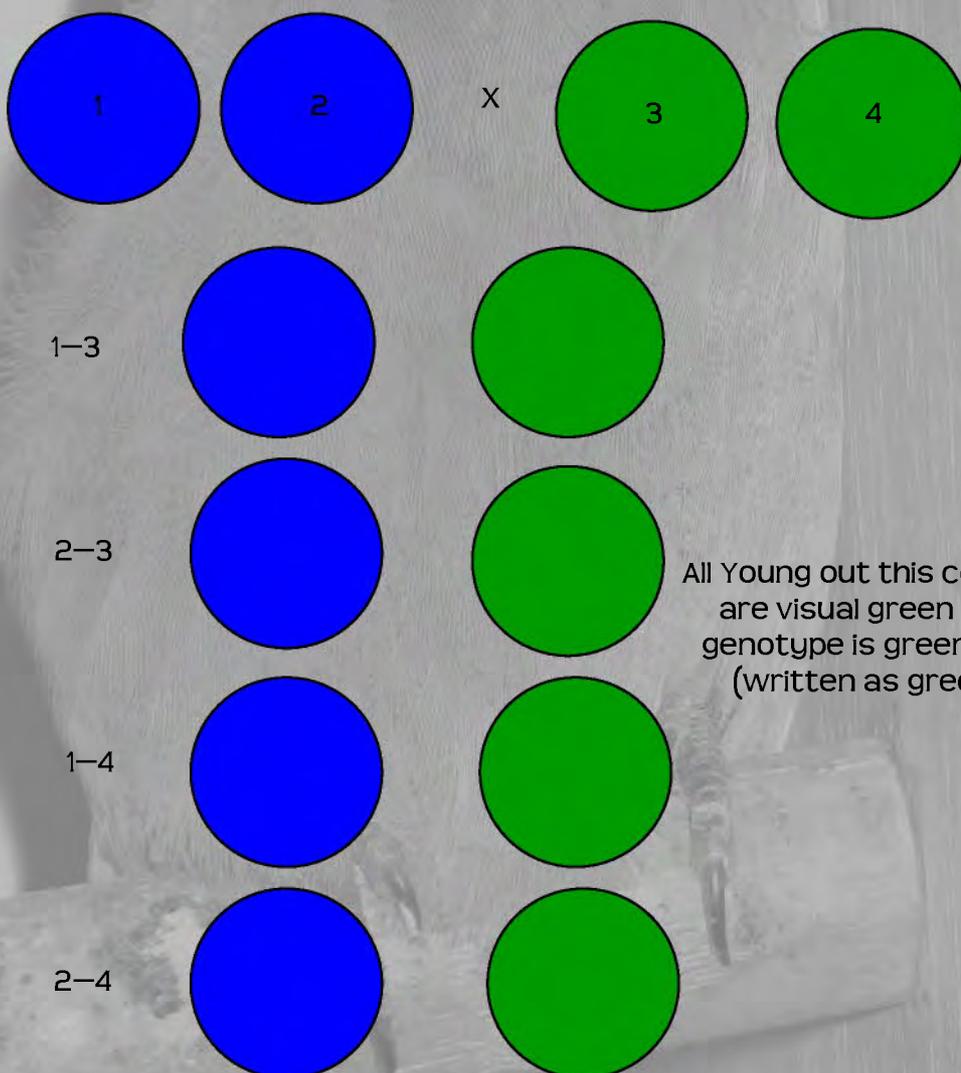# Inheritance

Composition by Didier Mervilde

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AUTOSOMAL RECESSIVE

To become visual, a recessive factor must be on both chromosomes in a pair.
If it is only on one chromosome than it would not be visual and are we talking about *split birds.* As an example you can have a green split blue. Both sexes can be Carry a autosomal recessive factor, it doesn't matter which bird has the factor male or hen.

| 1 | 2 | X | 3 | 4 |

1—3

2—3

1—4

2—4

All Young out this combination are visual green but their genotype is green split blue (written as green/blue)

SEX-LINKED RECESSIVE

In birds the female is homozygous sex, with two X chromosomes (XX). A cell is said to be homozygous for a particular gene when identical alleles of the gene are present on both homologus chromosomes. The cell is called a *homozygote*.
The male is heterozygous with one X and one Y chromosomes (XY). The genes on a X or Y chromosomes are called sex— linked genes.
As you notice in birds it is the opposite as in humans. The male is homozygous with two Z chromosomes (ZZ) and the female is heterozygous, having one Z and one W chromosome (ZW).
In practice we have to understand that a male can be split for a sex— linked recessive mutation, **a female can never be split for a sex— linked mutation**.
As an example I take the Lutino Roseicollis

	1	2	3	4
	Z	Z	Z	W

1—3	Z	Z
1—4	Z	W
2—3	Z	Z
2—4	Z	W

All Young out this combination are 50% Green/Ino Males and 50% Ino hens

SEX-LINKED DOMINANT

Sex-linked dominant inheritance is a mode of genetic inheritance by which a dominant gene is carried on the X-chromosome. This inheritance is less common than the X-linked recessive type. X-linked dominant inheritance indicates that a gene responsible for a genetic disorder is located on the X chromosome, only one copy of the allele is sufficient to cause the disorder when inherited from a parent who has the disorder.
In birds this dominant mutation is located on the Z chromosome of the sex chromosomes. This mutation can be single or double factored by males and only single factored by females.

AUTOSOMAL DOMINANT

Dominance is a genotypic relationship between alleles, as manifested in the phenotype.
You cannot have split birds in a dominant mutation.
Because the mutation is dominant we can have single (SF) and double (DF) factored birds.
Example : SF x SF