Arne Müntzing

1903-1984

Arne Müntzing was born in Gothenburg, Sweden on 2 March, 1903. His father Natanael Müntzing was an Engineer and mother was Elin Esselius. He married Gudrun Lewis-Jonsson in 1933. He completed his schooling from Gothenburg, Sweden.

Mendel's results were rediscovered in 1900. In the following century investigations were carried out on the Laws of Heredity. In Sweden, H. Nilsson-Ehle of Lund was the pioneer for this line of work through his cross-breeding experiments on wheat and oat. After the final student's exam on 1922, Müntzing began to study Botany & Genetics in Lund. Several years later he was recruited in Nilsson-Ehle's research group. Here he gained practical experience of improving growth/yield. As a licentiate he was concerned with improving the white color of sugar in Swedish sugar factories. He did his Bachelor of Science from Lund University in 1926 and received the Licentiate degree from Lund in 1929 and Obtained his Doctorate degree from Lund in 1931.

His major interests were in Mendelian genetics, Agricultural genetics, Plant breeding and Cytogenetics of crop plants. Later he became the head of the newly established cytogenetics Dept. in Svalöv. After that he concentrated on the study of chromosome number. He obtained a strain with tetraploid chromosomes of rye and also a rye-wheat.

Müntzing did not restrict himself strictly to this problem alone. Of decisive importance in his career was the interest of the Geneticist group of Lund in formulating questions in connection with the Theory of Evolution. Mendelism led to new interest in the mechanism of species formation and geneticists readily grasped that chromosome research might solve problems which the classical systematists were concerned with. In Lund after 1910 Nilsson and Turesson had undertaken the study of species formation. The highest contribution of Geneticists was the experimental formation of new species. In the years following 1910 several Geneticists attempted this. Nilson obtained a new Salix-form. Müntzing chose Galeopsis and after a few years succeeded in experimentally synthesizing a natural species in the Linnean sense. Galeopsis tetrahit, characterized by doubling

of chromosomes (tetraploid), comes into being by crossing two other naturally occurring diploid species. Müntzing's doctoral thesis, "Outlines to a genetic monograph of the genus Galeopsis" was highly acclaimed and is considered to be one of the most significant steps forward in solving the problem of species formation. Later he summarized his own & others' findings on polyploidy in his theoretical work, - The Evolutionary significance of autopolyploidy (Hereditas, 1936).

Müntzing was the Secretary of the Breeding Biology Section in the Nordic Association of Agricultural Scientists from 1929-1935. He was elected as a professor on the basis of his work of extraordinary merit and came back to Lund. The personal contacts between Lund and Svälov continued but coupling of Genetics as a science with the practical task of improving plant breeds now broke down. One field of investigation was now concerned with animal genetics (including Drosophila) and human genetics. This was in 1940's.

After the Second World War, Institutes developed into centers for study of modern genetics & Müntzing took up also programs of molecular genetics. The bearing of Genetics in the fields of Eugenics & Race Biology is of great historical importance. Müntzing held a moderate stance but was inclined towards Eugenics.

Nilsson-Ehle was certainly the pioneer of modern Mendelian researches on Heredity in Sweden but it was Müntzing who established Genetics as a scientific discipline in Sweden. One of the important facts that contributed to this was his textbook on Researches on Heredity which was published in 1953. He also was the Editor of the Journal of the Genetics School in Lund, 'Hereditas' from 1954-1977.

In 1938, Professor Müntzing became the Director of the Institute of Genetics, University of Lund. He was the President of the Mendelian Society of Lund from 1939-1969. He was the Member of the board from 1955-1962. and Vice Chairman of the Swedish Natural Science Research Council from 1957-1962.. He was also the Chairman of the Scandinavian Society from 1960 to 1978. Also he was the member of State (National) Council for forest & Agriculture & a member of the Swedish Atomic Research Council from 1964-1967.

He wrote several books and monographs on basic & applied genetics, in addition to a large number of scientific papers. His important publications are: *Outlines to a genetic monograph of the genus Galeopsis*-dissertation 1930, *The evolutionary significance of autopolyploidy* (*Hereditas)* in 1936, Swedish contributions to the development of plant breeding- by Åke Åkerman, I.Granhall, G. Nilsson-Leissner, A. Müntzing & O.Tedin in 1938, *Ärftlighetsforskning* (English translation: *Genetic research, a survey of methods and main results 1961*) in 1953 and *Triticale: results and problems* in 1979.

He visited Indian Statistical Institute & delivered 3rd Convocation Address in 1965. Professor Müntzing died on 7 January, 1984.

Those who knew Müntzing, describe him as a logical, methodical person who devoted his life to the study of the principles of heredity in organisms. His life-work coincided with the emergence of genetics as one of the most successful disciplines of science in the 20th century.

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