

Introduction to Botany. Lecture 20

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October 18th, 2010

Outline

- 1 Monday test
- 2 Life cycles
 - General life cycle

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Monday test (5 points)

1 Definition of meiosis

Monday test (5 points)

2 What is gametangium?

Monday test (5 points)

3 What is oogamy?

Monday test (5 points)

4 What is vegetative reproduction?

Monday test (5 points)

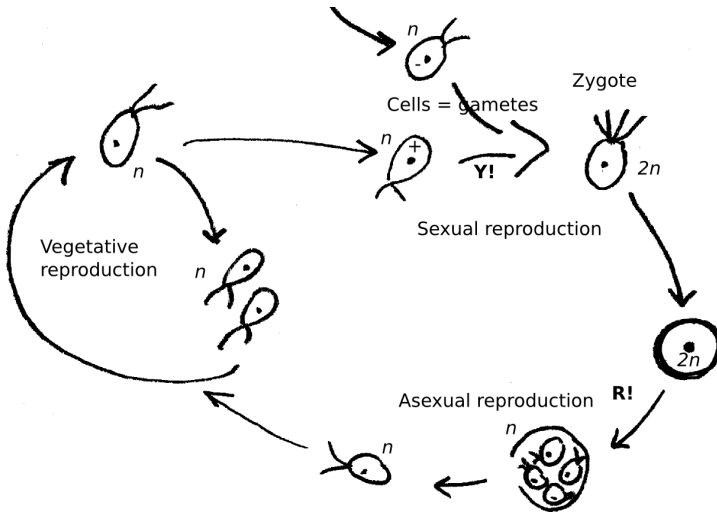
5 $2n$ is:

Simple and general life cycles***

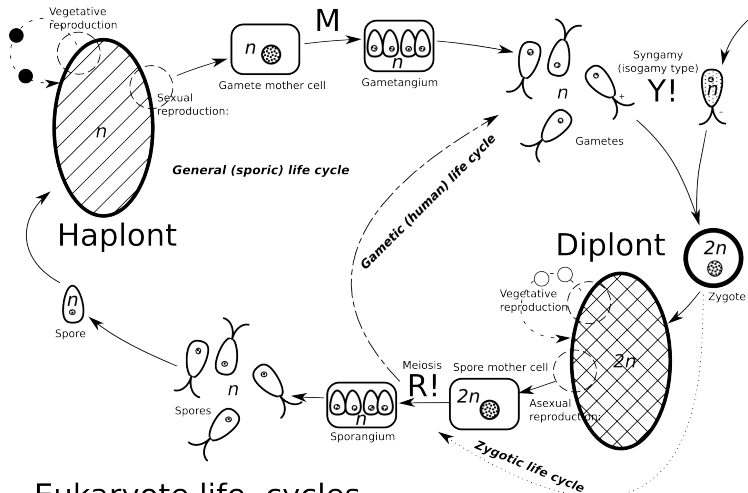
Terms covered:

- Mitosis, meiosis, syngamy
- Haplont, diplont, haploid, diploid
- Gamete mother cell, gametangium, gametes, male, female, spermatozoon, spermatium, oocyte
- Syngamy, isogamy, heterogamy, oogamy, zygote
- Spore mother cell, sporangium, spore, zoospore, mitospore
- Sexual reproduction, asexual reproduction, vegetative reproduction
- Sporic life cycle, gametic life cycle, zygotic life cycle

Simple life cycle



General life cycle

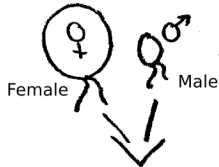


Eukaryote life cycles

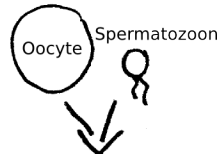
Types of syngamy (Y!)



Isogamy:
different
genotypes

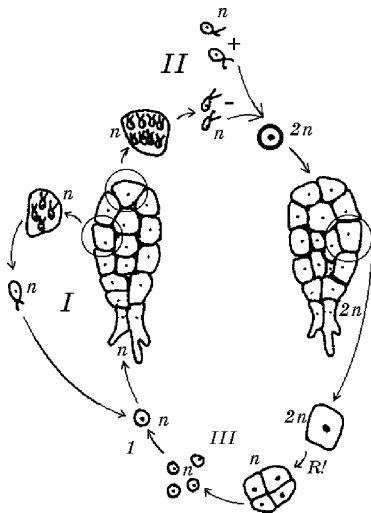


Heterogamy:
different
size

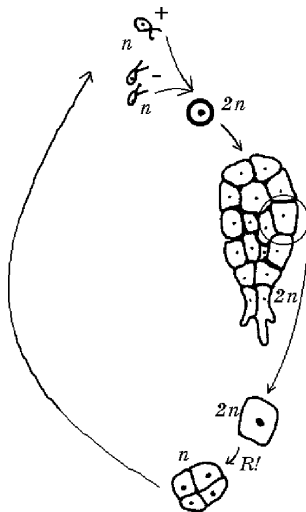


Oogamy:
different
motility

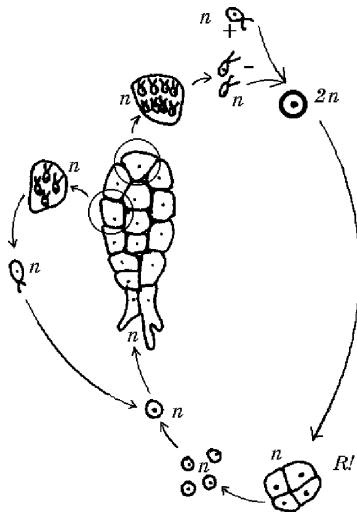
Sporic life cycle: plants



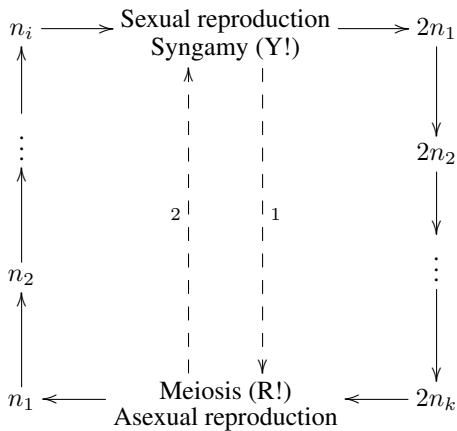
Gametic life cycle: animals



Zygotic life cycle: protists



Even more general overview



- 1 — zygotic cycle ($Y! \rightarrow R!$);
2 — gametic cycle ($R! \rightarrow Y!$).

Summary

- **Zygotic** life cycle has no *diplont*, **gametic** life cycle has no *haplont*, **sporic** life cycle has both *haplont* and *diplont*
- The evolution of life cycles goes from zygotic to spotic and then to gametic

For Further Reading



Th. L. Rost, M. G. Barbour, C. R. Stocking, T. M. Murphy.
Plant Biology. 2nd edition.
Thomson Brooks/Cole, 2006.
Chapter 12.1–12.2 (skip angiosperm life cycle!).