

RESOLUTIONS OF RESPECT



John T. Curtis 1913-1961

John T. Curtis, internationally known plant ecologist, died June 7, 1961 at Madison, Wis. Throughout his long illness despite frequent interruptions for hospitalization he maintained an active interest in his teaching and research and continued to attend meetings and to work in the field. The courage and determination shown during his last few months were characteristic of his approach to all problems. It was further characteristic of him that he maintained complete silence to even his closest associates concerning his personal problems.

Born in Waukesha, Wis., September 20, 1913, John T. Curtis received the B.A. from Carroll College in 1934, the M.A. from Wisconsin in 1936 and his Ph.D. from Wisconsin in 1937. In 1937 he joined the faculty of the University of Wisconsin as instructor in Botany and except for a year at the University of Pennsylvania spent the remainder of his career at Wisconsin becoming full Professor in 1951. During world War II he served in Haiti as research director of the Society Haitiano-Americaine de Development Agricole working on **Cryptostegia** as a source for rubber.

Curtis was a member of the American Association for the Advancement of Science, the Society of Plant Taxonomists, the Ecological Society, the Torrey Botanical Club, the Wildflower Preservation Society, the Nature Conservancy, and the British Ecological Society and was a Fellow of the Royal Horticultural Society. He held Guggenheim fellowships in 1942 and 1956. In 1958 he was named to the Environmental Biology Panel of the National Science Foundation where he served with distinction.

Dr. Curtis is survived by his widow, Jane Ann, for whose able assistance throughout this career he was deeply grateful, and by two sons, Steven and Thomas.

Curtis's career may be separated into three phases, interdependent and concurrent in development. These are his research in physiology and ecology, his public service in applied ecology and conservation, and his teaching.

Although his first scientific contribution, at the age of 18, was a paper on bird migration (**Bios**, 3), Curtis soon shifted his major interest to orchids; his first botanical publication, also written in 1932, was one on a new **Cypripedium** hybrid (**Rhodora**, 34). He maintained this interest throughout his life, publishing 15 or 20 papers on orchid physiology and ecology. A well-known contributor to the **American Orchid Society Bulletin**, Curtis took special pleasure in growing both native and tropical species in his own greenhouse and garden. His doctoral thesis under the direction of Dr. B. J. Duggar demonstrated the non-specificity of orchid mycorrhizae.

On returning to the University of Wisconsin in 1946, Curtis, conditioned by his experiences in the tropical forests of Haiti, began to shift his interest from physiology to ecology. The development of several courses in ecology helped to crystallize this change and clarify his concepts of community relationships.

Curtis came to believe that one could not study a single species without a broad knowledge of the habitat in which it grew and of the plant associates with which it was found. Acting on this premise he planned to examine Wisconsin vegetation in its entirety, first studying each of the vegetational complexes, then investigating community dynamics and, finally, studying in detail the autecology of individual species. This plan, now well into the second phase, proved to be one of the most thorough and effective ever followed in phytosociological research. No component of the vegetation was neglected; studies

covered the aquatic algae, corticolous lichens, soil microflora, roadside weeds, and understory herbs as well as arboreal, shrub, and grass dominants.

Analysis and description of plant communities on the grand scale required methods more efficient than the quadrat or transect sample. This need for new methods was met by the development of the random pairs method which later evolved into the quarter method used in most of the Wisconsin community surveys. Another achievement in method, this time in analysis, was the formulation of the multidimensional ordination of plant communities.

In the minds of most ecologists Curtis is most closely associated with the continuum concept of vegetation structure. This concept was not conceived wholly formed or without effort; instead, as Curtis pointed out, it was based on extensive field observation and evolved during discussion in his graduate seminars where the development of Wisconsin plant communities through succession following fire and other catastrophe was a major topic. Gleason's paper on the individualistic nature of plant communities was credited by Curtis as a primary stimulus to much of this thinking.

The Vegetation of Wisconsin published in 1959 brought together into a single coherent treatment his work and that of many students and colleagues. This book has received wide acclaim because the treatment represents a different and potentially more fruitful approach to the interrelations of plant communities and is, therefore, of worldwide interest.

Curtis believed that plant communities and the entire vegetation which they compose, cannot be treated in the exact language of physical science, but must be treated in a statistical manner as a continuous variable. It is a tribute to his personal detachment that, despite the variance of opinion in phytosociological circles concerning the continuum approach, Curtis made no active attempt to indoctrinate his students in the concept.

Even when Dr. Curtis was most absorbed in the theoretical aspects of the structure of plant communities he never failed to recognize the practical applications of vegetation studies, nor did he restrict the work of his students to phytosociology. Studies directed by him in cooperation with the Wisconsin Conservation Department have proved useful in game management while other studies, chiefly at the University Arboretum, have stimulated agronomic use of native grasses and legumes.

During his graduate student days at the University of Wisconsin, Curtis became intensely interested in the newly established University Arboretum. In 1939 he was appointed to the Arboretum Committee; in 1949 he became Research Coordinator and in 1959 Committee Chairman. Curtis's foresight and energy were responsible for much of the planning and development of the native plant communities of the Arboretum and as coordinator he vastly strengthened the re-

search program. Curtis was much interested in seed exchange with other arboreta and botanic gardens and insisted that the Wisconsin arboretum specialize in seeds of native species. This project grew rapidly and has been very successful.

A further opportunity for practical application of Curtis's ecological background came in 1951 when Dr. Curtis was appointed to the Wisconsin State Board for the Preservation of Natural Areas. This official state agency is responsible for the discovery and preservation of representative areas for scientific and educational purposes. It is a tribute to the persuasiveness and energy of John Curtis, Albert Fuller, Norman Fassett and other members of this committee that Wisconsin is in the forefront of States which have made a strong and intelligent effort to preserve portions of their native vegetation. Curtis's interest did not stop at preservation, he and his students studied the needs for management of such areas to preserve their characteristics in the face of natural succession as well as man's encroachment.

In addition to contributing to the theory and practice of ecology John Curtis was a brilliant and inspiring teacher. His plant ecology workbook, which appeared in 1950, has been widely used. His course in elementary ecology attracted students from all portions of the University and as investigations in Wisconsin ecology progressed, graduate students came to Wisconsin in increasing numbers. Dr. Curtis was at his best when directing research. He was unsurpassed in his ability to penetrate to the critical issues in a complex of problems, to relegate secondary considerations to their appropriate places and to discard what was irrelevant. Moreover he had the facility of ordering his own thoughts and insights into logical and effective expression. He exemplified his own precept to a student who complained of an unfavorable review: "To convince them of the validity of your own viewpoint requires utmost clarity in presentation, unequivocal data, simplicity and brevity in statement, in short a top notch selling job."

Although he was sharply critical of sloppy thinking and sloppy expression Dr. Curtis was always just and often generous. He was meticulous in acknowledgement of the work of students and colleagues as the pages of **The Vegetation of Wisconsin** make clear. He was generous in praise of work well done and generous of his time. No matter how busy, he always had time to discuss problems with his students.

In the death of John Curtis ecology has lost an acknowledged leader, who, although he had already made great contributions, had just entered the period in which he might have made his greatest contributions in extending ecology to the realm of human affairs; and his associates and students have lost a source of guidance, friendship and inspiration.

(Prepared by Dr. F. Stearns with the help of several students of Dr. Curtis.)