

General Entomology

Lecture (9)

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Lecture Topics

- **Reproductive System**
 - **Female Reproductive System**
 - **Male Reproductive System**

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Reproductive System

- Most insect species are bisexual, i.e. there are males and females.
- Sexual dimorphism is common where the male differ from the female morphologically. These often look very different and have even been mistaken for different species in the past.
- Some species are capable of reproduction without males, the eggs are unfertilised but develop and hatch into nymphs or larvae that are always female themselves, this is called 'parthenogenesis'.



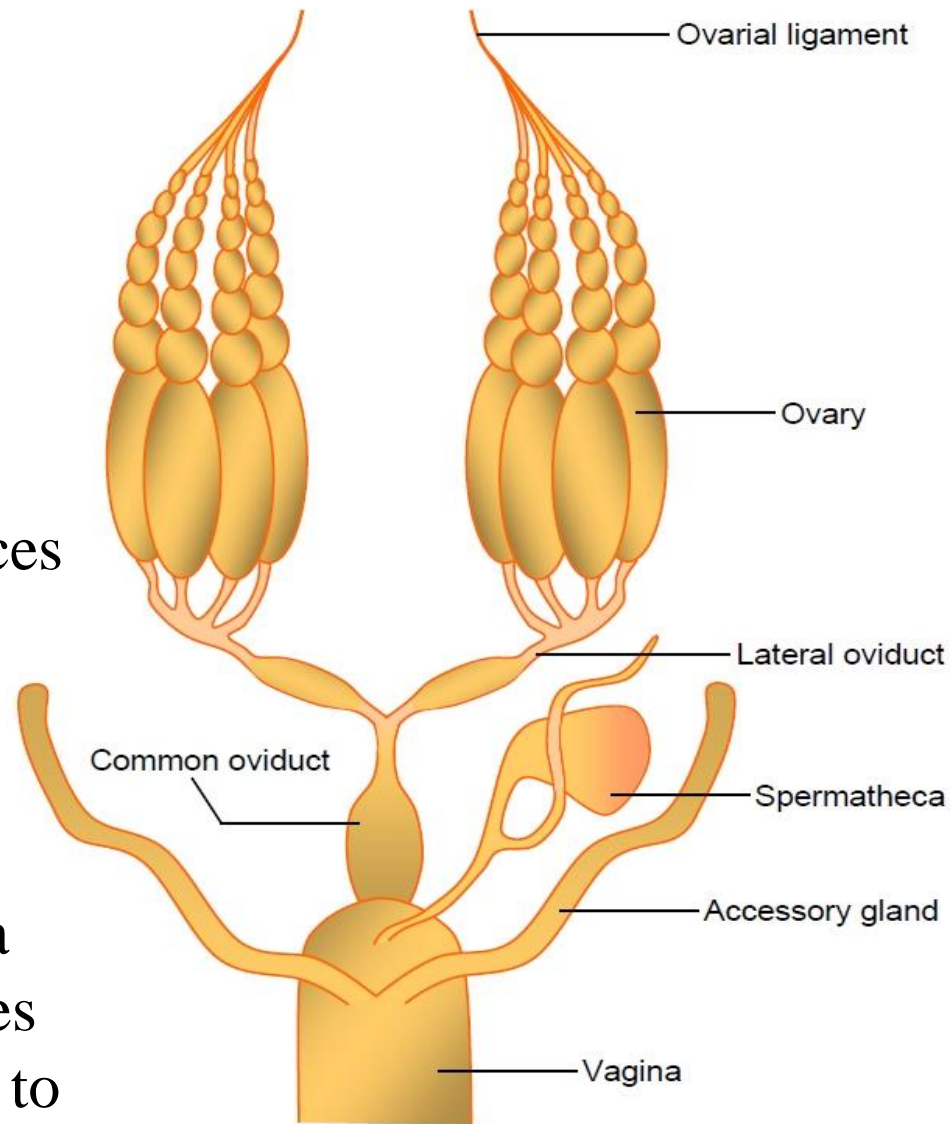
Female Reproductive System

- **The main function are:**
 - ✓ egg production
 - ✓ storage of male's spermatozoa until the eggs are ready to be fertilized.

- **The basic are**

Paired ovaries, which empty their mature oocytes (eggs) via the calyces (Calyx) into the **lateral oviduct** which unite to form the **common (median) oviduct**.

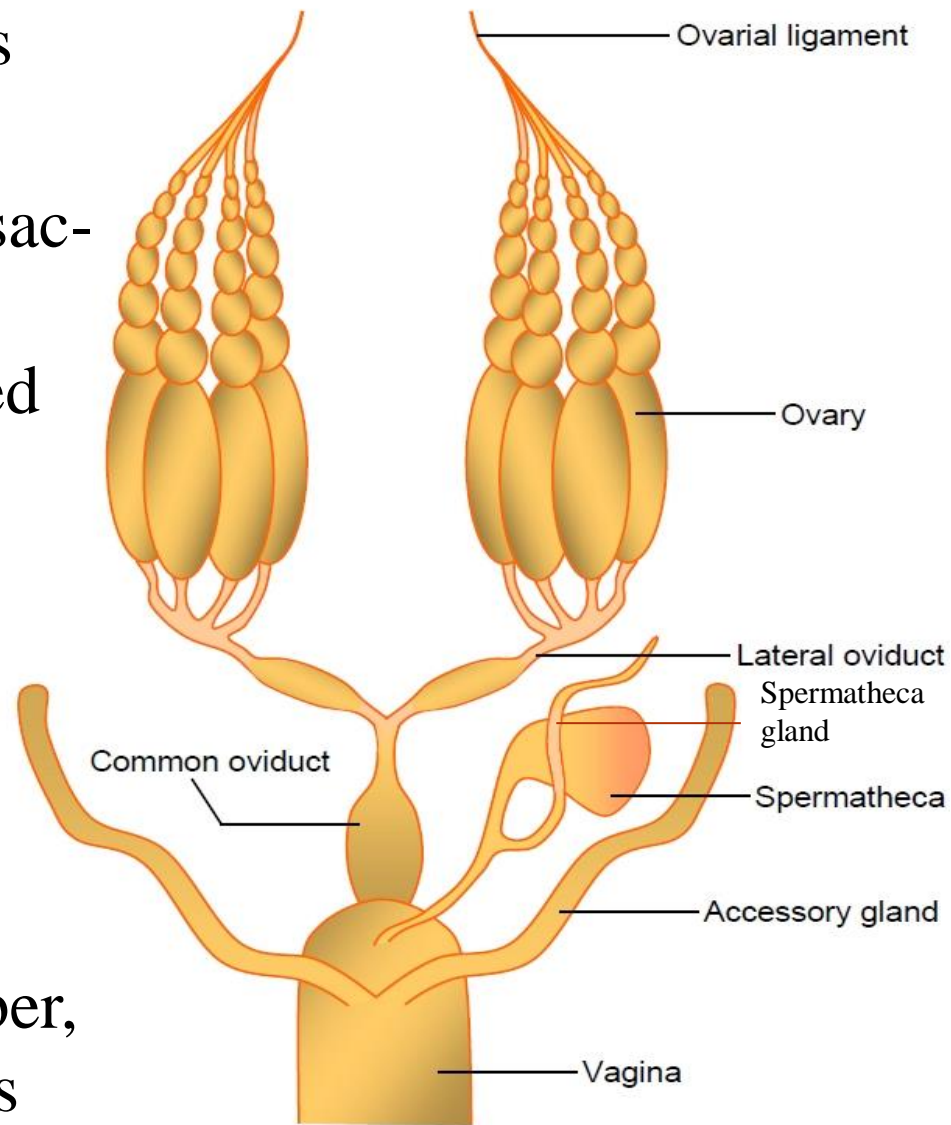
The gonopore (opening) of the common oviduct is usually forms a cavity, the genital chamber becomes an enclosed pouch or tube referred to as the **Vagina**.



Female insect reproductive system

Female Reproductive System

- **Two types** of ectodermal glands open into the genital chamber.
- ✓ **The spermatheca** is single and sac-like with a slender duct > stores spermatozoa until they are needed for egg fertilization.
- ❖ *spermathecal gland* (adiverticulum) > provide nourishment to the contained spermatozoa.
- ✓ **Accessory glands** opens more posteriorly in the genital chamber, they provide protective coatings for eggs and other functions.



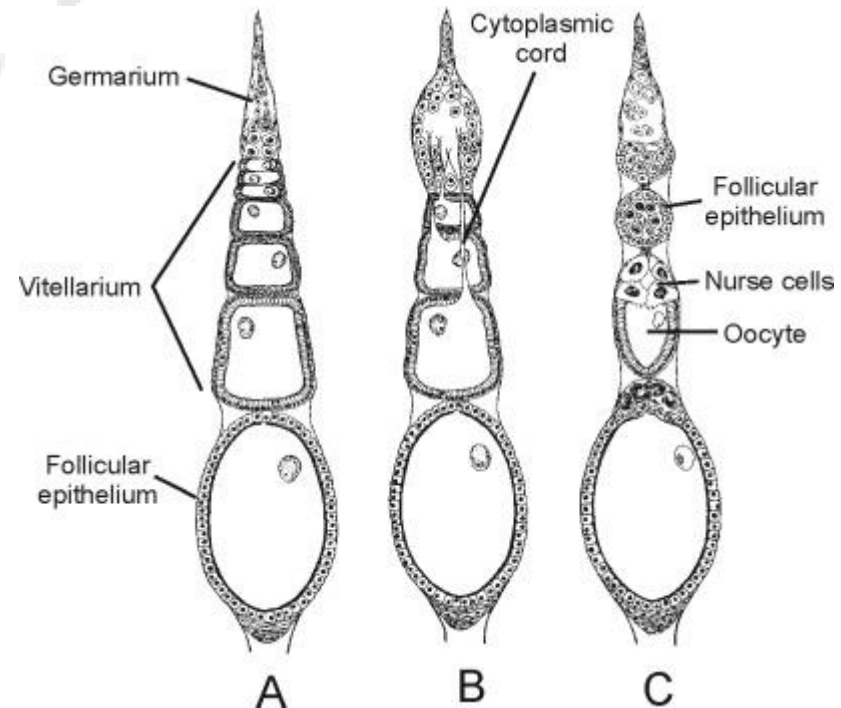
Female insect reproductive system

Female Reproductive System

Each of the two **ovaries** consists of a number of **ovarioles**. Each ovariole consists of a *germarium* and a series of *ovarial follicles*. *The germarium* is a mass of undifferentiated cells that form oocytes, nurse cells, and follicular cells.

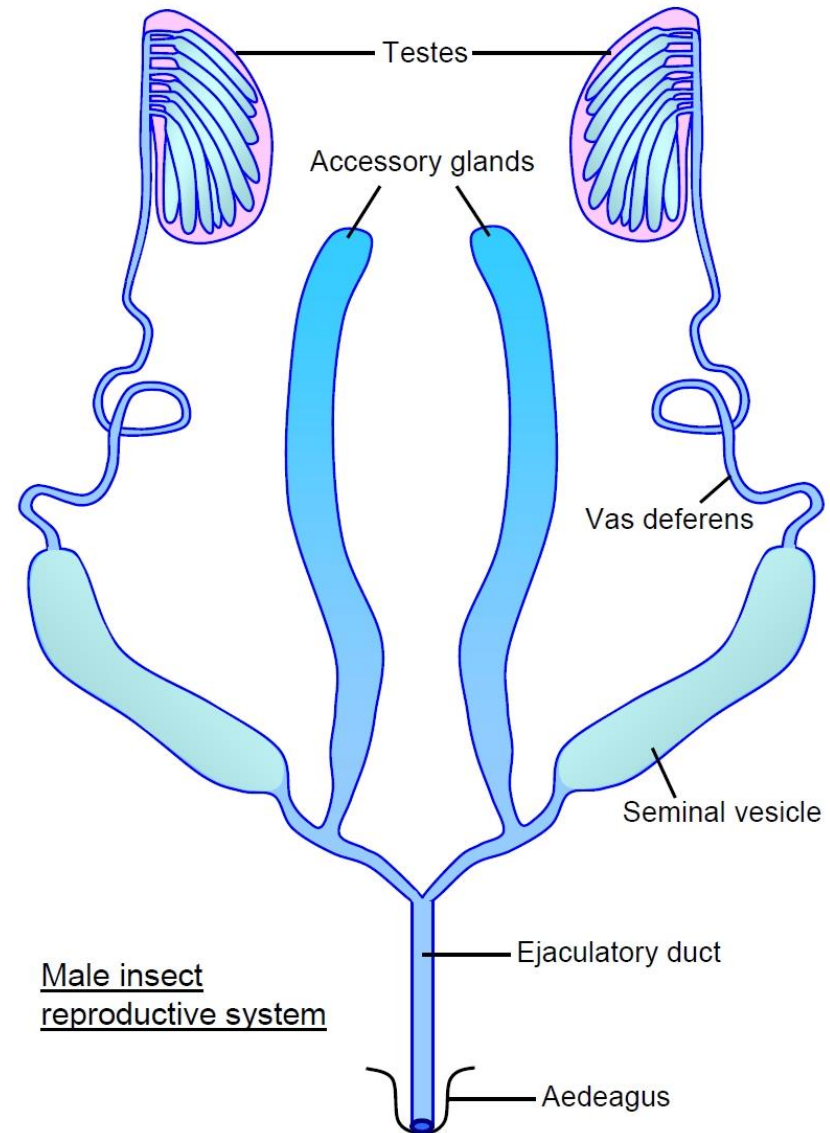
The nurse cells provide nourishment for the oocytes during the early stages of their growth; the follicular cells, which invest the enlarging oocyte as a continuous epithelium, provide the materials for yolk formation and, in the final stages, lay down the eggshell or chorion.

The ovarial follicles increase progressively in size as the oocytes grow to form mature eggs.



Male Reproductive System

Consist of a pair of '*testes*' containing the 'testicular follicles' where the spermatozoa are made, the '*vas deferens*' which is the tube down which the sperm travels, a '*seminal vesicle*' where the sperm is stored prior to mating, and *accessory glands* (some may attach near the testes or seminal vesicles, or the *ejaculatory duct*) they supply seminal fluid for additional volume and to nourish the sperms .



Usfel websites

<http://eagri.org/eagri50/ENTO231/lec13.pdf>

https://www.cronodon.com/BioTech/Insect_Reproduction.html

<https://genent.cals.ncsu.edu/bug-bytes/reproductive-system/>

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**Thanks for
listening**

