

Bio393: Genetic Analysis

Chromosome theory, Mitosis, and Meiosis

Nondisjunction



$X^{w+}Y$



x



X^wX^w



1999/2000
offspring



X^wY



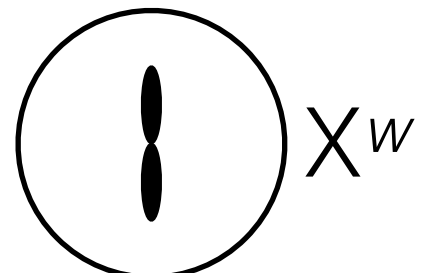
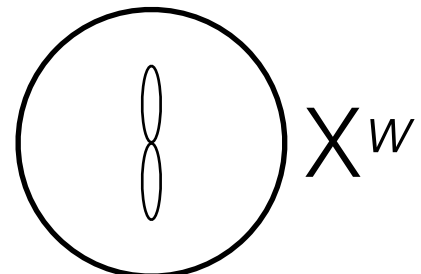
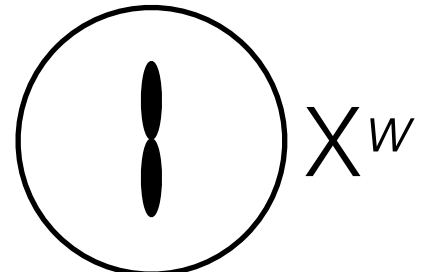
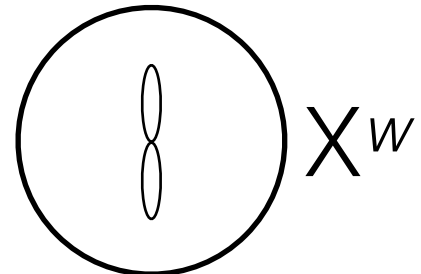
X^wX^{w+}



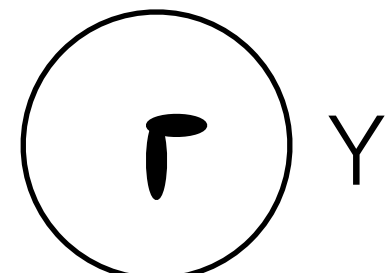
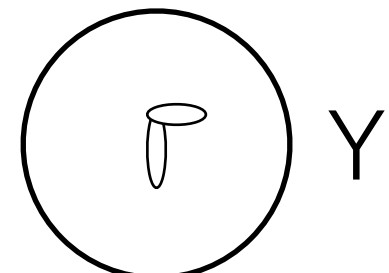
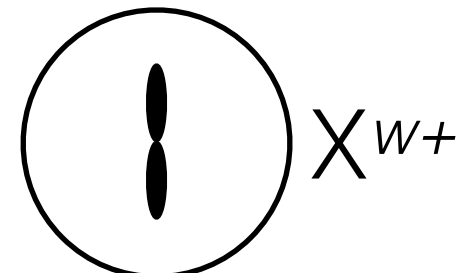
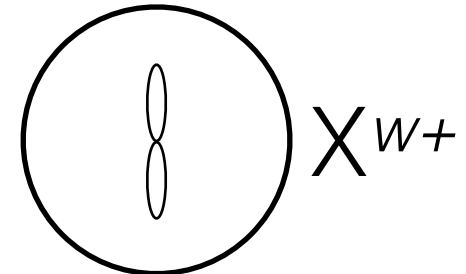
1/2000
offspring



Female
gametes



Male
gametes

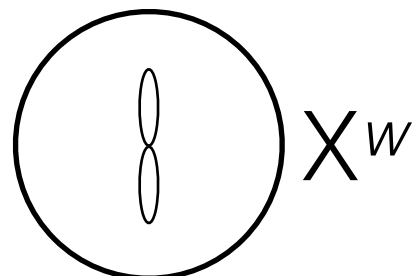


1999/2000
offspring

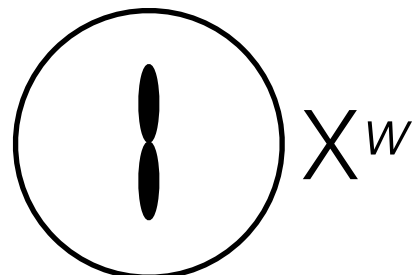
$X^{w+}X^w$

X^wY

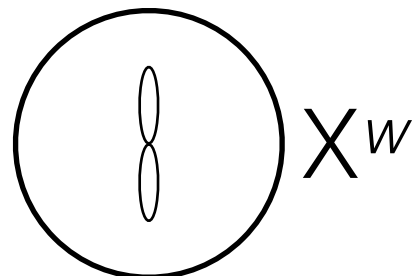
Female
gametes



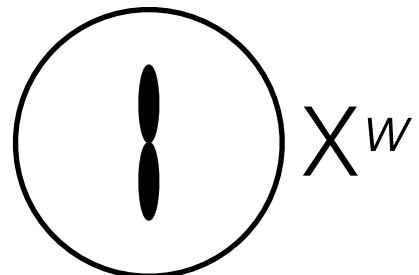
X^w



X^w



X^w



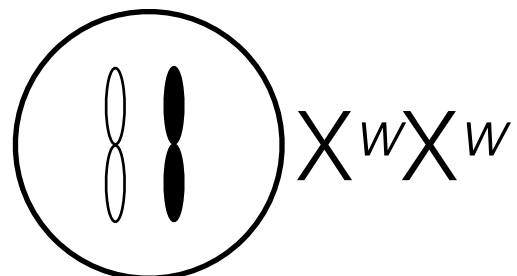
X^w

1999/2000
offspring

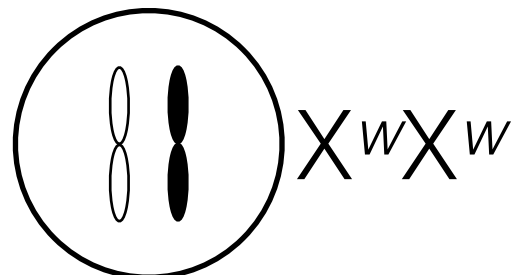
$X^{w+}X^w$

X^wY

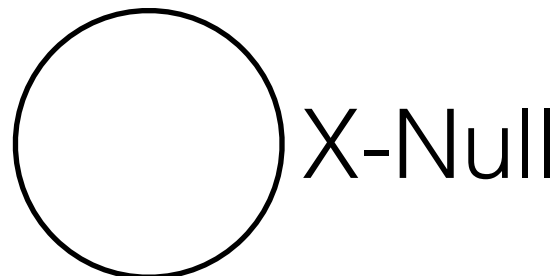
Meiosis I NDJ
Female gametes



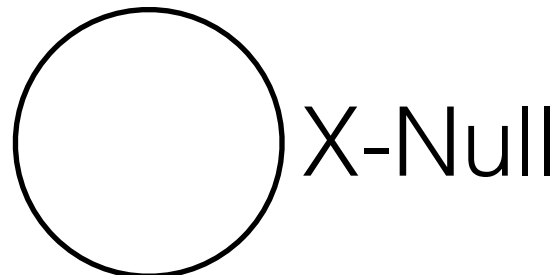
X^wX^w



X^wX^w



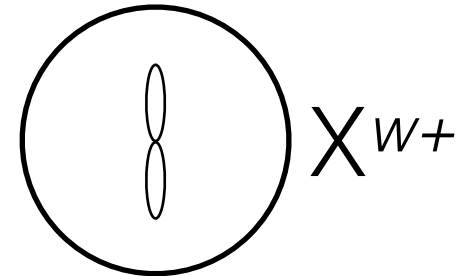
X-Null



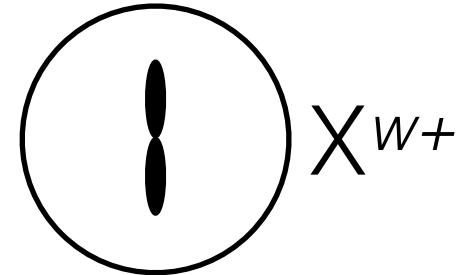
X-Null

1/2000
offspring

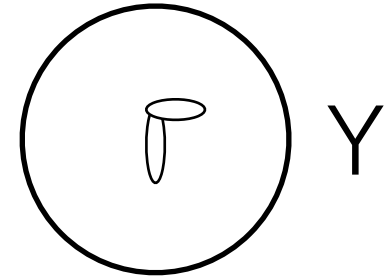
Male
gametes



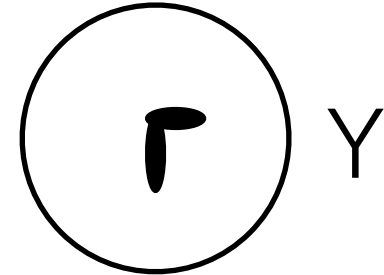
X^{w+}



X^{w+}



Y

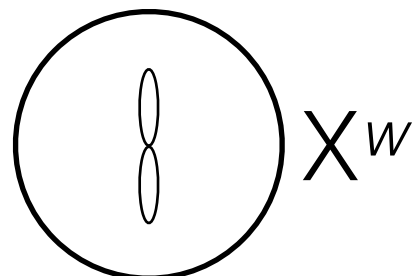


Y

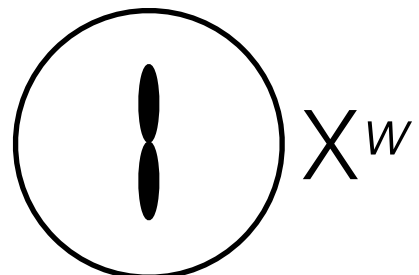
$X^{w+}0$

X^wX^wY

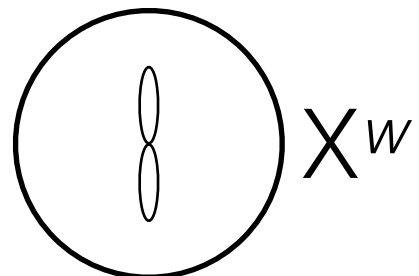
Female
gametes



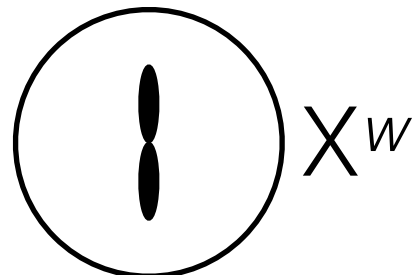
X^w



X^w



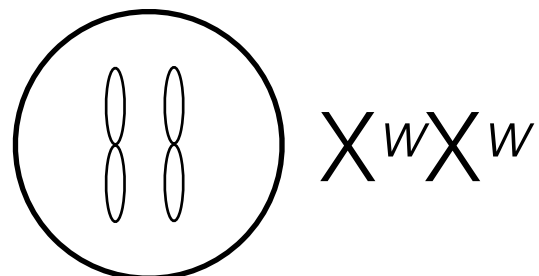
X^w



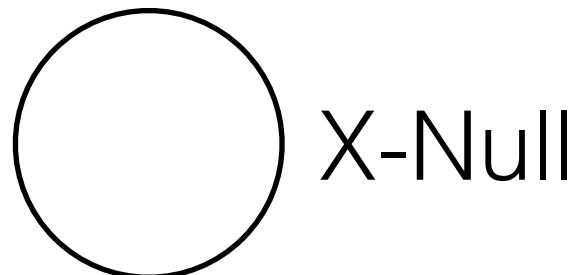
X^w

1999/2000
offspring

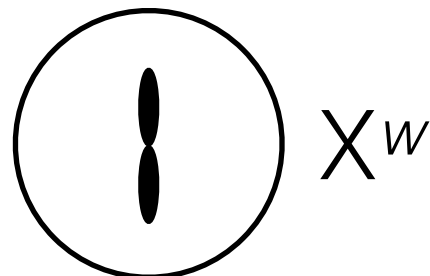
Meiosis II NDJ
Female gametes



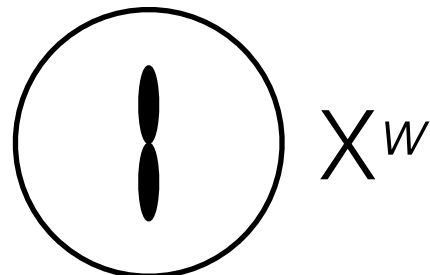
X^wX^w



X-Null



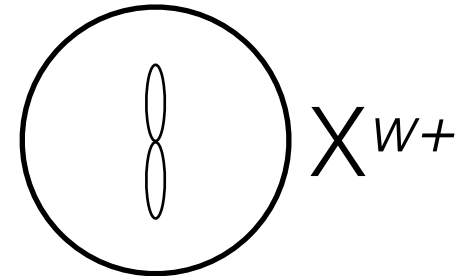
X^w



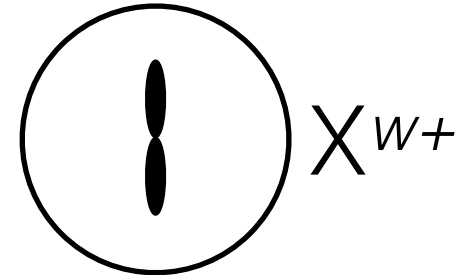
X^w

1/2000
offspring

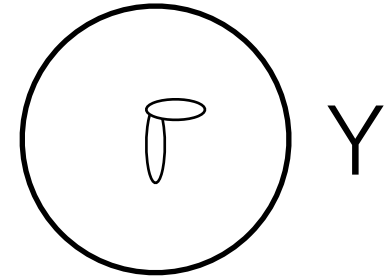
Male
gametes



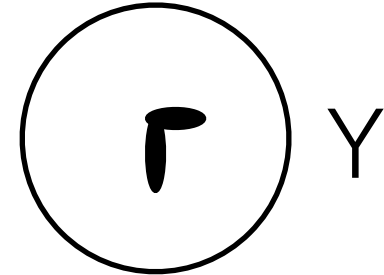
X^{w+}



X^{w+}



Y



Y

$X^{w+}0$
 X^wX^wY

Why did the reciprocal cross not indicate to them that something weird was going on?

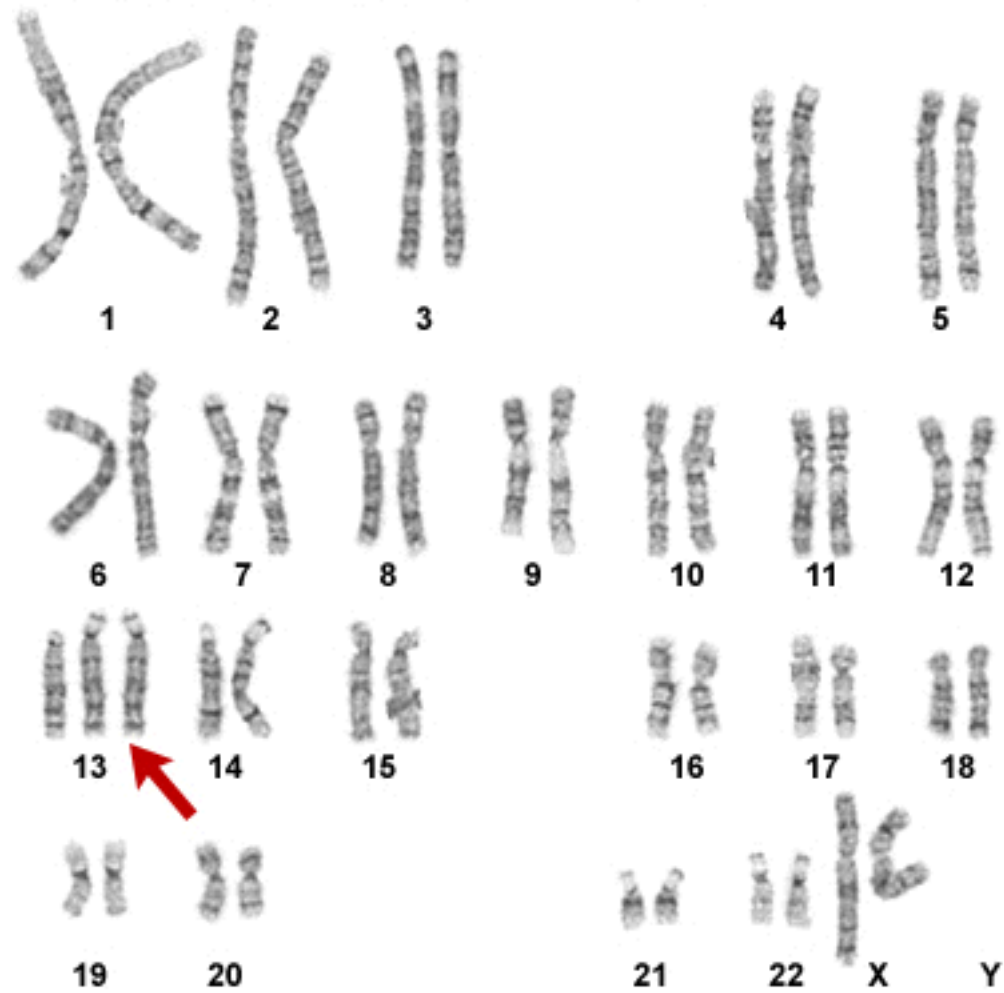
$X^{w+}Y$

X

$X^{w+}X^{w+}$

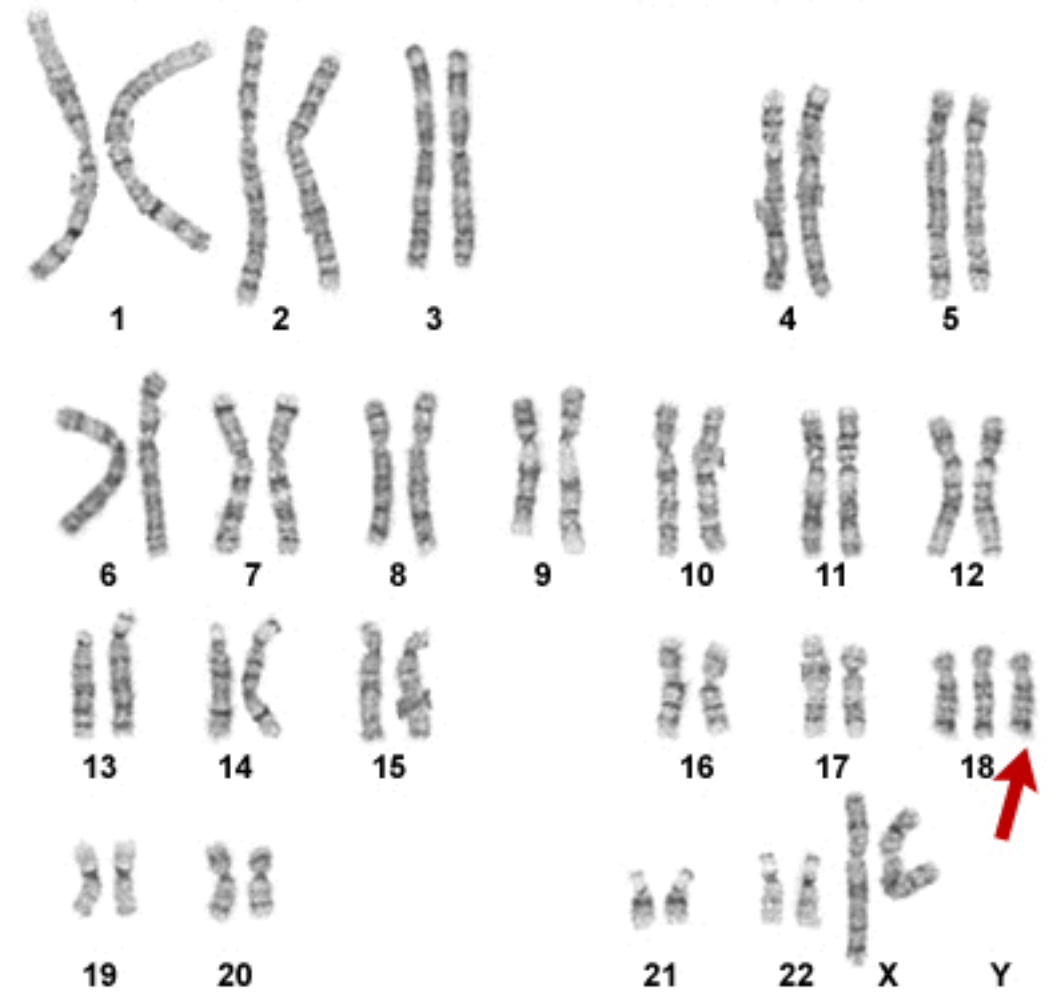
How can you tell the difference between MI NDJ and MII NDJ?

Karyotype From a Female With Patau syndrome (47,XX,+13)



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Karyotype From a Female With Edwards Syndrome (47,XX,+18)



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