

Introduction – Mendelian inheritance

Genetics 371B Lecture I

27 Sept. 1999

The mechanism of inheritance...

Some early hypotheses:

◆ **Predetermination** e.g., the homunculus theory

◆ **Blending** of traits

Introducing a more systematic approach...

Gregor Mendel (1822–1884) and his experiments with garden pea

But first:

Choosing a **model organism**

- ◆ What is it?
- ◆ Why bother?

◇ Features of a good model organism:

◇ Some commonly used model organisms:

Mendel's organism of choice: **garden pea**

His question: If a pair of plant lines showing a clear character difference are crossed, will the progeny show an intermediate **phenotype?**

He established **true-breeding** lines...

...that showed character differences

Made crosses (matings) between each pair of lines

Example:

Character:

Phenotypes:

