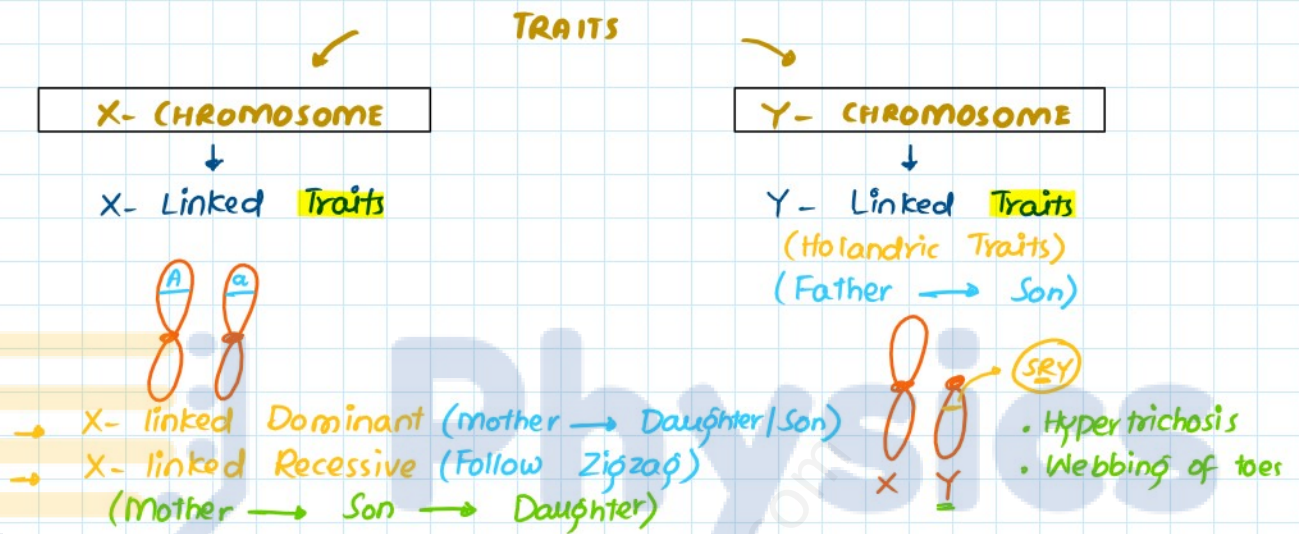


## 5.10 Sex Linkage in Humans (Hemophilia, Color Blindness)

### Sex Linkage in Humans



### PSEUDO-AUTOSOMAL TRAITS :

• Traits which have their genes on X and Y chromosomes, they will be referred as Pseudo-autosomal Traits.

### X- LINKED RECESSIVE TRAITS

#### HAEMO-PHILIA → BLEEDER'S DISEASE

→ Ability of blood clot is reduced. Clotting Factors

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**Factor VIII**  
(More than 80%)

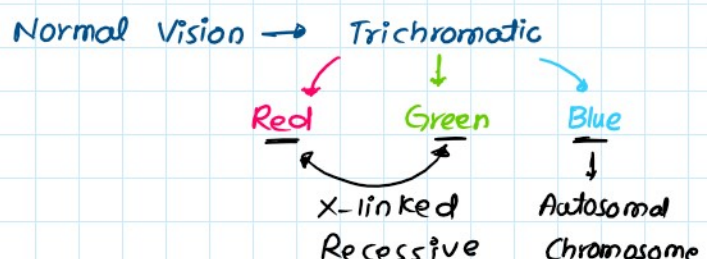
**Factor IX**  
(20%)

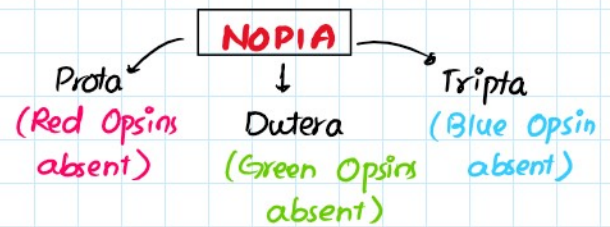
**Factor XI**  
less than 1 %

### • COLOUR BLINDNESS

→ Eye Retina

- Rhodopsin (dim light)
- Opsin (Intense light)





**DICHROMACY** → **Dichromant** (Two colour) , One colour absent

- **Protanopia** → **Red Blindness** (Green, Blue Perception)
- **Dutranopia** → **Green Blindness** (Red, Blue Perception)
- **Triptanopia** → **Blue Blindness** (Red, Green Perception)

**MONOCHROMACY** → **Monochromant** (True colour Blindness)

- **Red Colour monochromacy** (Red colour Perception)
- **Green Colour monochromacy** (Green colour Perception)
- **Blue Colour monochromacy** (Blue colour Perception)

**TESTICULAR FEMINIZATION SYNDROME** (Rare X-linked Recessive)



- Apparently female (Breast, Female Genitalia, Blind Vagina)
- Degenerated testes in abdomen

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