

Genetic interaction

Genetics 371B Lecture 24

10 Nov. 1999

Modified dihybrid ratios

– a single character determined by the action of two genes

◆ Epistasis

- ◇ Recessive epistasis – e.g., mouse coat color (see lecture 2)

Aa x Aa
↓
3 agouti: 1 black



A second gene influencing coat color: C

CC x cc



Cc



3 C : 1 c

Now both genes together:

AaCc x AaCc



A_C_

A_cc

aaC_

aacc

Siamese cats...

◆ **Dominant epistasis** – e.g., squash color

White x Green



White



12 White : 3 Yellow : 1 Green

◆ Complementation

e.g., flower color in sweet pea

Variety 1 x Variety 2
white flowers white flowers



Purple flowers

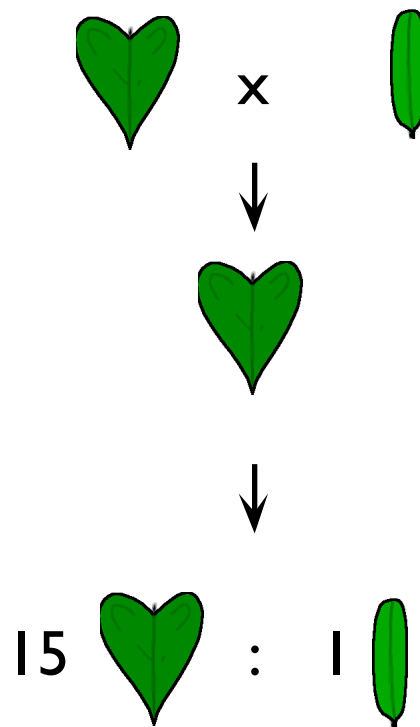


9 purple : 7 white

◆ Redundant genes

Shepherd's purse:

Heart-shaped or narrow fruit



◆ Distinguishing between **modified dihybrid**
and **monohybrid**

◆ Distinguishing between **modified dihybrid**
and **linkage**