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The Oldest Iowa Tree

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THE OLDEST IOWA TREE

W. A. ANDERSON

In the summer of 1937 the State University of Iowa and the Iowa Lakeside Laboratory each received, through the courtesy of Mr. C. W. Schramm of Des Moines, sections of a very large red cedar (*Juniperus virginiana* L.). This tree had grown near Lake Okoboji, Dickinson County, Iowa. According to Mr. Schramm the tree died sometime between 1880 and 1890. He cut it down previous to 1900 and worked it up into numerous ornaments and pieces of furniture. A fragment which was left lay in the yard of his summer cottage at Lake Okoboji from 1907 to 1937 when he gave it to the University. Even with this exposure it is in good preservation.

This specimen of cedar is remarkable for its slow growth. The maximum number of rings which have been counted is 369, accounting for a total growth of 36 cm., or an average of 1 mm. for each ring. The tree grew irregularly, and on the poorer side there were 307 rings in 195 mm., an average thickness of 0.63 mm. On this basis the diameter of the tree had an average increase of less than 2 mm. per year.

There are many instances of sets of very narrow rings in this log. These occur at intervals of from about 20 to 50 years, apparently following climatic cycles. As the exact date of death of this tree is unknown the value of this specimen as an index of climatic cycles awaits matching with a specimen which is cut while living. It is sufficient here to say that the general uniformity of growth in this tree shows that climate in the Lake Okoboji region has been the same as at present for about 400 years, subject to normal fluctuations.

Red cedar is usually a slow-growing tree. This, however, is greatly modified by local conditions. The writer saw specimens in eastern Kentucky in 1937 which showed rings as much as 5 millimeters in thickness, a rate of growth five or six times as great as is found in the Iowa specimen here described. Hawley (1937) reports high correlation between growth of red cedar, rainfall and runoff in east Tennessee. It seems likely that this wide-ranging **gymnosperm**, with its ability to grow in barren and exposed places,

and its sensitivity to fluctuations in climate offers one of the best indices of ecological conditions that we have in the eastern half of the United States. The subject deserves further study.

Taking 1885 as a tentative date for the death of this tree the ring count puts it back to 1516. As the section was cut some distance above the base, and as a few rings are missing from the center, it is not unreasonable to suppose that the tree was growing as a small sapling when Columbus made his first voyage to the New World. One side of the tree died before the other, showing a growth of only 299 rings. It is evident that this side was dead before Iowa was made into a State, possibly even as early as 1815. After that time the tree stood as a half-living stump until shortly before it was cut. This is a testimonial to the longevity of this species and to its remarkable resistance to decay. It seems highly probable that this is the oldest Iowa tree, not fossil, of which we have record.

REFERENCE

HAWLEY, FRANCES M. Relationship of Southern Cedar Growth to Precipitation and Run Off. *Ecology* 18: 398-405. (1937).

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