. To one side was an extensive bitterbrush stand interspersed with ponderosa pine; to the other side, a cultivated field. The soil was slightly acid to neutral (pH 6.0 to 7.0), a very deep, coarse loamy sand of granitic origin, laid down over an old lakebed terrace.

After the plant was measured, it was cut down to obtain other information needed for the study. Undoubtedly, it could have persisted to a much older age and perhaps larger size since it exhibited no outward signs of decadence. Three annual rings were obliterated by rot, but I have seen many plants of this species which survived even after most of their annual rings had been wiped out by destructive agents.

Bitterbrush plants are known to exist that are taller and older than this one, but none that I have seen or that have been described elsewhere equalled this in overall stature when all measurements are considered. Hormay (1943) reported this species reaches a height of 16 feet and I have found individuals at least 162 years of age.

Why shouldn't we find and describe distinguished shrub plants, protect them, and register eminent ones, as is done for champion trees?

To compare shrubs, a size index would be useful. I have used one which considers height, crown spread, and stem circumference and results in a single index number. The dimensions and values given to the measure-



FIGURE 1. Antelope bitterbrush plant near Janesville was 12 feet high, the crown spread was nearly 20 feet across and it had an aggregate value of 52.9. A ring count showed it was at least 128 years old.

ments of this prize bitterbrush were:

The average index for shrubs in the stand in which it occurred was 27.2; for the species as a whole through California, the index averaged 13.5. The weighted values in this index were obtained in the same way as those used to determine bigness in trees, except that stem circumference was measured at 6 inches instead of 4½ feet. Perhaps an index of this type would

help rate other native shrubs and win the recognition they deserve.

LITERATURE CITED

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	Dimension	Weight	Value
Height—excluding current year's growth	12 ft.	1.0	12.0
Stem circumference—unbranched stem, 6 inches above ground surface	36 in.	1.0	36.0
Crown spread—average of 2 measurements	19¾ ft.	0.25	4.9
Total index value			52.9

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