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About the Institute
The Hunt Institute for Botanical Documentation, a research division of Carnegie Mellon University, specializes in the history of botany and all aspects of plant science and serves the international scientific community through research and documentation. To this end, the Institute acquires and maintains authoritative collections of books, plant images, manuscripts, portraits and data files, and provides publications and other modes of information service. The Institute meets the reference needs of botanists, biologists, historians, conservationists, librarians, bibliographers and the public at large, especially those concerned with any aspect of the North American flora.

Hunt Institute was dedicated in 1961 as the Rachel McMasters Miller Hunt Botanical Library, an international center for bibliographical research and service in the interests of botany and horticulture, as well as a center for the study of all aspects of the history of the plant sciences. By 1971 the Library's activities had so diversified that the name was changed to Hunt Institute for Botanical Documentation. Growth in collections and research projects led to the establishment of four programmatic departments: Archives, Art, Bibliography and the Library.

Palm in
used in this
paper

Encyclopedia Arctica, Vol. V. 1950

Áskell Löve:

POLYPLOIDY IN THE ARCTIC.

The chromosomes are the bearers of almost all the genetical substance of plants and animals, and it has been known for about half a century that their number is constant within each species. Sometimes it occurs, however, that their number increases, and when it becomes only a multiple of the previous one, differences in ploidy are said to be met with. A plant with 7 chromosomes in the sex cells, 14 in the soma cells, is said to be diploid (2 x 7), that with 21 chromosomes in the soma cells is triploid (3 x 7), that with 28 chromosomes tetraploid, and so on. The chromosome number of the sex cells is said to be haploid, and the lowest haploid number met with in a genus, e.g. the number 7 in the case above, is said to be the basic number of the genus. All somatic numbers formed by a multiplication of the basic number with a figure higher than 2 are said to be polyploid, and the individuals in question are named polyploids.

Polyploids are formed in many different ways in nature as well as in experiments. Shocks by extreme temperatures during cell divisions may affect the cell in the way that the chromosome number is duplicated although the cell does not divide. If such a cell is a mother cell of a sex cell, the duplication will result in sex cells with a diploid in stead of haploid chromosome number, and if such an egg cell is fertilized by a likewise formed abnormal pollen grain, the result will become a tetraploid individual. Much more frequently the abnormal diploid sex cell will, however, conjugate with a normal haploid cell and form a triploid individual. New tetraploids formed in the way described above are named autotetraploids. Due to different phenomena of conjugation of the chromosomes in the meiotic divisions, or at the sex cell formation, these tetraploid individuals are not completely fertile, at least not in the first generations. The triploids, however, are entirely sterile, as their chromosome number is not divisible with two, and almost only inviable sex cells with an unbalanced, aneuploid, number of chromosomes will be formed. In very few cases, though, fertile sex cells will be produced by the triploids, their chromosome number being euploid or a direct multiple of the basic number, haploid, diploid, or triploid. At least theoretically the haphazard fertilization of these cells by a likewise euploid cell of the opposite sex might result in the production of diploid, triploid, tetraploid, pentaploid, and even hexaploid individuals. Although the frequency of duplications of this type is very likely one of the main causes of the formation of the