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ARTHUR GIBSON VESTAL  
1888 - 1964

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ARTHUR GIBSON VESTAL 1888-1964

Arthur Gibson Vestal, professor emeritus, University of Illinois, and a long-time member of the Illinois State Academy of Science, died at 1:45 a.m., Friday, June 5, 1964, in Champaign, Illinois, at the age of 75 years, 10 months and 25 days.

Dr. Vestal was born in LaGrange, Illinois, on September 10, 1888. When he was 8 years old he went

to live near Pentwater, Michigan, on the farm of his great-aunt. There he developed an interest in botany and more especially in the vegetation of dunes and bogs, an interest that continued throughout his life. At the time he had what he called "the vague notion it might be interesting to know the plants" and why some grew where they did. He moved to Chicago where he attended the public schools and graduated from high school.

Dr. Vestal attended the University of Illinois and took courses in plant and animal ecology under H. A. Gleason and Charles C. Adams. During the summer of 1909 he was employed as a botanist by the State Laboratory of Natural History, now the Illinois Natural History Survey. In 1911, he was awarded the Bachelor of Arts degree by the University of Illinois. In the same year he was appointed instructor in biology at the University of Colorado, a position he held until 1914.

At the University of Colorado, Professor Vestal became acquainted with Francis Ramaley, a "modest and great botanist and ecologist," and the "versatile" zoologist, T. D. A. Cockerell. Professor Vestal had the ambition to do the plant and animal ecology of the Great Plains but learned on a visit to H. L.

Shantz, then at Akron, Colorado, that Shantz's ambition was a regional study of the prairie regions and the Great Plains. Professor Vestal abandoned his own ambitions in this field and began a study of the eastern border of the southern Rocky Mountains, from central Wyoming into New Mexico. In his studies he "found it necessary to learn more about plants before understanding the animal part of such a study, and to learn more about physical geography and history before understanding the plant part." His field work was accomplished by "railroad, footwork, and chiefly bicycle, —." To him, the bicycle trips were the most interesting and in later years he was delighted to recount his experiences with a bicycle in the Rocky Mountains. As a result of these studies he published three papers (1914, 1917, and 1919) that remain excellent contributions to the ecology of the front range.

Professor Vestal spent the summer of 1913 at Douglas Lake in Michigan, doing quadrat studies for H. A. Gleason and correlating grasshoppers with plant communities. Also in 1913 he received a Master of Arts degree from the University of Colorado. The summer of 1914 he spent at the Montana Biological Station at Flathead Lake.

Professor Vestal attended the University of Chicago where he spent four quarters with Professor H. C. Cowles. These four quarters plus the graduate credit from the University of Colorado were sufficient for him to receive in September, 1915, the Doctor of Philosophy degree. While attending the University of Chicago he met Dr. Wanda Pfeiffer, a mem-

ber of the faculty of the botany department. In 1916 they were married.

Upon completion of his doctorate, Professor Vestal went to Eastern Illinois University, succeeding E. N. Transeau. He spent five years at Charleston, during which time he developed an acquaintance with Coles and Cumberland counties and published several short papers on their ecology.

In 1920, Professor Vestal moved to California where he joined the faculty of Stanford University as assistant botanist. While at Stanford his researches centered on the relations between soils and vegetation, physical environments in forest, chaparral and grassland, and on the many types of grasslands in various sections of California. He continued his studies of the latter during summers, during leaves of absence, and after his retirement. During his years at Stanford he had an active association with P. M. Clements, the noted ecologist.

In 1929, Professor Vestal returned to the botany department of his alma mater, the University of Illinois. To him the University of Illinois had a long tradition of work in plant and animal ecology, beginning with Stephen A. Forbes. He taught a number of courses including forest ecology, plant ecology, plant geography, and plant communities. Incidental to teaching he explored the literature of ecology and regional plant geography, compiling notes and excerpts and accumulating a vast card file. Among his treasures were "expressions by old-timers of ideas recurrently discovered by present-day ecologists." Dr. Vestal had an in-

terest in poetry, especially that which touched on natural history.

In 1932 Dr. Vestal had a very interesting summer session at the University of Wyoming Biological Station. This was followed by travel and study in California. From then until his retirement from the University of Illinois, he visited the west coast at almost regular two-year intervals. During his leaves of absence in 1937, 1947, and 1955, he collected grassland plants and studied these species in herbaria at Berkeley and Stanford.

On September 1, 1957, Professor Vestal retired after 28 years of active work in the botany department of the University of Illinois. Retirement to him did not mean a cessation of activity. His interest in the vegetation of Illinois continued and he was delighted to spend time in the field. His trips to the west coast continued, as did his study of the California grasslands. His last trip to the coast was in 1963.

Upon his return from the west in the autumn of 1963, Professor Vestal showed signs of illness. In December he was first hospitalized. From that time he had periods of hospitalization until his death on June 5, 1964. Dr. Vestal is survived by his widow, two sons and a daughter.

Dr. Vestal served in the botany department of the University of Illinois under three heads and two chairmen: C. F. Hottes, J. T. Buckholz, N. E. Stevens, O. Tippo, and J. R. Laughman. During his student days in the department he was acquainted with the pioneer botanist, Dr. T. J. Barrill. He was later associated with professor-emeritus Wil-

liam Trelease. He knew and admired Stephen A. Forbes. He was truly a bridge between early and present botany and biology at the University.

Professor Vestal had a questioning attitude and an unwillingness to accept authoritative pronouncements by someone who attained a wide following. He "tilted a number of wind-mills," among which were climate-worship with the accompanying neglect of topographic and edaphic influences; also overemphasis on climax, the faith-like belief that sufficient measurement of the physical environment will provide a sufficient explanation of the presence of a particular community, and the faith or belief that the proper plants will in time invariably arrive at and establish themselves in a particular habitat. He contributed to the ideas about communities and their enormous variabilities in composition and in abilities to adjust, to statistics of vegetation, and to more flexible ideas of succession.

Professor Vestal, as a member of the Illinois State Academy of Science, made use of the *Transactions* to publish twelve papers. One of these (1935), "A bibliography of the ecology of Illinois, Part I," has been of great value to many students of ecology in Illinois.

#### ARTICLES AND ABSTRACTS BY ARTHUR GIBSON VESTAL

1913

An associational study of Illinois sand prairie. Ill. State Lab. of Nat. Hist. Bull. 10(1): 1-36.

Local distribution of grasshoppers in relation to plant associations [in Michigan]. Biol. Bull. 25(3): 141-180.

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Prairie vegetations of a mountain-front area in Colorado. *Bot. Gaz.* 58(5): 377-400.
- Internal relations of terrestrial associations. *Am. Nat.* 48(671): 413-445.
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- Notes on habits of grasshoppers at Douglas Lake, Michigan. *Entomol. News* 25(3): 105-109.
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Foothills vegetation in the Colorado Front Range. *Bot. Gaz.* 61(5): 363-385.
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Local inclusions of prairie within forest. *Ill. State Acad. Sci. Trans.* 11: 122-126.
- Invasion of forest land by prairie along railroads. *Ibid.* 11: 126-128.
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Phytogeography of the eastern mountain-front in Colorado. *Bot. Gaz.* 48(3): 153-193.
- Preliminary account of the forests in Cumberland County, Illinois. *Ill. State Acad. Sci. Trans.* 12: 234-241.
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Map of the vegetation regions of North America. In *Burlingame et al.*, Textbook of general biology. Henry Holt and Co., N. Y., 1922.
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Physiographic control in California grassland. *Ibid.* 24: 357-358.
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Soil factors in California grassland. *Ibid.* 25: 348-350.
- The maritime grassland of middle California (with F. E. Clements). *Ibid.* 25: 362-363.
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Grassland, chaparral, and soil texture. *Ibid.* 26: 317-318.
- The net moisture-equivalent of stony soils. *Ibid.* 26: 319.
- Limiting factors of forest, chaparral, and grassland (with F. E. Clements and J. V. Stemon). *Ibid.* 26: 326-327.
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Pacific and palouse prairies. Abstract. *Ibid.* 28: 201.
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Review of Colorado semi-centennial volumes. [I. Geology, R. D. George; II. Plant Life, F. Rasmatz; III. Zoology, T. D. A. Cockerell. Publ. by Univ. of Colorado, 1927]. *Ecology* 11(1): 226-228.
- Plant and community relations of grasshoppers. Abstract. *Ecol. Soc. Am. Bull.* 11(4): 15-16.
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A preliminary vegetation map of Illinois. *Ill. State Acad. Sci. Trans.* 23(3): 204-217. [1930].
- Review of Weaver and Clements, "Plant Ecology" (McGraw-Hill, N. Y., 529 pp., 1929). *Ecology* 12(1): 232-239.
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Strategic habitats and communities in Illinois. *Ill. State Acad. Sci. Trans.* 24(2): 80-85. [1931].
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Segregation of vegetation into associations and into less extensive units. Abstract. *Ecol. Soc. Am. Bull.* 15(4): 31.
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A bibliography of the ecology of Illinois. Part I. *Ill. State Acad. Sci. Trans.* 27(2): 163-261. [1934].
- Fluctuations in vegetation-components during 22 years. Abstract. *Ecol. Soc. Am. Bull.* 16(4): 52.
- Usefulness of different moisture properties of soils (with Charlotte L. Grant). Abstract. *Ibid.* 16(4): 40.
- A new culture-method for studying soil-moisture influences (with Charlotte L. Grant). Abstract. *Ibid.* 16(4): 40-41.
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Sample plot statistics in University Woods (with W. M. Marberry and J. D. Mues). *Ibid.* 29(2): 69-71. [1936].
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- California grasslands. Abstract. *Ecol. Soc. Am. Bull.* 18(4): 47-48.

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 Problems of the garrigue-like bush of California. Abstract. *Ecol. Soc. Am. Bull.* 19(2): 12-13.

1941

- Prairie of loess bluffs of the Illinois river (with H. Bartholomew). Abstract. *Ibid.* 22(4): 41.  
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- Use of terms relating to vegetation. *Science* 100(2588): 99-100.

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 Size requirements for reference areas in mixed forest (with Mary Frances Heermans). *Ecology* 25(2): 122-134.  
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- Determination of minimum areas on species-area curves. Abstract. *Ecol. Soc. Am. Bull.* 27(1): 15.  
 Minimum extent of associations and stands. Abstract. *Ibid.* 27(1): 15.

1947

- Suggested boundaries for geographic divisions of Sierra Nevada. Abstract. *Ibid.* 28(4): 64; and *Am. Jour. Bot.* 34(10): 605.

1949

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1952

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- Composition diagrams for forests. *Ill. State Acad. Sci. Trans.* 46: 31-36. [1953].  
 Diagrams to show which species occur in particular plots or stands. *Ibid.* 46: 37-40. [1953].  
 John Theodore Buchholz, 1888-1951. *Ibid.* 46: 271-272. [1953].

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- Rock-ledge vegetation in southern Illinois (with Glen S. Winterringer). *Ecol. Monogr.* 25(2): 105-130.

1960

- Forests at the time of settlement. Pp. 44 in *Forest, Wildlife, and Recreational Resources. Atlas of Illinois Resources, Section 3*, Ill. Dept. Reg. and Ed., Division of Industrial Planning and Development.

## In Press

- Notes on Dr. Hilgard's description of prairies. Follows "Botanical features of the prairies of Illinois in ante-railroad days" by Eugene W. Hilgard. His 6 pp. MS., written in 1915, describing the prairies near Belleville (1836-1848), was found at Illinois Historical Survey Library. This description with 2 pp. of "Present-day names for Dr. Hilgard's plants," by Robert A. Evers, and the notes, will form a chapter in the definitive biography of Hilgard by Hans Jenny, to be published in *Chronica Botanica*.

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