

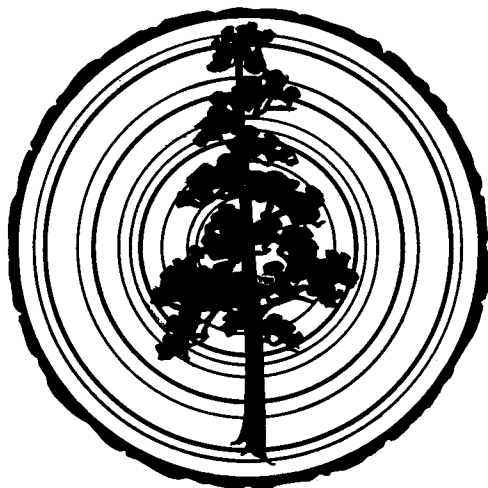
# TREE RING BULLETIN

Vol. I

APRIL, 1935

No. 4

A Quarterly



## CONTENTS

Estimated Tree Ring Chronology.....	A. E. DOUGLASS
Dates from Spruce Tree House.....	H. T. GETTY
Dates from Kinishba Pueblo.....	GORDON C. BALDWIN
Additional Dates from Allentown.....	CARL F. MILLER, JR.
Index, Vol. I.	

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A. E. DOUGLASS, University of Arizona  
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JOHN C. MCGREGOR, Museum of Northern Arizona  
EMIL W. HAURY, Gila Pueblo  
W. S. STALLINGS, Jr., Laboratory of Anthropology

---

HAROLD S. COLTON, Managing Editor  
Museum of Northern Arizona  
Flagstaff, Arizona

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The *Tree-Ring Bulletin* will appear four times a year and will publish papers which are the results of original research on tree rings in their relation to climatology, and to other subjects. No paper which has already appeared will be accepted.

Manuscripts should be typewritten in double spacing. The Editor reserves the privilege of returning to the author for revision approved manuscripts and illustrations which are not in the proper form for the printer.

In reporting tree-ring data authors are requested to submit their data in a table such as appears on the back page of this number. This will cut the cost of publication very greatly.

Until funds are available authors will be requested to pay the cost of illustration which may be line cuts or half-tones, but must be drawn or printed on white paper, and mounted with paste, not glue.

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ESTIMATED RING CHRONOLOGY I: 1800-1934\*

BY A. E. DOUGLASS

Special Ring Characters

- |   |   |
|---|---|
| 1810 Sometimes very small                       | 1863 Small, occasionally very small     |
| 1813 Very small and often faint                 | 1864 Usually very small                 |
| 1818 Small; rarely absent                       | 1868 Usually very large                 |
| 1820 Very small and sometimes absent            | 1879-83 All small                       |
| 1822 Very small; often absent                   | 1880-1-3 Occasionally one or two absent |
| 1829 Small                                      | 1893 Smallish after large rings         |
| 1830's Generally large                          | 1896 Occasionally microscopic           |
| 1841-2 Very small                               | 1899 Occasionally microscopic           |
| 1845 Small to microscopic                       | 1899-1904 All small                     |
| 1847 Minute or microscopic; occasionally absent | 1900-1 Occasionally microscopic         |
| 1851 Small                                      | 1902-4 One often absent                 |
| 1857 Small, sometimes absent                    | 1913 Small; sometimes very small        |
|   | 1918 Small                              |

\*For illustration see Fig. I in Vol. I, No. 3, p. 19.

ESTIMATED RING CHRONOLOGY II: 1650-1800

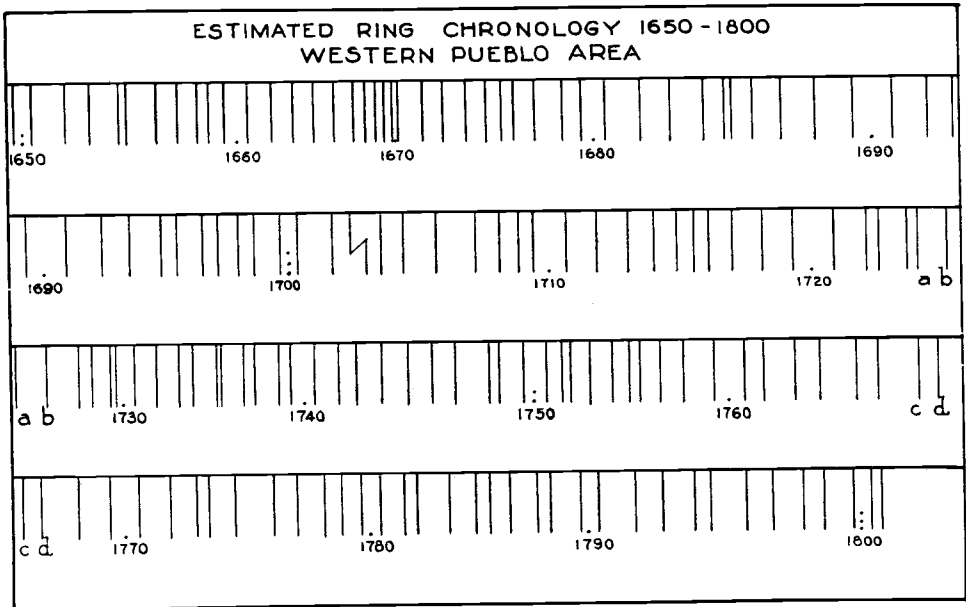


FIG. II

Special Ring Characters

- |  |   |
|--|---|
| 1654 Always small  | 1722-24 Often very small amidst big rings |
| 1660 Larger after several small rings  | 1727 Very small                           |
| 1670 Always small, sometimes microscopic with 2-3 preceding diminishing to it. | 1728 Small                                |
| 1676 Smallish  | 1729 Very small or microscopic            |
| 1684 Smallish  | 1733 Small                                |
| 1685 Very small to absent  | 1735 Very small and often absent          |
| 1686 Smallish  | 1737 Sometimes small                      |
| 1694 Usually smallish  | 1748 Very small; reliable check           |
| 1696 Usually smallish  | 1752 Usually small and rarely absent      |
| 1702 Small   | 1756 Sometimes smallish                   |
| 1703 Sometimes small, sometimes large  | 1760-70 Odd numbers smaller               |
| 1704 Small   | 1773 Reliably small                       |
| 1707-8-9 Small   | 1778 Sometimes small                      |
| 1710 Big   | 1782 Small                                |
| 1715-16 Small  | 1785 Usually small                        |
|  | 1788 Usually small                        |
|  | 1794 Sometimes small                      |

## NEW DATES FOR SPRUCE TREE HOUSE, MESA VERDE

HARRY T. GETTY

The beam material which furnishes the basis for this paper was secured by the writer while in the employ of the Department of the Interior, National Park Service, at Mesa Verde National Park. A few of the specimens were obtained in the summer of 1932, the rest in the summer of 1933.

Spruce Tree House is a large cave pueblo containing 114 secular rooms and 8 kivas (1) and falling into the Late Pueblo or Pueblo III culture period. The masonry represents some of the latest and best work done at Mesa Verde. The pottery obtained from Spruce Tree House by Dr. Fewkes (2) is of the highest type of Mesa Verde black-on-white.

The specimens included in this report were secured as part of a study to determine the chronological development of this pueblo. Borings were taken from every beam that it was possible to reach, except for some of the juniper beams.

As a result of this study, it is evident that the earliest development for which we have dates took place in the north central part of the cave. Building then proceeded to the center of the cave, then to the south central, then forward and to the rear, then to the north, and finally at the extreme ends of the cave. This development, involving probably most of the rooms in the pueblo, took place in the relatively short period of 46 years, from 1230 to 1275 inclusive. Except for an apparent 20-year lull in building activity, 1254 to 1274, the intervals between building dates are not more than four years, and in all probability upper story rooms were built during those intervals.

In all, forty-two specimens were taken in this study. In eight instances where two or more beams were present in a room and were sampled the timber used was the same kind in five and different in three. In two instances where both beams from a room yielded dates, the true outside was present and the date was the same. In one other instance the true outside was present on both beams but there was a difference of one year, which can be accounted for on the basis of a beam being held over from one building season to the next. A like discrepancy was noted by Haury in a study similar to this one made in the course of excavating a cliff ruin in the Sierra Ancha Mountains of central Arizona. (3)

Dr. Haury further observed that many of the beams from the Sierra Ancha site having true outsides present showed the final ring to be incomplete, that is, the tree was cut during the growing season. Such is not the case with the Spruce Tree specimens, as all specimens with true outsides show complete rings. Of course, there is the possibility that the softer wood of the incomplete rings might have been worn off, or even stripped off with the bark.

The writer thanks Dr. A. E. Douglass for checking the dates included in this report.

Room Number	Piece Number	Outside Dated Ring	Inside Dated Ring	Approx. Radius in MM	Kind of Wood	Type of Specimen	Sap-Heart Date	Estimated Rings Lost at Outside	No. Absent in Series	Bark Date
<b>SPRUCE TREE HOUSE—MESA VERDE</b>										
15	MV 230	1251	1115	80	Pnn	Core	1207	Few	0	1254 $\pm$ 3
47	231	1251	1192	62	DF	"	1219	0	0	1251
22*	239	1273	1150	51	Pnn	"	?	Prob. 2	0	1275 $\pm$ 2
22	240	1270	1137	61	Pnn	"	1210 $\pm$	Few	0	1275 $\pm$ 5
18	243	1250	1163	54	Pnn	"	1198 $\pm$	0	0	1250
20	245	1230	1149	70	DF	"	1211	0	0	1230
21	246	1230	1195	74	DF	"	1212	0	0	1230
22	247	1231	1210	67	DF	"	1218	0	0	1231
24	248	1240	1200	54	DF	"	1213	0	0	1240
23	250	1234	1194	66	DF	"	1220	0	0	1234
23	251	1235	1191	59	DF	"	1210	0	0	1235
35**	252	1244	1190	69	DF	"	1219	0	0	1244
36	256	1247	1189	46	DF	"	1219	Few	0	1252 $\pm$ 5
45	257	1246	1210	51	DF	"	1227	0	0	1246
43	259	1247	1173	58	Jnp	"	1204	0	0	1247
42	260	1251	1162	70	Pnn	"	1207	0	0	1251
42	261	1251	1174	53	Pnn	"	1208	0	0	1251
40	265	1254	1162	74	Pnn	"	1205	0	0	1254
40	266	1254	1123	66	Pnn	"	1199	0	0	1254
63	269	1274	1228	65	DF	"	1255	0	0	1274

\* from roof of second story of Room 2.

\*\* see also BE 66 from same room dating 1244, different beams. Also BE 65, from room 58, has outside dated ring of 1242 with an estimated bark date of 1247 $\pm$ 5. (Bibliography No. 4).

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- 1—Annual Information Bulletin, Mesa Verde National Park, p. 3. United States Government Printing Office, Washington, D. C., 1934.
- 2—Fewkes, J. W., 1909. Antiquities of the Mesa Verde National Park, Spruce Tree House. Bureau of American Ethnology, Bulletin 41. United States Government Printing Office, Washington, D. C., 1909.
- 3—Haury, E. W., 1934. The Canyon Creek Ruin and the Cliff Dwellings of the Sierra Ancha. Medallion Papers No. XIV, pp. 55-58. Globe, 1934.
- 4—Perteson, Alfred, 1935. Specimens from the Pueblo Area Collected by the First Beam Expedition. Tree Ring Bulletin, Vol. 1, No. 3, p. 24. Flagstaff, 1934.

## DATES FROM KINISHBA PUEBLO

GORDON C. BALDWIN

The series of dates presented in this report were obtained from specimens secured by the field expeditions of the Arizona State Museum and the Department of Archaeology of the University of Arizona under the direction of Dr. Byron Cummings during the summers of 1932 and 1933. The writer was a member of both expeditions, and aided in securing the specimens, and had charge of preservation and care of them.

The pueblo of Kinishba is a large community house structure situated about three miles northwest of the town of Fort Apache, Arizona, on the Whiteriver Indian Reservation. From pottery types, implements, architecture, and other features, the pueblo was placed in late Pueblo III or early Pueblo IV period of Southwestern culture, and the dates obtained have since been published. Dr. Florence Hawley gathered a quantity of charcoal specimens from this pueblo during the summer of 1931, and secured dates in the latter part of the 13th century. These dates have never been published, however, so the writer has taken this opportunity to give to other archaeologists the dates he has obtained for this prehistoric site.

From the excavation of this pueblo a great many specimens were obtained, mainly in the form of charcoal. Most of these specimens were pine and juniper, with some pinon and a few Douglas fir. The Douglas fir and some of the pine were readily dated, but the pinon and juniper have yielded little information, being very erratic as a rule. Many of the pine specimens show very complacent ring records, indicating that they probably had grown along the bottom of White River valley.

The dates given here are from specimens secured from four different rooms excavated in the southern section of the pueblo, of which some 80 rooms have been uncovered. Specimen FA 21, a Douglas fir, gave an excellent record of the Great Drought from 1276 to 1299, showing rings 1276, 78, 80, 83, 86, 88, 95, 97, and 1299 as very small, several being microscopic.

In conclusion the writer wishes to express his thanks to Dr. A. E. Douglas for his kindness in checking all the dates given in this report.

Room Number	Piece Number	Outside Dated Ring	Inside Dated Ring	Approx. Radius in MM	Kind of Wood	Type of Specimen	Estimated Rings Lost at Outside	No. Absent in Series	Bark Date
<b>KINISHBA</b>									
28	FA 8	1236	1196	35	YP	¼ S	Few	1	1240 ± 4
28	FA 11	1233	1197	23	YP	⅙ S	Few	1	1238 ± 5
30	FA 19	1266	1190	37	DF	¼ S	Consid	0	1286 ± 20
44	FA 20	1285	1214	51	DF	¼ S	0	1	1285
44	FA 21	1301	1248	36	DF	¾ S	Few	0	1306 ± 5
44	FA 23	1285	1250	20	DF	Frg	0	1	1285

Frg—fragment  
S—section.

## ADDITIONAL DATES FROM THE ALLANTOWN, ARIZONA, RUINS

CARL F. MILLER, JR.

During the summers of 1931 and 1932 three groups of structures were excavated near Allantown, Arizona, by Dr. Frank H. H. Roberts, Jr., of the Bureau of American Ethnology, Smithsonian Institution. The first group of seventeen consisting of houses, shelters and granaries, were located immediately north of a large Pueblo III ruin, which in turn is located three miles south of the old Allantown post office. From this first group dates have been obtained from Houses 4-32 and A-1. Dates from the former house were published in an earlier issue of the Tree Ring bulletin.\*

The second group of twenty structures lies immediately south of the Pueblo III ruin. No dates have been secured from this group. The third group consisting of three structures, to which Kiva 32/G belongs, lies about a mile up the White River Wash, in an easterly direction, from the main Pueblo III group. Dates from this group were published in the issue referred to above. Charcoal specimens only were secured from these structures.

House A-1, now called by Dr. Roberts Structure 12, from which the present specimens came and which was excavated during 1931, was a large pit house closely resembling a kiva in furnishings. Beam material from this house has proven, upon examination, to be very valuable in extending the chronology back to an early date. The dates in the table below, secured from these charred beams, were worked out by the writer using the Douglass method of tree ring dating, and fully checked by Dr. A. E. Douglass.

The same system of numbering the specimens is being used as that designated in the previous article.

Site	Piece No.	Outside Dated Ring	Inside Dated Ring	Approx. Radius in mm	Kind of Wood	Type of Specimen	Estim. Rings Lost at Outside	No. Absent in Series	Estim. Bark Date
Allantown House	20	840	592	138	Pnn	Chcl. sec.	Prob. few	0	845 $\pm$ 5
A-1	526	844	760	65	Pnn	" "	Prob. 0	0	844
	29	844	783	53	Pnn	" "	Prob. 0	0	844
	563	844	791	64	Pine	" "	Prob. 0	0	844
	8	844	623	96	Pnn	" "	Prob. 0	1	844
	5	853	782	45	Pnn	" "	Prob. 0	0	853
	4	860	809	48	Pnn	" "	Prob. 2	0	862 $\pm$ 2
	27	862	788	49	Pnn	" "	Prob. 0	0	862
	25	862	782	55	Pnn	" "	Prob. 0	0	862
	572	870	640	145	Pnn	" "	Prob. 0	1	870
	21	918	801	45	Pnn	" "	Prob. 0	0	918
	23	915	857	44	Pnn	" "	Prob. 0	0	918 $\pm$ 3

\*Miller, Carl F., Jr., 1934. Report of Dates from the Allantown, Arizona, Ruins. Tree Ring Bulletin, Vol. 1, No. 2, pp. 15-16, Flagstaff.

# INDEX TO TREE RING BULLETIN, VOL. I

Accuracy of dates.....	5	Hohokam.....	14
Accuracy in dating.....	10, 19	Human history.....	13
Allantown Ruins.....	15	Inside ring.....	5
Dates, (additional).....	31	Jeancon, Mr. J. A.....	3, 23
Archaeology.....	2	Jeddito Valley.....	14
Arizona State Museum.....	30	Juniper.....	7
Astronomy.....	2	Kawaiku.....	13
Baldwin, Gordon C.....	30	Kiet Siel, (N.A. 2519).....	6, 7, 13
Bark date.....	5	Kinishba Pueblo.....	14
Bark ring.....	5	Dates from.....	30
Basket-Maker III.....	15	Kokopnyama.....	13
Beam Expeditions.....	23	Ladder House.....	6
Botany.....	2	Late Pueblo.....	21, 28
Building activity, Spruce Tree House.....	28	Local chronology.....	11
Bureau of American Ethnology.....	15, 31	Maximum radius.....	7
Carnegie Institution.....	23	McGregor, John C.....	6, 15
Center ring.....	5	Memory dating.....	11
Chaco.....	15	Mesa Verde.....	13, 21, 22, 28
Chaves Pass.....	13, 14	Miller, Carl F., Jr.....	15, 31
Chronology.....	27	Mogollon Rim.....	13
Chronology building.....	19	Mummy Cave.....	3
Chronological development, Spruce Tree House.....	28	National Geographic Society.....	21, 23
Chronological element.....	13	National Park Service.....	4, 21, 28
Climate.....	13	Navajo Mountain.....	6
Climatology.....	2	Outside.....	5
Combing.....	11	Peterson, Alfred.....	23, 29
Complacent.....	10	Pinedale.....	13
Conference, Tree Ring.....	4	Pinon.....	7
Contact, sap-heart.....	7	Population shifts.....	13
Culture stage, Spruce Tree House.....	28	Presentation of dating evidence.....	20
Cummings, Byron.....	30	Pueblo I.....	15
Cutting date.....	11	Pueblo II.....	15
Data on Tree-Ring.....	12	Pueblo III.....	28, 30, 31
Dating.....	19	Pueblo IV.....	30
Dates, Spruce Tree House.....	28, 29	Rainbow Bridge-Monument Valley Expedition.....	6
Dates (additional) Allantown Ruins.....	31	Relative ring sizes.....	19
Dates from Kinishba.....	30	Report of dates on the Allantown, Arizona, Ruins.....	15
Dating, Accuracy in.....	10, 19	Reproduction, of specimens.....	20
Definitions.....	5	Resolutions.....	6
Department of Interior.....	21, 28	Ricketson, Mr. O. G.....	3, 23
Depository (tree rings).....	5	Ring photography.....	20
Direct comparison.....	19	Roberts, Dr. Frank H. H., Jr.....	15, 16, 31
Douglass, A. E.....	2, 10	Saladoans.....	14
15, 23, 27, 28, 30, 31		Sap-heart contact.....	7
Douglas Fir.....	7	Showlow.....	13
Drought.....	14, 22	Sierra Ancha.....	13, 28
Ecological conditions.....	7	Skeleton plot.....	20
Editorial.....	2	Sketch method.....	21
EPD Signature.....	3	Smithsonian Institution.....	15, 31
Estimated bark date.....	5	Special ring characters.....	27
Estimated building date.....	6	Spruce Tree House.....	22, 28
Estimated Tree Ring Chronology.....	27	Culture Stage.....	28
Fewkes, J. W.....	28	Chronological development.....	28
First Beam Expedition.....	23	Building activity.....	28
Flagstaff, Arizona.....	10	Dates.....	29
Floating chronologies.....	3	State Museum, Denver.....	23
Forest border.....	10	Swallows Nest.....	6
Fort Apache.....	30	Tree Ring Conference.....	4
FR.....	15	Tree Ring Laboratory.....	12
Franke, Paul R.....	23	Tsegi.....	6
Geology.....	2	Turkey House.....	6
Getty, Harry T.....	21, 28	Twin Caves Pueblo.....	6, 7
Gila Basin.....	14	Type specimens.....	7
Gladwin, Mr.....	20	Weather record.....	13
Glock, Waldo S.....	4, 12, 16	Western Pueblo Area.....	19
Government permits.....	4	White River Wash.....	31
Great Drought.....	30	Whitewater Indian Reservation.....	30
Hargrave, Lyndon L.....	6	Woody Mountain.....	10
Haury, Emil W.....	13, 15, 22, 23, 28	Yellow Pine.....	7
Hawley, Florence M.....	30		