

WILSON STUART STONE, 1907-68

With the death of Wilson Stuart Stone on February 28, 1968 after a short illness The University of Texas lost an energetic and imaginative leader who played a very important role in the development of the science of genetics and modern biology in The University of Texas System.

Wilson S. Stone was born October 6, 1907 at Junction, Texas, the son of Donald Stuart and Grace (Finney) Stone. He attended Brackenridge High School in San Antonio, 1921-24, after which he entered Baylor University. In 1926 he transferred to The University of Texas in Austin from which he received the B. A. in 1931, the M. A. in 1932, and the Ph. D. degree in 1935 with the late Dr. J. T. Patterson as his major adviser. Dr. Stone was appointed to the Zoology faculty in 1932, serving as an instructor (1932-36) and as an associate professor (1936-42). He remained until his death with the exception of military service with the United States Air Force during 1942 to 1945. After his return from military service in 1945, Dr. Stone was promoted to Professor of Zoology.

During his tenure at the University, Dr. Stone was a principal activator in promoting training and research in modern genetics. His knowledge of the scientific literature was always current and extensive. He had the skill to detect and analyze critically the significant findings in scientific publications, and he possessed the intellectual curiosity to seek experimental methods and, when necessary, the collaborators to explore niches in scientific knowledge suggested by the reports. Any new research project was undertaken with enthusiasm and energy. He was in almost constant attendance in the laboratory. This attitude carried over to the younger departmental members and students and stimulated them to work not only hard but with accuracy.

Mainly because of Dr. Stone's endeavor, the Genetics Foundation of the Department of Zoology was organized in 1952. The unit brought the geneticists

together into a cooperative group for research and training purposes, yet each member kept his independence in his field of interest. As a member of the Board of Directors, Dr. Stone continuously sought promising new individuals who could help develop a complete genetics program and often used strong persuasive reasoning to achieve staff approval for appointments of new members.

Recognizing that one branch of science cannot develop properly without strength in related areas, Dr. Stone used his intellectual acuity in planning and promoting growth in strength of the broad area of zoology. He was most active and effective when he was Chairman of the Department of Zoology from 1959 to 1963. Even after moving into a new position his deep interest in zoology continued. The results were significant. He attracted the interest of established biologists and also leaders at other institutions in sending young graduates to this department. With the growth of the Department, Dr. Stone sold the idea that the staff should have time and space to conduct scholarly work. In many instances, he helped younger men find funds to conduct research. He initiated the plans, and found funds, for the J. T. Patterson Laboratory Building which was occupied in 1968.

Even this progress was not enough. Dr. Stone envisioned a stronger University of Texas in graduate instruction and research. His vision broadened to include other educational institutions in Texas as well as education on a national scale. The broader interests are detectable in his many assignments to committees and appointments to positions in the University System. In the College of Arts and Sciences he was an effective member on the Committee of Science and Mathematics and the Committee on Personnel Policy. After serving as Advisor to the Chancellor on graduate and research programs for The University of Texas System (1963 to 1965), he was appointed Vice-Chancellor in 1965. In 1967 and until his death, he was a member of the Committee on Behavioral Genetics which functioned to aid the university to develop the area with funds supplied by federal agencies.

From 1955 to his death, Dr. Stone served as a consultant in genetics for The University of Texas M. D. Anderson Hospital and Tumor Institute at Houston. He was a friend and counselor to the Director and to many of the professional staff of the institution during its formative growth years. He served as a consultant for the institution's department of biology and helped select the head of the department. In addition, he aided in the development of the annual Symposium on Fundamental Cancer Research sponsored by this institution. By working with the staff, Dr. Stone helped create a graduate program from which the formation of The University of Texas Graduate School of Biomedical Sciences gradually emerged.

Dr. Stone functioned as a member of the Research Advisory Committee of the Coordinating Board of the Texas College and University systems in 1966 to 1967. In 1967 he became a consultant to the Southwest Center for Advanced Studies located in Dallas.

Nationally, Dr. Stone was Consultant in Genetics (1955 to 1957) for the Atomic Energy Commission. He was a member of the Review Committee in the Field of Biological Effects of Radiation for the Second Geneva Conference held under auspices of the A. E. C, in 1958. When the first Genetics Study Section of the National Institutes of Health was organized in 1958, Dr. Stone was invited to be a member. From 1958 to 1962 he was a quiet referee on the study section who was always critical of proposed research programs but helped to get support for young and gifted applicants. This was followed by a period of duty with Cell Biology Fellowship Section of National Institutes of Health, with the National Advisory Research Resources Committee (1964 to 1968), and with the Advisory Committee on the General Medical Science Training Grants Program (1966 to 1968). His services were used by the National Research Council--National Academy of Science on Fellowship committees and by the Argonne National Laboratory, Division of Biology and Medicine on the Review Committee on Research and Radiobiological Physics.

Research interests of Dr. Stone were in basic genetics, radiation genetics, speciation, and population genetics. His first work reflected the interest of the genetics group in the Department of Zoology, namely, Drs. J. T. Patterson, T. S. Painter, and H. J. Muller. He genetically analysed the inversions and translocations induced by irradiation and studied the effects on the organism, *Drosophila* (the "fruit-fly"), of abnormal chromosomal balance and arrangements. In 1937 he began collaboration with Dr. J. T. Patterson in studying *Drosophila* speciation. They and co-workers made extensive field collections in the United States and Mexico and called on other investigators to send specimens from other areas. Detailed studies of one group, virilis, gave them an insight into the evolutionary pattern of *Drosophila*. The investigations ultimately led to the appearance of a significant book, Evolution of the Genus *Drosophila*.


While cooperating in the studies of speciation, Dr. Stone designed and conducted many other important genetic investigations. One of the most important of these led to establishment of a biochemical basis for mutation rather than a purely physical basis. He and co-workers discovered that in bacteria mutations can be produced indirectly. By ultraviolet irradiation of the culture medium prior to immersion of the microorganisms in it, they found a very large increase in the frequency of mutations. The findings served to initiate intensive research on the biochemical basis of mutations induced by irradiation. They served as the impetus and basis for clarification of the oxygen effect in enhancing mutation induction by x-rays and for mitigation of radiation damage by antioxidants. Dr. Stone returned to his interests in radiation genetics. In 1955 and subsequent years, he was invited to study the effects of atomic radiation on natural populations in the areas near the test region in the Pacific. Reports of these investigations showed that genetic damage from the irradiation persisted in succeeding generations. Laboratory investigations were started to determine the important factors in enhancing or reducing the genetic damage caused by irradiation.

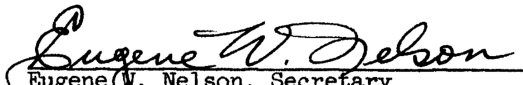
Analyses of the Island populations aroused an interest in a broader study of the fauna in the Pacific areas. Evolutionary divergence seemed to occur in a relatively short period of time on some islands. Dr. Stone helped to organize a study program that included investigators from different institutions and which incorporated studies of biochemical patterns among species in the Pacific area. These investigations were developing rapidly at the time of Dr. Stone's death.

Recognition by scientists and other educators of Dr. Stone's intellectual acuteness is shown by the number of significant committees to which he was appointed. But he received other honors. In 1960 he was elected to the National Academy of Sciences. He served as Co-editor of Genetics from 1957 until the journal was given by Genetics, Inc. to the Genetics Society of America in 1963. During 1960-63 he was Associate Editor of Radiation Research. The University of Texas Dad's Association made him Honorary Patron in 1965. Dr. Stone was Secretary of the American Society of Naturalists in 1947-49. He was elected to membership of the Society of Sigma Xi.

As a person, Dr. Stone might have seemed to be brusque. This outward manner, though, was merely a cover for a sentimental and somewhat shy man. He was one of the finest, most understanding of friends one could have. He was competitive but he shared his ideas with others and acknowledged help anyone gave to him. There was never any doubt of his opinion on a question, but he could be persuaded to take a different point of view if sufficiently good evidence was presented to him. Dr. Stone had a strong sense of integrity and expected the same from others. His influence on many young geneticists was strong and included those who were graduate students when he was a student and those who worked under him when he became a member of the faculty. They found him to be interested not only in their research, but also in their personal problems. This, and the type of person Dr. Stone was, inspired a permanent attitude of loyalty which he graciously respected and returned. The warm relationship remained after students became mature investigators in their own right, and they continued to seek his counsel.

Dr. Stone married Julia Jean Lampman in 1930. They had three children: Charles Stuart, Lauria Jean, and Michael who is deceased.


 Norman Hackerman, President
 of the University of Texas at Austin


 Eugene W. Nelson, Secretary
 of the General Faculty

Wilson S. Stone

Bibliography

1930. Analysis of several induced gene rearrangements involving the X-chromosome of *Drosophila*. *Anat. Rec.* 47: 393-394. (Abstract) (with H. J. Muller).
1931. Causes of interregional differences in crossover frequency, studied in individuals homozygous for gene rearrangements. *Anat. Rec.* 51: 109. Supplement (Abstract). (with C. A. Offermann and H. J. Muller).
1934. The production of translocations in *Drosophila*. *Amer. Nat.* 68: 359-369. (with J. T. Patterson, Sarah Bedichek and Meta Suche).
- Linkage between the X and IV chromosomes in *Drosophila melanogaster*. *Genetica* 16: 506-519.
1935. Chromosome fusion and speciation in *Drosophila*. *Genetics* 20: 327-341. (with Theophilus S. Painter).
- Further studies on X-chromosome balance. *Amer. Nat.* 70: 59-60. (Abstract). (with J. T. Patterson and Sarah Bedichek).
- Some observations on the structure of the scute-8 chromosome of *Drosophila melanogaster*. *Genetics* 20: 172-178. (with J. T. Patterson).
- The genetics of X-hyperploid females. *Genetics* 20: 259-279. (with J. T. Patterson and Sarah Bedichek).
- Crossover and disjunctional properties of X-chromosome inversions in *Drosophila melanogaster*. *Genetica* 17: 170-184. (with Isabel Thomas).
1937. Further studies on X-chromosome balance in *Drosophila*. *Genetics* 22: 407-426. (with J. T. Patterson and Sarah Bedichek).
1938. Gene position and mottling. *Genetics* 23: 149. (Abstract). (with A. B. Griffen).
- Aneuploidy of the second and third chromosomes of *Drosophila melanogaster*. *Genetics* 23: 162-163 (Abstract). (with J. T. Patterson and Meta Suche).
- Gynandromorphs in *Drosophila melanogaster*. *Univ. of Texas Publ.* 3825: 1-67. (with J. T. Patterson).

1938. The Y-chromosome and pigment formation in Drosophila melanogaster. Genetics 23: 173 (Abstract).
- "Free" centromeres in Drosophila melanogaster. Genetics 23: 173 (Abstract). (with A. B. Griffen).
1939. The demonstration of a new chromosome arm in Drosophila melanogaster. Genetics 24: 73. (Abstract) (with A. B. Griffen).
- Reverse mutation and the position effect. Genetics 24: 73 (Abstract) (with Allen B. Griffen).
- Crosses between members of the Drosophila virilis group. Proc. Seventh Inter. Genetics Congress 233 (Abstract). (with J. T. Patterson and A. B. Griffen).
- Studies in chromosome conversion. Genetics 24: 87-88 (Abstract) (with Allen B. Griffen).
1940. The virilis complex in Drosophila. Genetics 25: 131 (Abstract) (with J. T. Patterson and A. B. Griffen).
- Experimentally produced aneuploidy involving the autosomes of Drosophila melanogaster. Univ. of Texas Publ. 4032: 167-189. (with J. T. Patterson and Meta Suche Brown).
- The w^{m5} and its derivatives. Univ. of Texas Publ. 4032: 190-200 (with A. B. Griffen).
- The second arm of chromosome 4 in Drosophila melanogaster. Univ. of Texas Publ, 4032: 201-207 (with A. B. Griffen).
- Changing the structure of the genome in Drosophila melanogaster. Univ. of Texas Publ. 4032: 208-217. (with A. B. Griffen).
- Evolution of the virilis group in Drosophila. Univ, of Texas Publ. 4032: 218-250. (with J. T. Patterson and A. B. Griffen).
1941. Studies in Drosophila speciation: IV. Extension of the D. virilis complex. Genetics 26: 164 (Abstract) (with J. T. Patterson and A. B. Griffen).
- Studies in Drosophila Speciation V. Mutation in wild strains of Drosophila virilis. Genetics 26: 171 (Abstract).
1942. The Ix^B factor and sex determination. Univ. of Texas Publ. 4228: 146-152.
- Genetic and cytological analysis of the virilis species group. Univ. of Texas Publ. 4228: 162-200, (with J. T. Patterson and A. B. Griffen).
- Heterosis in Drosophila hydei. Univ, of Texas Publ, 4228: 16-22.
- Drosophila montana, a new species of the virilis group. Genetics 27: 172 (with A. B. Griffen and J. T. Patterson) (Abstract).

1947. Sexual isolation between members of the virilis group of species. Univ. of Texas Publ. 4720: 7-31. (with J. T. Patterson and Linda Wharton McDonald).
- Gene replacement in the virilis group. Univ. of Texas Publ, 4720: 161-166.
- The production of mutations in Staphylococcus aureus by irradiation of the substrate. Proc. Nat. Acad. Sci. 33: 59-66. (with Orville Wyss and Felix Haas).
- Induced mutations in bacteria. J. Bact. 54: 4 (Abstract) (with Orville Wyss).
- The production of mutations in Staphylococcus aureus by chemical treatment of the substrate. J. Bact. 54: 767-772, (with Orville Wyss and J, Bennett Clark).
1948. The role of mutation and of selection in the frequency of mutants among microorganisms grown on irradiated substrate. Proc. Nat. Acad. Sci. 34: 142-149. (with Felix Haas, J. Bennett Clark and Orville Wyss).
- The role of peroxide in the biological effects of irradiated broth. J. Bact. 56: 51-57. (with Orville Wyss, J. Bennett Clark and Felix Haas).
- The effect of irradiation on recombination in Escherichia coli. Proc. Nat. Acad. Sci. 34:229-232. (with Felix Haas, Orville Wyss).
1949. Gasometric determination of hydrogen peroxide. Proc. Soc. Exp. Biol. Med. 72: 32-33. (with J. Bennett Clark, Orville Wyss, and Felix Haas).
- The survival of chromosomal variation in evolution. The Univ, of Texas Publ. 4920; 18-21.
1950. The stimulation of gene recombination in Escherichia coli. J. Bact. 59: 375-379. (with J. Bennett Clark, Felix Haas and Orville Wyss).
- Induction of mutation in Micrococcus pyogenes by chemical inactivation of sulphhydryl groups. Nature 166: 340. (with J. Bennett Clark and Orville Wyss).
- Mutations and mutagenic agents in bacteria. Amer. Nat. 84: 261-274. (with Felix Haas, Orville Wyss and J, Bennett Clark).
- The effect of irradiated medium, cyanide and hydrogen peroxide on the mutation, rate in Neurospora. Genetics 35: 137-138. (Abstract) (with R. P. Wagner, C. H. Haddox, and R. Fuerst).
- Some effects of ultraviolet irradiation on microorganisms. J. Cell. Comp. Physiol. 35, Supplement 1: 133-140. (with Orville Wyss, Felix Haas and J. Bennett Clark).
1952. Interspecific gene variability in the virilis species group. Univ, of Texas Publ, 5204: 106-113. (with Mary L. Alexander and R. B. Lea).

1952. Frequency of chromosomal rearrangements as related to rate of irradiation, temperature, and gases. *Genetics* 37: 589-590. (Abstract) (with Felix L. Haas, Frances E. Clayton and Edna Dudgeon).
- Evolution in the Genus *Drosophila*. The Macmillan Company: New York, 6).0 pp. (with J. T. Patterson).
- Studies in the repleta group; the melanopalpa subgroup. Univ, of Texas Publ. 5204: 137-157. (with C. L. Ward).
- Low oxidation rate of rebose in streptomycin resistant *E. coli*. *Microbial Genetics Bulletin* 6: 22. (with T. L. Thompson, N. Durham, and O. Wyss).
1953. The effect of sodium azide on radiation damage and photo reactivation. *J. Bact.* 65: 538-543. (with Heinz Berger, F. L. Haas and O. Wyss).
- Induction of mutations to antibiotic resistance in bacteria. *J. Bact.* 65: 354. (with Felix L. Haas, O. Wyss and H. Berger).
1954. Measurement and control of some direct and indirect effects of X-radiation. *Genetics* 39: 453-471. (with Felix L. Haas, Edna Dudgeon, and Frances E. Clayton).
- The induction of translocations by X-radiations at different stages of germ cell development in *Drosophila virilis*. *Genetics* 39: 956. (with Mary L. Alexander, Frances E. Clayton). (Abstract).
- (Editor) The Genetics Foundation (a brochure). Univ, of Texas Printing Division.
- Heterosis studies with species of *Drosophila* living in small populations. Univ, of Texas Publ. 5422: 272-307. (with Mary L. Alexander and Frances E. Clayton).
- The production of translocations in *Drosophila virilis* by fast neutrons from a nuclear detonation. *Amer. Nat.* 88: 287-293. (with Mary L. Alexander, Frances E. Clayton and Edna Dudgeon).
- Comments on the mechanism of action of radiations on living systems. Univ, of Texas Publ. 5422: 244-271. (with Felix Haas, Mary L. Alexander and Frances E. Clayton).
- Fertilizations in multiple matings of the *virilis* group. Univ, of Texas 5422: 38-45. (with J. T. Patterson).
1955. Radiation damage in the developing germ cells of *Drosophila virilis*. *Proc. Nat. Acad. Sci.* 41: 1046-1057. (with Mary L. Alexander).
- Genetic and chromosomal variability in *Drosophila*. Cold Spring Harbor Symposia on Quant. Biol. 20: 256-270.
1956. Indirect effects of radiation on genetic material. Brookhaven Symposia in Biology on Mutation: No. 8: 171-190.

1956. A review of Breeding Beef Cattle for Unfavourable Environments, edited by Albert O. Rhoad, Univ, of Texas Press, 1955, Austin: The Southwestern Historical Quarterly 59: 404-405.
- A review of Evolution, Genetics and Man. Theodosius Dobzhansky. John Wiley and Sons, Inc., New York, 1955: Science 123: 743-744.
1957. Genetic studies of irradiated natural populations of *Drosophila*. Univ. of Texas Publ. 5721: 260-316. (with Marshall R. Wheeler, Warren P. Spencer, Florence D. Wilson, June T. Neuenschwander, Thomas G. Gregg, Robert L. Seecof and Calvin L. Ward).
- Co-editor (with C. P. Oliver), Genetics, Vol. 42, Waverly Press: Baltimore, 850 pp.
1958. Genetic studies of irradiated natural populations of *Drosophila*. II. 1957 Tests. Proc. Nat. Acad. Sci. 44: 565-575. (with Florence D. Wilson).
1959. Genetic Studies of irradiated natural populations of *Drosophila*. IV. 1958 Tests. Univ, of Texas Publ. 5914: 223-233. (with Florence D. Wilson).
- Genetic radiation damage reversal by nitrogen, methane and argon. Proc. Natl. Acad. Sci. 45: 1397-1414. (with Tsueng-Hsing, Chang and Florence D. Wilson),
- Co-editor (with C. P. Oliver) Genetics, Vol. 44, pp. 1400, University of Texas Printing Division, Austin.
1958. Co-editor (with C. P. Oliver) Genetics, Vol. 43, pp. 940, University of Texas Printing Division, Austin.
1960. Co-editor (with C. P. Oliver) Genetics, Vol. 45, pp. 1736, Univ, of Texas Printing Division.
- The evolutionary implications of the cytological polymorphism and phylogeny of the virilis group of *Drosophila*. Proc. Nat. Acad. Sci. 46: 350-361. (with William C. Guest and Florence D. Wilson).
1961. Co-editor (with C. P. Oliver) Genetics, Vol. 46, pp. 1769, University of Texas Printing Division.
1962. Genetic studies of irradiated natural populations of *Drosophila*. V. Summary and discussion of tests of populations collected in the Pacific Proving Ground from 1955 through 1959. Univ, of Texas Publ. No. 6205: 1-54. (with M. R. Wheeler and F. D. Wilson).
- The dominance of natural selection and the reality of superspecies (species groups) in the evolution of *Drosophila*. Univ, of Texas Publ. No. 6205: 507-537.
- Co-editor (with C. P. Oliver) Genetics, Vol. 47, pp. 1700, Univ, of Texas Printing Division.

1963. Genetic studies of natural populations of *Drosophila*: *Drosophila pseudoobscura*, a large dominant population. *Genetics* 48: 1089-1106. (with Florence D. Wilson and Virginia L. Gerstenberg).
1964. Nitric oxide protection of bacteriophage against X-radiation damage. *Radiation Research* 21: 481-491. (with Irene M. Cotton, Robert R. Rinehart, and Ruby Petrussek).
1966. An analysis of polymorphisms among isozyme loci in dark and light *Drosophila ananassae* strains from American and Western Samoa. *Proc. Nat. Acad. Sci.* 56: 119-125. (with F. M. Johnson, Carmen G. Kanapi, R. H. Richardson, and M. R. Wheeler).
- An operational classification of *Drosophila* esterases for species comparisons. *Univ. of Texas Publ. No. 6615*: 517-532. (with F. M. Johnson, Carmen G. Kanapi, R. H. Richardson, and M. R. Wheeler).
- Genetic Studies of natural populations of *Drosophila*. II. Pacific Island populations. *Univ. of Texas Publ. No. 6615*: 1-36, (with Marshall R. Wheeler, Florence D. Wilson, Virginia L. Gerstenberg, and Hei Yang).
1968. Genetic variation in natural island populations of members of the *Drosophila nasuta* and *Drosophila ananassae* subgroups. *Proc. Nat. Acad. Sci.* 59: 102109. (with Marshall R. Wheeler, F. M. Johnson, and Ken-ichi Kojima).

These Resolutions were prepared by a Special Committee consisting of Professors Walter J. Burdette, Felix L. Haas, T. S. Painter, R. P. Wagner and C. P. Oliver, Chairman.