

**Gregor Mendel (1822-1884)**

discovered in 1865 that there exists a certain numerical ratio which is called: **Mendel's Laws of Heredity**. This laws become the basic of genetics in science since today. With the help of Mendel's laws nearly everybody is able to anticipate the genetic recombination of allele pairs in sexual reproduction. The three laws are Laws of Inheritance, the law of the uniformity of hybrids, the law of segregation and the law of independent assortment.

His existence commenced on 22th of July in 1822 in Heizendorf, Austria. Gregor Johann Mendel lived until his 11th year of age together with his parents Anton and Rosine until a teacher saw Mendel's talent and ability in the obligatory school. He recommended his parents to send their son to a secondary school in Toppau to continue his education. Mendel's education was not free of financial problems which he had to experience on his own. Nevertheless, he finished his graduation with honoring in 1840. After this, Mendel applied for the Philosophical Institute of the University of Olmutz. 1843 he got graduated successfully, even though he had some interruptions caused by his depressions. Against the wish of his father to assume the family's farm, Mendel decided to enroll at the Augustinian Order at St. Thomas Monastery in Bruenn. In the monastery, Mendel appeared like a teacher for the other participants. Meanwhile, he enjoyed the access on the large library and the free usage to use the experimental facilities. 1849 it became too hard to work for Mendel due to his disease and to prevent a risk for his healthy, he got send to a position in Znaim to teach there until he feels better. However, Gregor Johann Mendel failed the final exams to get the teacher- certification and in the following year (1851), he was send to Vienne to study mathematics and physics. Where Christian Doppler and botany Franz Unger were his colleagues during his study, there. Franz Unger began to use microscopes for his research(es) and additionally he was an proponent of the "Pre- Darwinian" version of the evolutionary theory. When Mendel finished his study in 1853 he went back to Vienne to teach again at a secondary school. During this time he also started that experiment he became so famous for.

About 1854, Mendel began his researches concerning the transmission of genes in plants. In this time it was accepted, that the genes of the following generation are depending on these by the parents. Additionally it was accepted that a hybrid is only able to develop with the genes his parental generation provides him as hereditary factories. That means that a hybrid can not create or develop new species. His experiments took eight years caused by a lot of interruptions and he used 10 of thousands of individual plants. Therefor Mendel decided to use peas because they offer a huge variety and they are very productive. At first Mendel crossed peas that were totally contrary: big ones with small ones, soft ones with wrinkled ones... As a result he concluded the two most important summaries:

1. The Law of Segregation: Traits can be dominant or recessive and the are conveyed by the parental generation haphazardly.
2. The Law of Independant Assortment: The traits of the parents are given to the children independantly.

