

BIOL 2030 Lecture 9/08/09

Problems Ch. 4: 12, 16, 21, 23, 24, 26-29, 31-36, 38-40

Chromosome theory of heredity

- A. Mendel's work unappreciated for decades
 - i. 1870's – nucleus plays critical role in fertilization
 - ii. 1880's - discovery of chromosomes in cells just before division
- B. Sutton (1902)
 - i. detailed analysis of mitotic and meiotic chromosome behavior
 - a. mitotic cycle
 - b. meiotic divisions
 - ii. correlation of Mendelian inheritance and chromosome behavior
 - iii. proposed chromosome theory of heredity
- C. Morgan fly group
 - i. discovery of sex-linked inheritance
 - ii. Bridges – proof of the theory
 - a. exceptional inheritance
 - b. meiotic error
 - c. correlation of exceptional inheritance with exceptional behavior is demonstration that chromosomes carry hereditary material